APPENDIX G

Interim Site Investigation Report

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February 21, 2017

Ms. Cindy Bertsch, P.E.
Water Works Engineers
1730 S El Camino Real, Suite 280
San Mateo, California 94402

Subject: Interim Summary Report, Site Investigation Activities for the San Jose Water Company's Columbine Reservoir in San Jose, California

Dear Ms. Bertsch:

Remedy Engineering, Inc. has prepared this interim report summarizing the results of the soil investigation and hazardous materials survey conducted at the San Jose Water Company (SJWC) Columbine Reservoir, San Jose, California. The soil and hazardous materials investigations were conducted at the site to evaluate if remedial actions are necessary prior to demolition of the existing reservoir and outfall sump and construction/installation of new storage tanks. A second soil investigation is planned for the Spring 2017 focused within the sump area. However, the investigation cannot be completed until the sump is dewatered and has dried out sufficiently for access.

Site Description and History

The Columbine Reservoir is a 19-million-gallon concrete-lined earthen embankment reservoir used for potable water storage and distribution. The facility is located at the base of the Diablo Range foothills at the eastern edge of San Jose, and surrounded by residential property (Figure 1). The facility consists of the reservoir, associated pipes, valves, electrical controls, and an outfall sump. Photograph documentation of the site and features is presented in Attachment 1. The outfall sump is approximately 100 feet long by 24 feet wide at a depth of approximately 18 feet below ground surface (bgs). The valve control box includes a 1.5-foot-tall wooden cover lid placed over a poured-in-place concrete box, which is approximately 9 feet wide, 12 feet long, and 10 feet deep.

Previous investigation activities have confirmed the presence of polychlorinated biphenyls (PCBs) and lead in control joint sealant in the concrete lining of the reservoir (Kennedy/Jenks Consultants, 2014), mercury in soil surrounding the altitude valve (Engineering/Remediation Resources Group, Inc. [ERRG], 2014 and 2016), and PCBs and total petroleum hydrocarbons as motor oil (TPH-motor oil) in the top 2 feet of soil at the outfall sump (ERRG, 2014). The altitude valve has been decontaminated and the mercury contamination in soil within and surrounding the altitude valve has been excavated (ERRG, 2014 and 2016).

Scope of Work

The purpose of this investigation was to identify the contaminated soil that must be addressed and hazardous materials that must be abated prior to or during project demolition activities. The investigation supplemented previous investigation work and focused on identifying areas of soil impacted by historical site operations such as application of pesticides, release of mercury from valves and controls, and the presence of PCBs in materials and/or equipment. The investigation was also designed to identify hazardous materials associated with the reservoir roof and exterior structures not previously sampled. The investigation approach was outlined in the "Sampling and Analysis Plan for Site Investigation Activities for the San Jose Water Company's Columbine Reservoir in San Jose, California" (SAP) (Remedy Engineering, Inc., 2016).

The hazardous materials survey report is included as Attachment 2. Laboratory analytical data reports and Data Quality Evaluation for soil samples are presented in Attachments 3 and 4, respectively. No water, soil, sediment, or material samples were collected from within the interior of the reservoir during the investigation. Remedy Engineering understands that additional characterization of the reservoir materials and underlying soil may be performed during demolition for the purposes of soil management and disposal.

On September 21, 2016, Remedy Engineering visited the Columbine Reservoir site to identify and mark soil sample locations for utility location and clearance. SJWC was requested to locate onsite utilities or equipment, and USA North was contacted to locate public utilities.

Remedy Engineering collected shallow soil samples (approximately 1.5 to 2 feet below ground surface) on September 26 and 27, 2016, using a 2-inch diameter hand auger. Soil samples were collected around the reservoir and outfall sump at 46 locations (Figure 2). The soil samples where submitted to Curtis and Tompkins Laboratories (Berkeley, California). Select samples were analyzed for the California Assessment Manual 17 (CAM-17) metals by United States Environmental Protection Agency (USEPA) Method 6010, including mercury by Method 7471; PCBs (EPA Method 8082); pesticides (EPA Method 8081); and TPH-diesel and TPH-motor oil (EPA Method 8015).

ATC Group Services LLC (ATC), located in San Ramon, California performed the hazardous materials survey and sampling. ATC's hazardous materials survey report is included as Attachment 2, and sample locations are shown on Figures 3 and 4. ATC performed a visual inspection and focused semi-destructive sampling event of accessible areas to identify evidence of current or historical use of hazardous materials. On October 25, 2016, ATC collected 4 samples of suspect asbestos-containing materials (ACM) and 3 samples of suspect lead paint. The samples were submitted to EMSL Analytical, Inc. (EMSL), a state certified laboratory located in San Leandro, California, for analysis of asbestos using polarized light microscopy and lead in paint chips by Flame Atomic Absorption (Flame AA).

On October 25, 2016, ATC also collected samples of suspect PCB-containing materials and suspect metal-containing materials. However, ATC collected insufficient sample volume. As a result, the laboratory had to composite samples to obtain sufficient sample quantity for analysis. The composite sample results represented multiple material types, and upon reviewing the composite sample results, Remedy Engineering requested ATC resample these materials to identify the specific materials that may require remediation.

The additional sampling was conducted on December 27, 2016. A total of 10 bulk samples of suspect PCB-containing and metal-containing materials were collected. The samples were submitted to EMSL for analysis of PCBs by USEPA Method 8082 and CAM-17 metals by USEPA Method 6010 and USEPA Method 7471 for mercury.

Regulatory Limits

Analytical results from the site investigation were compared to appropriate regulatory criteria to identify areas requiring remediation.

Bulk Material Samples

Attachment 2, ATC's hazardous material survey report, discusses the regulatory criteria used in the identification of ACM, lead-based paint, and PCB- and metal-contaminated material. The following criteria were used:

- Asbestos: In accordance with Title 8 of the California Code of Regulations (CCR) Section 1529, "asbestos-containing construction material" is defined as any manufactured construction material with more than 0.1 percent asbestos by weight. Asbestos-containing material (ACM) is defined as any material containing more than 1 percent asbestos.

- Lead: In California, painted materials containing any detectable concentrations of lead are defined as lead-containing paint (LCP). Lead concentrations in paint greater than the U.S. Department of Housing and Urban Development (HUD) limit of 5,000 mg/kg (HUD, 1997) is classified as lead-based paint (LBP).

- Metals: CAM-17 metal concentrations were compared to hazardous waste threshold criteria, in the event that demolition and offsite disposal is required. Solid sample screening criteria were calculated as 10 times the Title 22 CCR Soluble Threshold Limit Concentration (STLC) and 20 times the Toxicity Characteristic Leaching Procedure (TCLP) limits. Bulk material concentrations were also compared against the Title 22 CCR Total Threshold Limit Concentration (TTLC).

- PCBs: The screening criteria for PCB bulk material concentrations was 50 mg/kg. This concentration corresponds to 10 times the total PCB STLC of 5 milligrams per liter (mg/L) and the TTLC of 50 mg/kg. This concentration also corresponds to the lower

limit in the Title 40 Code of Federal Register (CFR) Section 761.3 definition of PCB-contaminated materials as "non-liquid material containing PCBs at concentrations equal to and greater than 50 parts per million (ppm) and less than 500 ppm".

Soil Samples

Soil sample screening levels are presented along with the analytical data in Tables 1 through 4. Analyte concentrations in soil were compared to EPA regional screening levels (RSLs) for residential soil (EPA, 2016) and San Francisco Bay Regional Water Quality Board (Water Board) Tier 1 Environmental Screening Levels (ESLs) (Water Board, 2016). The Tier 1 ESLs are the most conservative of soil screening levels calculated for the protection of human health under a residential land use scenario, protection of groundwater resources (drinking water and non-drinking water), prevention of gross contamination (e.g., presence of non-aqueous phase liquid or degradation of groundwater and soil quality), and odor nuisance thresholds.

Soil concentrations were also compared to hazardous waste threshold criteria, in the event that offsite disposal is required. Soil concentrations were compared to TTLC values and solid sample screening criteria calculated as 10 times the STLC and 20 times TCLP limits. The TTLC, 10 times STLC, and 20 times TCLP values are presented in Table 5.

The following are notes regarding the application of screening levels to specific analytes or analyte classes:

- Lead: The SAP stated that lead concentrations in soil would be compared to the California Office of Environmental Health and Hazard Assessment (OEHHA) revised California Human Health Screening Level (CHHSL) of 80 mg/kg (OEHHA, 2009). The lead Tier 1 ESL was recently revised to 80 mg/kg to match the CHHSL value, so the value of 80 mg/kg is consistent with both screening levels.

- Polychlorinated Biphenyls (PCB): Tier 1 ESL and TTLC values are derived for total PCBs, not the individual aroclors. The Tier 1 ESL and TTLC values for total PCBs were compared against both the total PCB and individual aroclor concentrations.

- Total Petroleum Hydrocarbons (TPH): TPH-diesel (C10 to C24) was compared to the EPA residential RSL for aromatic medium or medium aliphatic TPH. TPH-motor oil (C24 to C36) was compared to the EPA residential RSL for aromatic high or high aliphatic TPH.

Naturally occurring background concentrations of some metals in soil, such as arsenic, nickel, and thallium, exceed their respective screening levels. Regulatory agencies generally do not require remediation of soil to concentrations less than background. Remedy Engineering reviewed the following sources of published background values for metals in the region:

- *Establishing Background Arsenic in Soil of the Urbanized San Francisco Bay Region* (Duvergé, 2011).
- *Analysis of Background Distributions of Metals in the Soil at Lawrence Berkeley National Laboratory* (Lawrence Berkeley National Laboratory, 2009).
- *Background Concentrations of Trace and Major Elements in California Soils* (Kearney Foundation of Soil Science, 1996).
- *Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States* (U.S. Geological Survey, 1984).
- *Background Metal Concentrations in Soils in Northern Santa Clara County, California* (Scott, 1991)

As described in the SAP, the arsenic background concentration of 11 mg/kg established by Duvergé (2011) for the San Francisco Bay area has been used at other SJWC facilities, and was selected for the Columbine Reservoir data analysis. The background concentrations of other metals were obtained from the "Analysis of Background Distributions in Metals in the Soil at Lawrence Berkeley National Laboratory" (Lawrence Berkeley National Laboratory, 2009). The Lawrence Berkeley National Laboratory background calculations were used because (1) the sample dataset (greater than 1,000 samples for each metal) was more robust than other studies (2) the samples, collected in Alameda County, were more regionally located than some of the other studies (such as the USGS 1984 reference, which spanned the western United States) and (3) more robust statistical analysis was performed, including calculation of the upper percentiles. The 95th percentile calculated by Lawrence Berkeley National Laboratory was selected, where available. The 95th percentile concentration was not calculated for metals with a high percentage of non-detects; for these metals the 99th percentile was selected.

Based on a review of the site location, discussions with Water Works Engineers about other SJWC facilities, and data collected during the sampling event, Remedy Engineering determined that the investigation focus is on the potential exposure of human receptors to potential site contamination rather than exposure of ecological receptors. Therefore, screening levels for ecological receptors were not incorporated in this report, consistent with investigations at other sites.

Summary of Hazardous Materials Survey

ATC's hazardous materials survey report is included as Attachment 2. Figures 3 and 4 show bulk material sample locations and analytical data for locations where concentrations exceeded hazardous materials or hazardous waste threshold criteria.

ATC identified one ACM, black pipe insulation, during the survey conducted on October 25, 2016. Sample 1-A contained 25% chrysotile asbestos. This sample was collected from the 12-inch diameter pipeline outside of the B1 pump house, near the northeast corner of the overflow sump. Asbestos was not detected in the other two samples of black pipe insulation (1-B and 1-C) collected within the overflow sump.

Two chip samples of olive-colored paint contained detectable concentrations of lead, 400 ppm in the paint on the wooden stairwell rail (sample L-2) and 6,500 ppm lead in the paint on the corrugated metal roof of the reservoir (sample L-3). The reservoir roof paint was classified as lead-based paint because the concentration exceeded HUD limit for lead in paint of 5,000 ppm.

PCBs were non-detect or detected at very low concentrations (1.3 and 1.4 mg/kg) in all but one of the 10 samples collected in December 2016. Sample SJWC-A contained a total PCB concentration of 550 mg/kg, which exceeds the TTLC and CFR Title 40 PCB-contaminated material threshold of 50 mg/kg. This sample was collected of the black pipe wrap on a 12-inch diameter pipeline within the overflow sump.

Concentrations of barium, chromium, lead, nickel, and/or zinc were equal to or exceeded hazardous waste threshold criteria in 7 of the 10 samples analyzed, as shown in Figures 3 and 4 and Table 6 and summarized below. During demolition activities, these materials would require additional waste profiling to determine waste classification. For example, materials exceeding TTLC criteria would likely require management and offsite disposal as a non-RCRA hazardous waste, and TCLP analyses would be required to determine if the materials would be classified as a RCRA-hazardous waste.

- The lead concentration of 12,000 mg/kg in the olive paint on the metal gutter of the roof (sample SJWC-I) exceeded the TTLC of 1,000 mg/kg and the HUD 5,000 ppm lead-based paint criteria.

- Zinc concentrations exceeded TTLC of 5,000 mg/kg in samples of the gray roof caulk on the corrugated metal roof seam (SJWC-F) and in all olive paint samples (SJWC-G, SJWC-I, and SJWC-J).

- Chromium, lead, and/or nickel concentrations exceeded 20 times TCLP and 10 times STLC criteria in black pipe wrap within the overflow sump (samples SJWC-A and SJWC-B). Sample SJWC-A also contained PCBs exceeding TTLC limits, as discussed previously.

- The zinc concentration in the gray caulk at the base of the solar panels (SJWC-E) was equal to 10 times the STLC, and therefore STLC analysis of this material would be required prior to offsite disposal to determine waste classification.

Summary of Soil Analytical Results

In total, 46 soil samples were collected from the Columbine Reservoir facility and analyzed as discussed below.

- 46 samples were analyzed for CAM-17 metals, including mercury. Sample locations are presented on Figure 2. Full analytical results for the metals analysis are presented in Table 1. Figure 2 shows those locations where metals exceeded both the screening levels and the established background levels.
- 16 samples were analyzed for PCBs. Sample locations are presented on Figure 2. Full analytical results for the PCB analysis are presented in Table 2. No PCBs were detected at concentrations above the EPA residential RSLs or Tier 1 ESL.
- 46 samples were analyzed for pesticides. Sample locations are presented on Figure 2. Full analytical results for the pesticide analysis are presented in Table 3. Figure 2 shows those locations where analytical results were above the EPA residential RSLs or Tier 1 ESLs.
- 16 samples were analyzed for TPH-diesel and TPH-motor oil. Sample locations are presented on Figure 2. Full analytical results for the TPH analysis are presented in Table 4. No TPH-diesel or TPH-motor oil results were detected above the EPA residential RSLs or Tier 1 ESLs.

The sample analytical results are discussed below by analytical group.

Metals

All metals analyzed were detected in soil samples, except for selenium. Table 1 compares metal concentrations to EPA residential RSLs, Tier 1 ESLs, and background concentrations. The detected metal concentrations in soil were below the screening criteria except as noted below. As discussed below, all metal concentrations in soil are comparable to background concentrations and are not indicative of site-related metal contamination.

- Arsenic was detected in every soil sample collected at concentrations ranging from 2.2 to 15 mg/kg, with an average concentration of 11 mg/kg. All of the detected concentrations were above the EPA residential RSL and Tier 1 ESL screening levels but below the background concentration of 11 mg/kg calculated by Duvergé (2011), except for HA-1 (14 mg/kg) and HA-22 (15 mg/kg). However, all the arsenic concentrations detected onsite are within the range of regional background concentrations calculated by other sources. The maximum sample concentration of 15 mg/kg at the Columbine site was below the 95th percentile arsenic concentration of 17 mg/kg identified in *Analysis of Background Distributions of Metals in the Soil at Lawrence Berkeley National Laboratory* (Lawrence Berkeley National Laboratory, 2009).

- Nickel was detected above the Tier 1 ESL screening criterion of 86 mg/kg at two locations (HA-20 and HA-22) at concentrations of 120 mg/kg and 160 mg/kg, respectively. However, both of these concentrations were below the background level of 164 mg/kg (Lawrence Berkeley National Laboratory, 2009) and below the EPA residential RSL of 1,500 mg/kg.

- Thallium exceeded the EPA residential RSL of 0.78 mg/kg in 7 samples at concentrations ranging from 0.8 mg/kg to 1.2 mg/kg. However, all of these concentrations were below the background concentration of 10 mg/kg (Lawrence Berkeley National Laboratory, 2009).

Metal concentrations were also compared to hazardous waste threshold criteria to assess the likelihood that soil transported offsite may require further testing and/or disposal as a hazardous waste (see Table 5). Chromium concentrations of 91 mg/kg and 70 mg/kg at sample locations HA-20 and HA-22, respectively, exceeded 50 mg/kg, which is 10 times the STLC of 5 mg/L. Chromium concentrations in the remaining 44 samples were below 10 times the STLC, and the sitewide average chromium concentration of 35 mg/kg was also below 50 mg/kg. Chromium concentrations in all samples were below 20 times the TCLP limit and the TTLC limit. Concentrations of remaining CAM-17 metals were below hazardous waste threshold criteria (see Table 5). These data suggest a low likelihood that excavated soil would be considered a hazardous waste for disposal. However, samples of excess soil generated during construction should be collected and compared to the hazardous waste threshold criteria prior to transporting soil offsite for disposal or using soil for fill at offsite locations.

Polychlorinated Biphenyls (PCB)

PCBs were below EPA residential RSLs for the individual aroclors and the Tier 1 ESL, 10 times STLC, and TTLC criteria for total PCBs. Aroclor-1254 and Aroclor-1260 were detected in one sample (HA-23) at concentrations of 50 and 49 µg/kg, respectively. No PCBs were detected in the remaining 15 samples. Table 2 summarizes these results.

Pesticides

The Tier 1 ESLs are below method detection limits for five pesticides: dieldrin, endrin, heptachlor, heptachlor epoxide, and toxaphene. Dieldrin, endrin, and toxaphene were not detected in any sample. Heptachlor was detected in 1 of 46 samples (HA-16) at a concentration of 1.4 µg/kg, which exceeded the Tier 1 ESL of 0.77 µg/kg but was below the EPA residential RSL of 130 µg/kg. Heptachlor epoxide was detected in 3 of 46 samples (HA-25, HA-26, and HA-33) at concentrations of 8.7 to 28 µg/kg, which exceeded the Tier 1 ESL of 0.42 µg/kg but were below the EPA residential RSL of 70 µg/kg. The Tier 1 ESLs for these pesticides are based on the potential for leaching to groundwater. The detections were below residential ESLs based on direct exposure to shallow soils (140 µg/kg for heptachlor and 67 µg/kg for heptachlor epoxide). All detections were below the reporting limit, and were therefore J-flagged to indicate

the concentration was an approximation. The remaining 15 pesticides were not detected or were detected at concentrations below screening levels. Table 3 summarizes these results. Remedial action is likely not required to address these isolated, low-level pesticide detections.

Total Petroleum Hydrocarbons (TPH)

Neither total petroleum hydrocarbons as diesel or motor oil was detected in any soil samples in excess of the EPA residential RSLs or Tier 1 ESLs. Table 4 summarizes the TPH results. There are no TTLC, STLC, or TCLP criteria specific to TPH-diesel or motor oil.

Investigation-Derived Waste

The only investigation-derived waste generated during the onsite activities were used personal protective equipment and sampling supplies, such as nitrile gloves and paper towels. All solid investigation-derived waste was disposed as municipal waste. Soil cuttings generated during hand augering activities were replaced in each borehole.

Conclusions and Recommendations

The soil investigation was conducted to evaluate, in part, if remedial actions are necessary prior to demolition of the existing reservoir and outfall sump and construction/installation of new storage tanks. Remedy Engineering understands that SJWC would like the property to be suitable for unrestricted land use following demolition and construction activities. This interim summary report presents the shallow soil results collected by hand auger. The results of this investigation do not identify any areas of soil contamination requiring remediation prior to construction of the new tanks. Additional soil characterization is planned at the bottom and sloped sidewalls of the outfall sump using a small track mounted direct push rig, once the sump is dewatered and has dried out sufficiently for access.

Chromium concentrations in 2 of the 46 soil samples were greater than 10 times the STLC disposal criterion. No other analytes exceeded hazardous waste threshold criteria in soil. This suggests a low likelihood that excavated soil would be considered a hazardous waste for disposal. However, samples of any excess soil generated during construction should be collected and compared to the hazardous waste threshold criteria prior to transporting soil offsite for disposal or using soil for fill at offsite locations.

Asbestos was positively identified in black pipe wrap/insulation. As long as the ACM remains intact, no remediation work is required; however, if the ACM becomes damaged or must be removed then a certified asbestos abatement contractor will be required to perform the removal. Lead was detected in all samples of olive-green paint, and this paint is therefore classified as lead-containing. Olive paint on the corrugated metal reservoir roof and metal roof gutter is classified as lead-based paint, because lead concentrations exceed 5,000 ppm. A Lead Safe

Certified Renovation company should work to remove the lead-containing paint. As long as the paint remains intact, no remediation work is required.

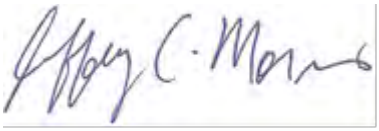
Black pipe wrap/insulation within the overflow sump contained elevated concentrations of PCBs above the TTLC and CFR Title 40 PCB-contaminated material threshold of 50 mg/kg. Lead and zinc in olive paint, and zinc in gray caulk on the corrugated metal roof seam also exceeded TTLC criteria. During demolition activities, these materials would likely require management and offsite disposal as a non-RCRA hazardous waste, and TCLP analyses would be required determine if the materials would be a RCRA-hazardous waste. The zinc concentration in the gray caulking at the base of the solar panels was equal to 10 times the STLC, and therefore, STLC analysis of this material is recommended prior to offsite disposal to determine waste classification.

The final summary report for Columbine Reservoir will include the results of the characterization of the outfall sump. Following characterization of the outfall sump, a remedial action work plan will also be prepared to detail proposed remedial activities, including excavation and removal procedures, confirmation sampling requirements, cleanup levels, and disposal options for removed materials, if required.

If you have any questions regarding this interim soil investigation, please call me at 530-241-7658.

Sincerely,

Remedy Engineering, Inc.



Jeffery C. Morris, P.E.
Principal

Enclosures:
Figures 1 through 4
Tables 1 through 6
Attachment 1: Photograph Documentation
Attachment 2: ATC Group Services LLC Hazardous Materials Survey
Attachment 3: Certified Laboratory Analytical Data
Attachment 4: Data Quality Evaluation

Works Cited

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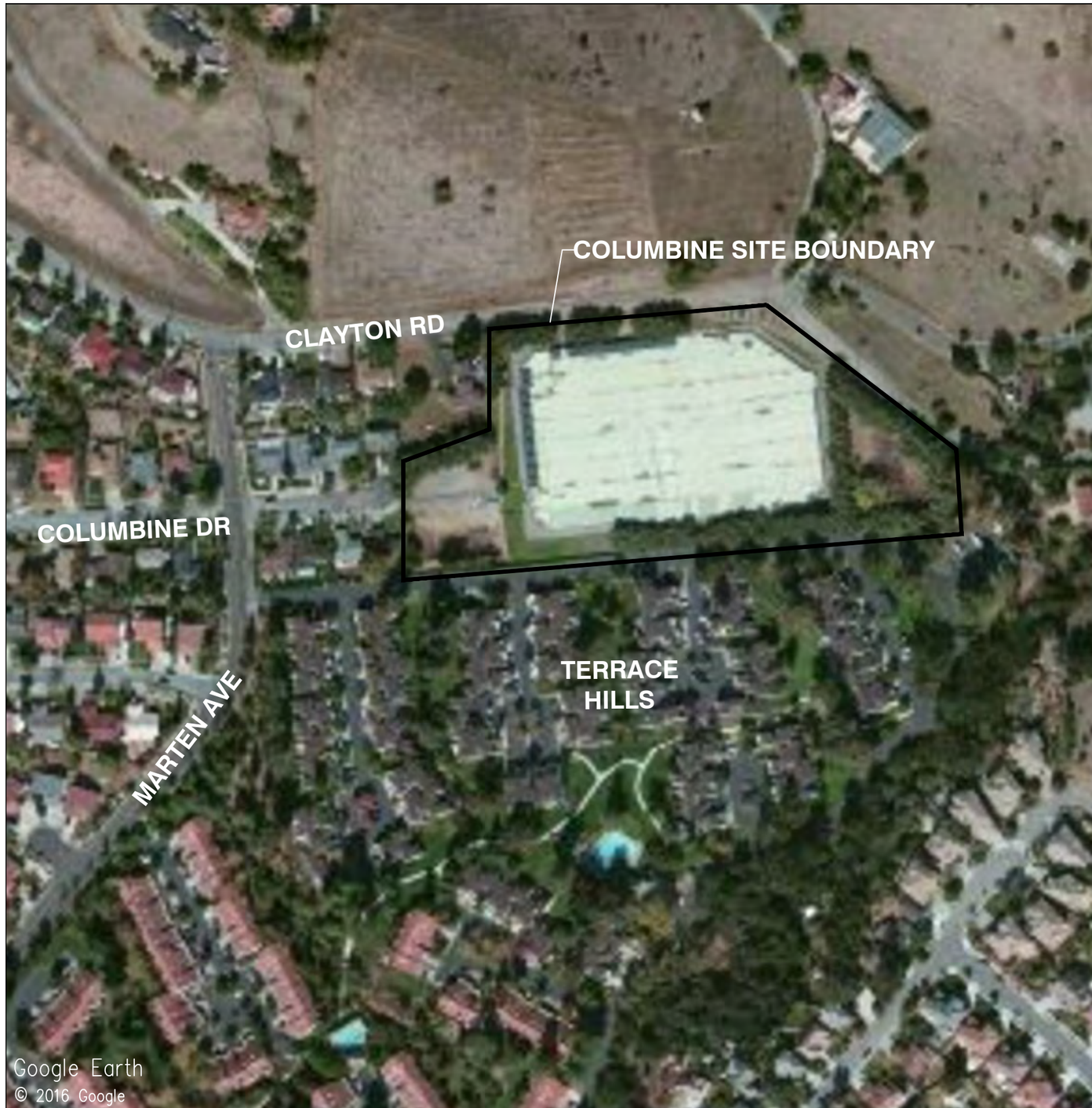

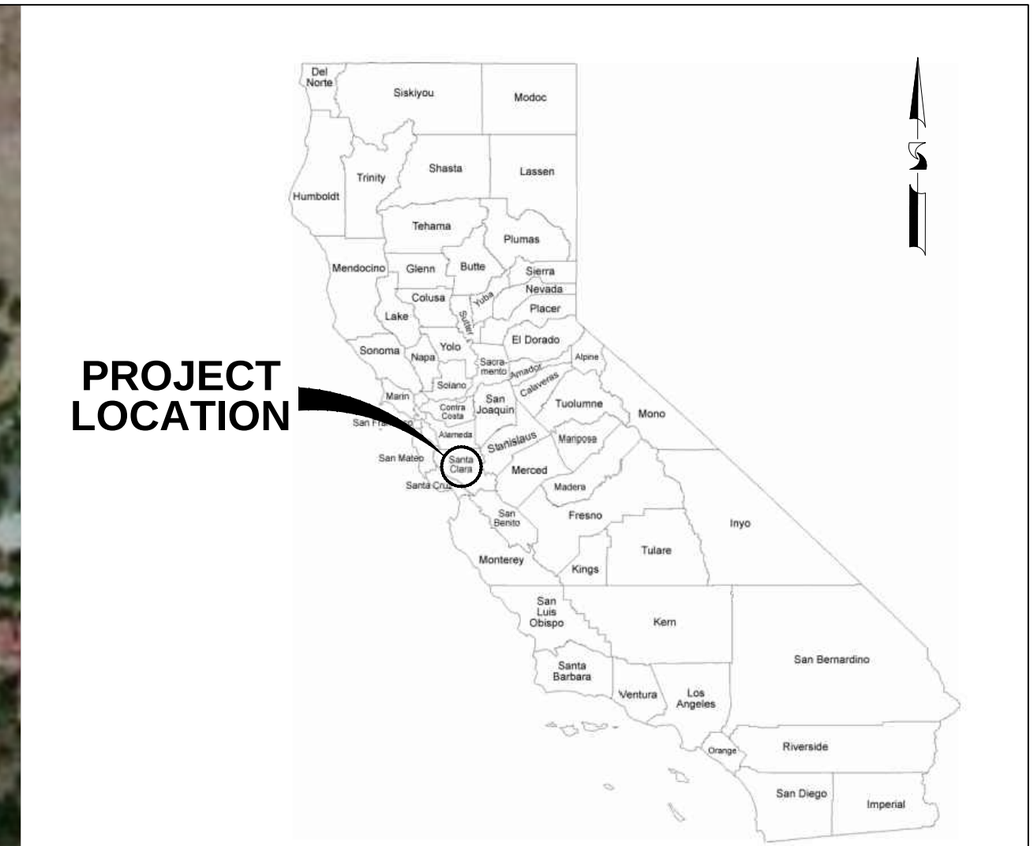

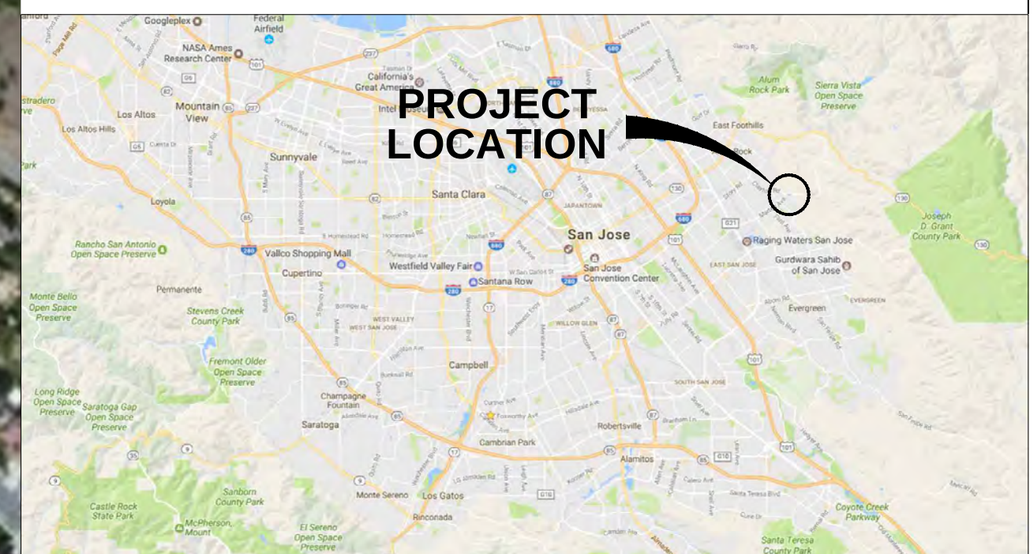

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DRAWN BY: MRW
DESIGNED BY: SLS
REVIEWED BY: TEC
FILE NAME: SAMPLING

SCALE: NO SCALE
DATE: 2/15/17

1 0 1 2
ORIGINAL SCALE IN INCHES

SAN JOSE WATER COMPANY
110 WEST TAYLOR STREET
SAN JOSE, CA 95110

FIGURE 1
PROJECT LOCATION
SAN JOSE WATER COMPANY COLUMBINE RESERVOIR
SAN JOSE, CALIFORNIA

PROJECT No.: 106101

NOTES:
- µg/kg = MICROGRAM PER KILOGRAM
- mg/kg = MILLIGRAM PER KILOGRAM
- RSL = REGIONAL SCREENING LEVEL
- ESL = ENVIRONMENTAL SCREENING LEVEL

SCREENING LEVELS			
	RESIDENTIAL RSL	TIER 1 ESL	BACKGROUND
ARSENIC	0.68 mg/kg	0.067 mg/kg	11 mg/kg
HEPTACHLOR EPOXIDE	70 µg/kg	0.42 µg/kg	NA
HEPTACHLOR	130 µg/kg	0.77 µg/kg	NA

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DRAWN BY: MRW
DESIGNED BY: SLS
REVIEWED BY: TEC
FILE NAME: SAMPLING

SCALE: 1"=60'
DATE: 2/15/17

1 0 1 2
ORIGINAL SCALE IN INCHES

SAN JOSE WATER COMPANY
110 WEST TAYLOR STREET
SAN JOSE, CA 95110

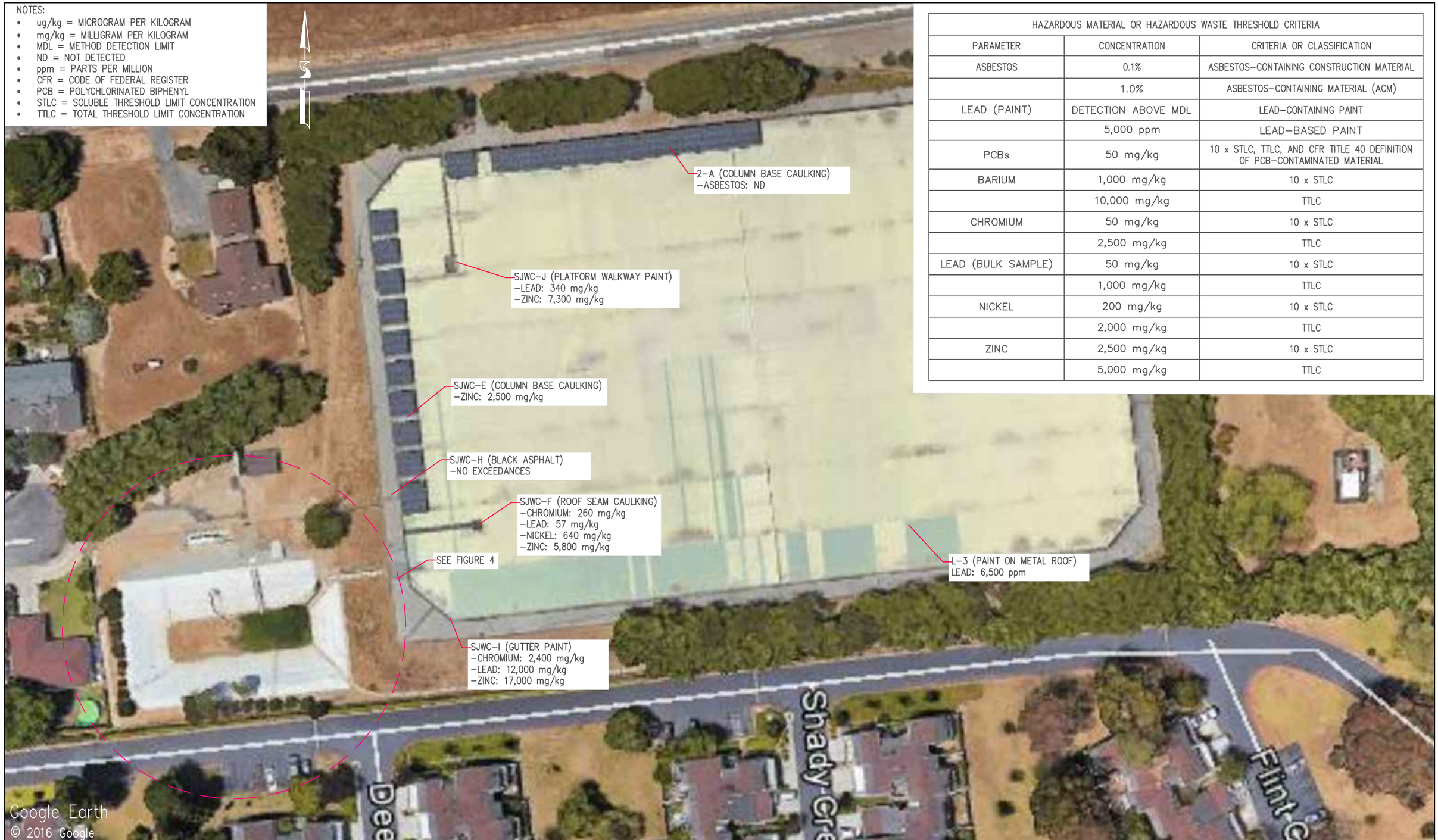
FIGURE 2.
SOIL SAMPLING LOCATIONS WHERE DETECTED CONCENTRATIONS EXCEEDED APPLICABLE SCREENING CRITERIA, SAN JOSE WATER COMPANY COLUMBINE RESERVOIR, SAN JOSE CALIFORNIA

PROJECT No.: 106101

NOTES:

- ug/kg = MICROGRAM PER KILOGRAM
- mg/kg = MILLIGRAM PER KILOGRAM
- MDL = METHOD DETECTION LIMIT
- ND = NOT DETECTED
- ppm = PARTS PER MILLION
- CFR = CODE OF FEDERAL REGISTER
- PCB = POLYCHLORINATED BIPHENYL
- STLC = SOLUBLE THRESHOLD LIMIT CONCENTRATION
- TTLC = TOTAL THRESHOLD LIMIT CONCENTRATION

HAZARDOUS MATERIAL OR HAZARDOUS WASTE THRESHOLD CRITERIA		
PARAMETER	CONCENTRATION	CRITERIA OR CLASSIFICATION
ASBESTOS	0.1%	ASBESTOS–CONTAINING CONSTRUCTION MATERIAL
	1.0%	ASBESTOS–CONTAINING MATERIAL (ACM)
LEAD (PAINT)	DETECTION ABOVE MDL	LEAD–CONTAINING PAINT
	5,000 ppm	LEAD–BASED PAINT
PCBs	50 mg/kg	10 x STLC, TTLC, AND CFR TITLE 40 DEFINITION OF PCB–CONTAMINATED MATERIAL
BARIUM	1,000 mg/kg	10 x STLC
	10,000 mg/kg	TTLC
CHROMIUM	50 mg/kg	10 x STLC
	2,500 mg/kg	TTLC
LEAD (BULK SAMPLE)	50 mg/kg	10 x STLC
	1,000 mg/kg	TTLC
NICKEL	200 mg/kg	10 x STLC
	2,000 mg/kg	TTLC
ZINC	2,500 mg/kg	10 x STLC
	5,000 mg/kg	TTLC



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2510 OLD EUREKA WAY
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PHONE: (530) 241–7658
www.remedyengineering.com

DRAWN BY: MRW
DESIGNED BY: SLS
REVIEWED BY: TEC
FILE NAME: SAMPLING

SCALE: 1"=60'
DATE: 2/15/17

1 0 1 2
ORIGINAL SCALE IN INCHES

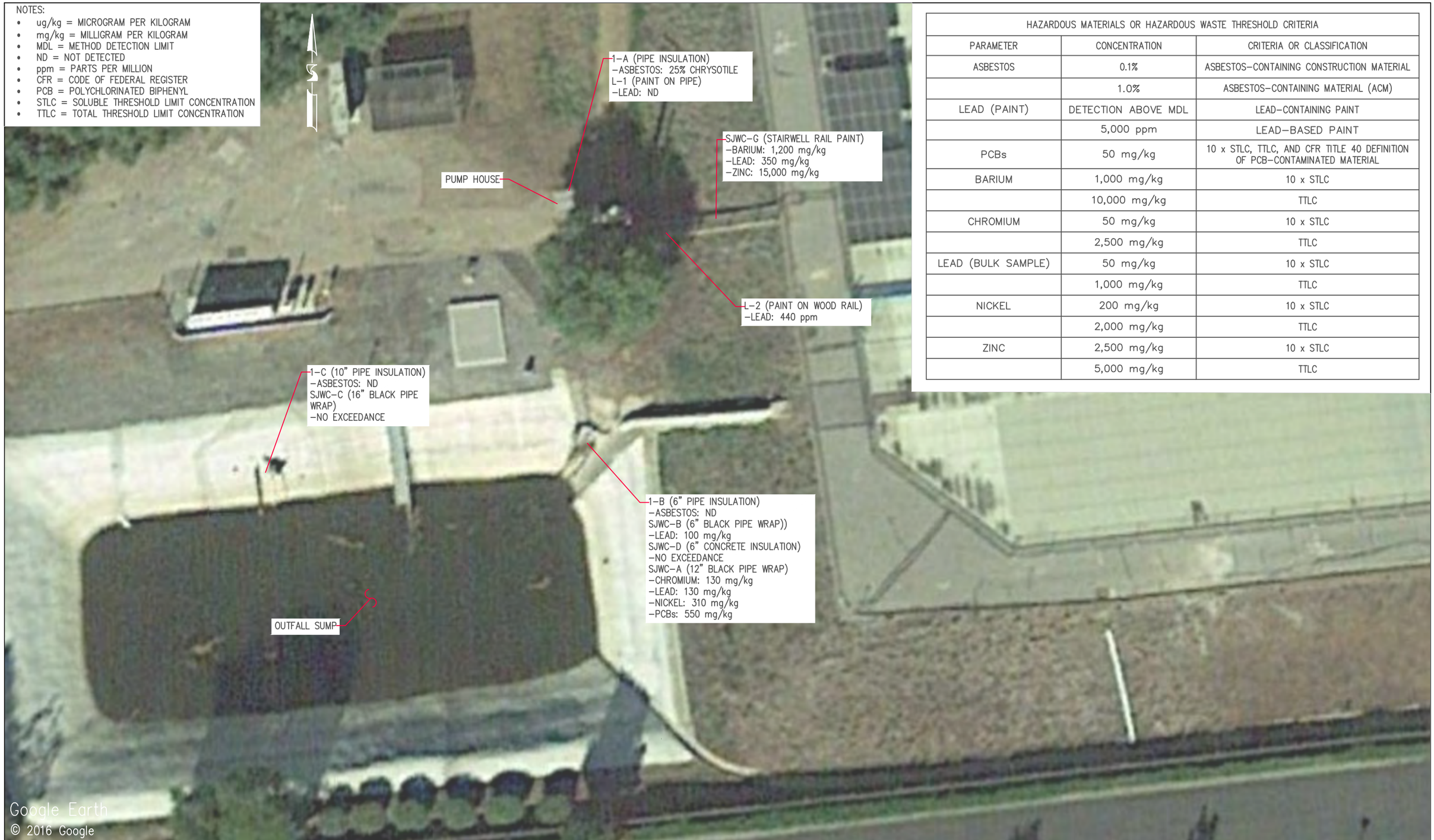
SAN JOSE WATER COMPANY
110 WEST TAYLOR STREET
SAN JOSE, CA 95110

FIGURE 3.
BULK MATERIAL SAMPLING LOCATIONS WHERE DETECTED CONCENTRATIONS EXCEEDED HAZARDOUS MATERIALS OR HAZARDOUS WASTE THRESHOLD CRITERIA, SAN JOSE WATER COMPANY COLUMBINE RESERVOIR, SAN JOSE CALIFORNIA

PROJECT No.: 106101

NOTES:

- ug/kg = MICROGRAM PER KILOGRAM
- mg/kg = MILLIGRAM PER KILOGRAM
- MDL = METHOD DETECTION LIMIT
- ND = NOT DETECTED
- ppm = PARTS PER MILLION
- CFR = CODE OF FEDERAL REGISTER
- PCB = POLYCHLORINATED BIPHENYL
- STLC = SOLUBLE THRESHOLD LIMIT CONCENTRATION
- TTLC = TOTAL THRESHOLD LIMIT CONCENTRATION



HAZARDOUS MATERIALS OR HAZARDOUS WASTE THRESHOLD CRITERIA		
PARAMETER	CONCENTRATION	CRITERIA OR CLASSIFICATION
ASBESTOS	0.1%	ASBESTOS-CONTAINING CONSTRUCTION MATERIAL
	1.0%	ASBESTOS-CONTAINING MATERIAL (ACM)
LEAD (PAINT)	DETECTION ABOVE MDL	LEAD-CONTAINING PAINT
	5,000 ppm	LEAD-BASED PAINT
PCBs	50 mg/kg	10 x STLC, TTLC, AND CFR TITLE 40 DEFINITION OF PCB-CONTAMINATED MATERIAL
BARIUM	1,000 mg/kg	10 x STLC
	10,000 mg/kg	TTLC
CHROMIUM	50 mg/kg	10 x STLC
	2,500 mg/kg	TTLC
LEAD (BULK SAMPLE)	50 mg/kg	10 x STLC
	1,000 mg/kg	TTLC
NICKEL	200 mg/kg	10 x STLC
	2,000 mg/kg	TTLC
ZINC	2,500 mg/kg	10 x STLC
	5,000 mg/kg	TTLC

REVISIONS

No.	DESCRIPTION	DATE	BY

REMEDY ENGINEERING, INC.
CIVIL AND ENVIRONMENTAL SOLUTIONS
REMEDY ENGINEERING, INC.
2510 OLD EUREKA WAY
REDDING, CA 96001
PHONE: (530) 241-7658
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1 0 1 2
ORIGINAL SCALE IN INCHES

SAN JOSE WATER COMPANY
110 WEST TAYLOR STREET
SAN JOSE, CA 95110

FIGURE 4.
BULK MATERIAL SAMPLING LOCATIONS WHERE DETECTED CONCENTRATIONS EXCEEDED HAZARDOUS MATERIALS OR HAZARDOUS WASTE THRESHOLD CRITERIA, OUTFALL SUMP SAN JOSE WATER COMPANY COLUMBINE RESERVOIR, SAN JOSE CALIFORNIA

PROJECT No.: 106101

Table 1. Metals Concentrations, Summary Report, San Jose Water Company Columbine Reservoir

Sample ID	Sample Depth (inches below ground surface)	Sample Date	Antimony mg/Kg Result	Arsenic mg/Kg Result	Barium mg/Kg Result	Beryllium mg/Kg Result	Cadmium mg/Kg Result	Chromium mg/Kg Result	Cobalt mg/Kg Result	Copper mg/Kg Result	Lead mg/Kg Result	Mercury mg/Kg Result	Molybdenum mg/Kg Result	Nickel mg/Kg Result	Selenium mg/Kg Result	Silver mg/Kg Result	Thallium mg/Kg Result	Vanadium mg/Kg Result	Zinc mg/Kg Result
HA-1	18	9/26/2016	10	14	140	6.2	6.8	33	13	19	16	0.16	6.5	41	0.17 U	4.7	0.32 J	49	150
HA-2	20	9/26/2016	4.6	6.9	180	0.53	1.2	29	9.1	11	10	0.12	1.4	34	0.17 U	0.041 U	0.46 J	38	83
HA-3	24	9/26/2016	1 J	6.2	180	0.54	1.2	29	6.8	13	9.5	0.22	1.6	33	0.19 U	0.048 U	0.47 J	37	140
HA-4	20	9/26/2016	0.9 J	7	220	0.58	1.1	34	8.2	13	9.4	0.12	1.3	40	0.17 U	0.043 U	0.37 J	42	120
HA-5	19	9/26/2016	2.3	8.5	210	0.59	1.2	44	8.3	13	11	0.11	1.5	44	0.17 U	0.041 U	0.38 J	43	120
HA-6	19	9/26/2016	4.3	6.6	170	0.51	0.95	30	7.4	10	9.8	0.087	1.4	31	0.16 U	0.041 U	0.14 U	36	72
HA-7	20	9/26/2016	0.98 J	7.6	190	0.57	1.1	37	7.8	12	11	0.14	1.6	41	0.18 U	0.046 U	0.22 J	43	92
HA-8	20	9/26/2016	4.8	6.9	210	0.56	1.2	35	8.7	8.8	6.4	0.091	1.6	38	0.19 U	0.047 U	0.35 J	39	45
HA-9	26	9/26/2016	6	7.5	200	0.86	0.82	37	8.7	8	7.5	0.15	0.96	43	0.2 U	0.049 U	0.17 U	43	41
HA-10	18	9/26/2016	4.8	8.4	200	0.7	0.94	33	10	8	9.6	0.13	1.3	45	0.17 U	0.043 U	0.17 J	38	65
HA-11	24	9/26/2016	1.6 J	7.6	190	0.56	1.7	29	8.1	11	8	0.15	1.7	29	0.17 U	0.041 U	0.15 U	38	82
HA-12	18	9/26/2016	4.8	7.7	180	0.56	1.1	49	8.2	11	7.1	0.13	1.5	39	0.18 U	0.044 U	0.42 J	40	48
HA-13	22	9/26/2016	4.9	6.4	210	0.54	1.4	30	8.4	11	9.2	0.098	1.2	31	0.19 U	0.048 U	0.17 U	36	100
HA-14	16	9/26/2016	5.4	7.6	180	0.6	0.9	32	7.1	9.6	7	0.13	1.4	38	0.19 U	0.047 U	0.18 J	40	52
HA-15	18	9/26/2016	2 J	8.1	240	0.64	2.7	40	11	17	7.7	0.38	1.8	55	0.18 U	0.046 U	0.16 U	45	70
HA-16	18	9/26/2016	4.3	7.5	160	0.52	0.98	27	6.7	8.2	6.6	0.12	1.3	29	0.19 U	0.047 U	0.85	36	46
HA-17	18	9/26/2016	4.9	6.7	170	0.48	1.4	28	7.9	14	14	0.095	1.4	34	0.19 U	0.048 U	0.17 U	38	250
HA-18	20	9/26/2016	1.1 J	6.8	160	0.48	1.1	31	7.9	14	17	0.17	1.5	42	0.17 U	0.041 U	0.4 J	39	270
HA-19	21	9/26/2016	2.9	5.5	140	0.4	0.95	25	7.8	13	11	0.13	1.2	36	0.18 U	0.044 U	0.15 U	32	99
HA-20	20	9/26/2016	1.1 J	6.5	170	0.43	1.8	91	13	18	22	0.25	2.2	120	0.16 U	0.041 U	0.28 J	40	170
HA-21	18	9/26/2016	0.15 U	2.2	55	0.19	0.73	10	2.6	4.8	8.9	0.029	0.74	12	0.16 U	0.04 U	0.56	12	130
HA-22	20	9/26/2016	4.2	15	260	0.77	1.1	70	20	28	9.5	0.066	1.1	160	0.21 U	0.052 U	0.32 J	66	74
HA-23	18	9/26/2016	1.5 J	5.8	150	0.4	1.3	26	7.2	14	21	0.13	1.4	33	0.18 U	0.044 U	0.24 J	36	330
HA-24	21	9/26/2016	2.4	6.7	220	0.58	0.9	32	7.3	10	8	0.11	1.2	37	0.18 U	0.046 U	1.2	42	84
HA-25	22	9/26/2016	2 J	8.6	180	0.41	1.7	43	11	26	45	0.41	2.6	66	0.18 U	0.045 U	0.65	48	400
HA-26	19	9/26/2016	3	9.1	200	0.45	1.5	48	12	23	30	0.28	2.1	81	0.18 U	0.044 U	0.8	49	110
HA-27	19	9/26/2016	2.9	7.2	190	0.57	1.2	35	7.6	13	32	0.13	1.4	42	0.18 U	0.046 U	0.34 J	43	400
HA-28	17	9/26/2016	2 J	7	190	0.55	1.1	32	7.1	9	6.2	0.23	2.3	32	0.19 U	0.048 U	0.91	41	53
HA-29	19	9/26/2016	2.4	9.3	200	0.58	1.1	32	9.5	11	7.7	0.11	2.8	37	0.16 U	0.041 U	0.8	40	52
HA-30	19	9/26/2016	1.3 J	6.6	180	0.54	1.3	31	7.7	9.5	6.1	0.16	1.4	34	0.19 U	0.048 U	1.1	40	48
HA-31	19	9/27/2016	2.6	7.4	260	0.49	1.3	32	8.5	11	9.2	0.2	1.8	36	0.16 U	0.041 U	0.39 J	41	110
HA-32	24	9/27/2016	1.7 J	8.9	160	0.5	1.6	28	7.6	9.4	6.5	0.15	2.1	29	0.16 U	0.04 U	0.73	37	54
HA-33	20	9/27/2016	1.9 J	7.7	320	0.47	1.2	39	8.6	13	18	0.15	1.6	41	0.18 U	0.045 U	0.55 J	42	100
HA-34	20	9/27/2016	1.6 J	6.4	170	0.51	1.3	30	7.9	10	11	0.52	1.6	33	0.17 U	0.042 U	0.68	37	78
HA-35	19	9/27/2016	2.7	7.7	170	0.52	1.3	29	7.7	10	8.3	0.19	1.5	31	0.18 U	0.044 U	0.54 J	37	61
HA-36	20	9/27/2016	1.7 J	6.3	160	0.49	1.2	29	8.1	12	11	0.15	1.4	35	0.19 U	0.047 U	0.42 J	39	91
HA-37	24	9/27/2016	2.3 J	8.4	230	0.77	1.1	39	9.5	10	8	0.1	1.3	40	0.2 U	0.051 U	0.18 U	45	55
HA-38	25	9/27/2016	2.3 J	5.3	180	0.51	0.63	30	13	9.6	8.2	0.056	0.85	23	0.21 U	0.052 U	0.18 U	43	29
HA-39	22	9/27/2016	1.7 J	7.9	190	0.55	0.99	33	9.5	12	6.2	0.095	1.4	37	0.16 U	0.041 U	1	43	43
HA-40	18	9/27/2016	4	6.3	170	0.49	0.86	30	10	11	8.2	0.069	1	30	0.15 U	0.039 U	0.2 J	38	38
HA-41	18	9/27/2016	1.3 J	6.7	210	0.59	1	32	11	13	8	0.081	1.4	41	0.18 U	0.046 U	0.33 J	44	57
HA-42	23	9/27/2016	1.3 J	6.7	190	0.55	0.91	30	11	11	8.6	0.18	1.1	31	0.17 U	0.041 U	0.15 U	39	41
HA-43	22	9/27/2016	4.2	6.1	170	0.51	0.96	28	7.8	9.2	6.4	0.16	1.2	31	0.18 U	0.046 U	0.5 J	35	41
HA-44	24	9/27/2016	4.9	7.2	190	0.55	1	29	8.5	10	12	0.14	1.4	32	0.18 U	0.045 U	0.23 J	36	45
HA-45	24	9/27/2016	4.6	7.2	200	0.53	1.2	30	7.6	9.6	6.4	0.16	1.6	33	0.17 U	0.042 U	0.33 J	39	45
HA-46	20	9/27/2016	4.7	8.2	190	0.65	1.1	37	8.8	12	7.1	0.14	1.3	39	0.2 U	0.051 U	0.59 J	45	48
		Background	6	11	280	1	5.6	100	22	58	17	0.42	4.8	164	4.9	2.9	10	77	110
		RSL -Residential	31	0.68	15,000	160	71	NA	23	3,100	400	11	390	1500	390	390	0.78	390	23,000
		ESL - Tier 1	31	0.067	3,000	42	39	NA	23	3,100	80	13	390	86	390	390	0.78	390	23,000

Notes:
Background concentrations for all metals except arsenic from Lawrence Berkeley National Laboratory, 2009. Arsenic background from Duverge, 2011
RSL = Regional Screening Level
ESL = Environmental Screening Level
mg/Kg = milligram per kilogram
NA = Not Applicable
J = Estimated Detected Result
U = Not detected above the specified method detection limit
Bold values = Detected values above method detection limit
Gray Highlights = Method detection limit above screening level
Yellow Highlights = Value exceeds screening level and is above background leve
Green Highlights = Value exceeds screening level but is below background leve

Table 2. Polychlorinated Biphenyl (PCB) Concentrations, Summary Report, San Jose Water Company Columbine Reservoir

Sample ID	Sample Depth (inches below ground surface)	Sample Date	Aroclor-1016 ug/Kg Result		Aroclor-1221 ug/Kg Result		Aroclor-1232 ug/Kg Result		Aroclor-1242 ug/Kg Result		Aroclor-1248 ug/Kg Result		Aroclor-1254 ug/Kg Result		Aroclor-1260 ug/Kg Result		Aroclor-1262 ug/Kg Result		Total PCBs ug/Kg Result
HA-3	24	9/26/2016	2.6	U	7	U	3.4	U	3.2	U	3.4	U	2.7	U	1.7	U	3.1	U	27.1
HA-8	20	9/26/2016	2.6	U	7	U	3.4	U	3.2	U	3.4	U	2.7	U	1.7	U	3.1	U	27.1
HA-13	22	9/26/2016	2.6	U	7	U	3.4	U	3.1	U	3.3	U	2.7	U	1.7	U	3.1	U	26.9
HA-20	20	9/26/2016	2.6	U	7.1	U	3.5	U	3.2	U	3.4	U	2.7	U	1.7	U	3.1	U	27.3
HA-23	18	9/26/2016	2.7	U	7.2	U	3.5	U	3.2	U	3.4	U	**50**		**49**		3.1	U	122.1
HA-28	17	9/26/2016	2.6	U	7	U	3.4	U	3.1	U	3.3	U	2.7	U	1.7	U	3.1	U	26.9
HA-32	24	9/27/2016	2.5	U	6.8	U	3.3	U	3.1	U	3.3	U	2.6	U	1.6	U	3	U	26.2
HA-35	19	9/27/2016	2.5	U	6.8	U	3.3	U	3	U	3.2	U	2.6	U	1.6	U	3	U	26
HA-38	25	9/27/2016	2.8	U	7.7	U	3.7	U	3.5	U	3.7	U	2.9	U	1.9	U	3.4	U	29.6
HA-39	22	9/27/2016	2.6	U	7	U	3.4	U	3.1	U	3.3	U	2.7	U	1.7	U	3.1	U	26.9
HA-40	18	9/27/2016	2.5	U	6.7	U	3.3	U	3	U	3.2	U	2.6	U	1.6	U	3	U	25.9
HA-41	18	9/27/2016	2.6	U	7	U	3.4	U	3.2	U	3.4	U	2.7	U	1.7	U	3.1	U	27.1
HA-42	23	9/27/2016	2.5	U	6.9	U	3.3	U	3.1	U	3.3	U	2.6	U	1.7	U	3	U	26.4
HA-43	22	9/27/2016	2.6	U	7.1	U	3.4	U	3.2	U	3.4	U	2.7	U	1.7	U	3.1	U	27.2
HA-44	24	9/27/2016	2.8	U	7.5	U	3.7	U	3.4	U	3.6	U	2.9	U	1.8	U	3.3	U	29
HA-46	20	9/27/2016	2.8	U	7.6	U	3.7	U	3.4	U	3.6	U	2.9	U	1.8	U	3.3	U	29.1
		ESL - Tier 1	250		250		250		250		250		250		250		250		250
		RSL-Residential	4100		200		170		230		230		240		240		NA		NA

Notes:
RSL = Regional Screening Level
ESL = Environmental Screening Level
ug/Kg = microgram per kilogram
NA = Not Applicable
J = Estimated Detected Result
U = Not detected above the specified method detection limit
Bold values = detected values above method detection limit
Gray Highlights = Method detection limit above screening level
Yellow Highlights = Value exceeds screening level

Table 3. Pesticide Concentrations, Summary Report, San Jose Water Company Columbine Reservoir

Sample ID	Sample Depth (inches below ground surface)	Sample Date	4,4'-DDD ug/Kg Result		4,4'-DDE ug/Kg Result		4,4'-DDT ug/Kg Result		Aldrin ug/Kg Result		alpha-BHC ug/Kg Result		alpha-Chlordane ug/Kg Result		beta-BHC ug/Kg Result		delta-BHC ug/Kg Result		Dieldrin ug/Kg Result		Endosulfan I ug/Kg Result		Endosulfan II ug/Kg Result		Endosulfan sulfate ug/Kg Result	
HA-1	18	9/26/2016	1.8	U	2.5	U	1.8	U	1.4	U	1.3	U	**9**	J	2.5	U	1.3	U	2.3	U	1.4	U	2.3	U	2.7	U
HA-2	20	9/26/2016	1.8	U	2.5	U	1.8	U	1.4	U	1.4	U	**5.6**	J	2.5	U	1.3	U	2.3	U	1.4	U	2.3	U	2.7	U
HA-3	24	9/26/2016	2.6	U	2.4	U	2.4	U	2.3	U	1.4	U	1.4	U	2.2	U	1.1	U	2.6	U	1.8	U	2.7	U	2.7	U
HA-4	20	9/26/2016	1.9	U	2.6	U	1.9	U	1.5	U	1.4	U	**1.5**	J	2.6	U	1.4	U	2.4	U	1.4	U	2.4	U	2.8	U
HA-5	19	9/26/2016	1.9	U	2.6	U	1.8	U	1.4	U	1.4	U	**4**	J	2.6	U	1.3	U	2.4	U	1.4	U	2.4	U	2.8	U
HA-6	19	9/26/2016	**6.7**	J	1	U	**2.8**	J	0.57	U	0.55	U	**3**	J	1	U	0.54	U	0.94	U	0.55	U	0.94	U	1.1	U
HA-7	20	9/26/2016	1.9	U	2.6	U	1.8	U	1.4	U	1.4	U	1.3	U	2.6	U	1.3	U	2.4	U	1.4	U	2.4	U	2.7	U
HA-8	20	9/26/2016	0.52	U	0.49	U	0.48	U	0.46	U	0.27	U	0.28	U	0.44	U	**0.49**	J	0.51	U	0.35	U	0.54	U	0.53	U
HA-9	26	9/26/2016	0.4	U	0.55	U	0.39	U	0.3	U	0.29	U	0.28	U	0.55	U	0.29	U	0.5	U	0.3	U	0.5	U	0.59	U
HA-10	18	9/26/2016	0.4	U	0.55	U	**0.86**	J	0.31	U	0.29	U	0.28	U	0.55	U	0.29	U	0.51	U	0.3	U	0.51	U	0.59	U
HA-11	24	9/26/2016	0.8	U	0.65	U	0.52	U	0.23	U	0.22	U	0.23	U	0.45	U	0.31	U	0.44	U	0.19	U	0.55	U	0.57	U
HA-12	18	9/26/2016	0.37	U	0.51	U	0.36	U	0.28	U	0.27	U	0.26	U	0.51	U	0.27	U	0.47	U	0.27	U	0.47	U	0.54	U
HA-13	22	9/26/2016	2.6	U	2.4	U	2.4	U	2.3	U	1.3	U	1.4	U	2.2	U	1.1	U	2.5	U	1.7	U	2.7	U	2.6	U
HA-14	16	9/26/2016	0.38	U	0.52	U	0.37	U	0.29	U	0.28	U	0.27	U	0.52	U	0.27	U	0.48	U	**0.33**	J	0.48	U	0.56	U
HA-15	18	9/26/2016	0.38	U	0.53	U	0.37	U	0.29	U	0.28	U	0.27	U	**0.98**	J	0.28	U	0.49	U	0.29	U	0.49	U	0.57	U
HA-16	18	9/26/2016	0.37	U	0.51	U	0.36	U	0.29	U	0.27	U	0.26	U	0.51	U	0.27	U	0.47	U	0.28	U	0.47	U	0.55	U
HA-17	18	9/26/2016	0.79	U	1.1	U	**1.4**	J	0.61	U	0.58	U	0.56	U	1.1	U	0.57	U	1	U	0.59	U	1	U	1.2	U
HA-18	20	9/26/2016	7.6	U	10	U	7.4	U	5.8	U	5.6	U	5.3	U	10	U	5.5	U	9.6	U	5.6	U	9.6	U	11	U
HA-19	21	9/26/2016	7.5	U	10	U	7.3	U	5.7	U	5.5	U	5.2	U	10	U	5.4	U	9.5	U	5.6	U	9.5	U	11	U
HA-20	20	9/26/2016	10	U	9.8	U	**15**	J	9.4	U	5.5	U	5.7	U	8.9	U	4.6	U	10	U	7.1	U	11	U	11	U
HA-21	18	9/26/2016	6.9	U	3.1	U	7.3	U	1.8	U	2	U	2.2	U	3.1	U	2.1	U	5.8	U	1.4	U	6.2	U	5.5	U
HA-22	20	9/26/2016	0.55	U	0.52	U	0.51	U	0.49	U	0.29	U	0.3	U	0.47	U	**0.79**	J	0.55	U	0.37	U	0.57	U	0.56	U
HA-23	18	9/26/2016	15	U	6.8	U	16	U	4	U	4.3	U	4.8	U	6.8	U	4.7	U	13	U	3.2	U	14	U	12	U
HA-24	21	9/26/2016	1.5	U	0.68	U	1.6	U	0.4	U	0.43	U	0.47	U	0.67	U	0.47	U	1.3	U	0.31	U	1.4	U	1.2	U
HA-25	22	9/26/2016	36	U	16	U	38	U	9.5	U	10	U	11	U	16	U	11	U	30	U	7.5	U	32	U	28	U
HA-26	19	9/26/2016	15	U	6.6	U	15	U	3.9	U	4.1	U	4.6	U	6.5	U	4.5	U	12	U	3	U	13	U	11	U
HA-27	19	9/26/2016	5.2	U	4.9	U	4.8	U	4.7	U	2.7	U	2.8	U	4.5	U	2.3	U	5.2	U	3.5	U	5.4	U	5.4	U
HA-28	17	9/26/2016	0.74	U	0.33	U	0.77	U	0.19	U	0.21	U	0.23	U	0.33	U	0.23	U	0.62	U	0.15	U	0.66	U	0.58	U
HA-29	19	9/26/2016	0.75	U	0.34	U	0.79	U	0.2	U	0.21	U	0.24	U	0.34	U	0.23	U	0.63	U	0.16	U	0.67	U	0.59	U
HA-30	19	9/26/2016	1	U	0.98	U	0.97	U	0.93	U	0.55	U	0.57	U	**3.4**	J	**0.83**	J	1	U	0.71	U	1.1	U	1.1	U
HA-31	19	9/27/2016	5.1	U	4.8	U	4.7	U	4.5	U	2.7	U	2.8	U	4.3	U	2.2	U	5.1	U	3.4	U	5.3	U	5.2	U
HA-32	24	9/27/2016	0.72	U	0.32	U	0.75	U	0.19	U	0.2	U	**0.65**	J	0.32	U	0.22	U	0.61	U	0.15	U	0.65	U	0.57	U
HA-33	20	9/27/2016	10	U	9.4	U	9.2	U	8.9	U	5.2	U	**71**		8.5	U	4.3	U	9.9	U	6.7	U	10	U	10	U
HA-34	20	9/27/2016	2.5	U	2.4	U	2.3	U	2.2	U	1.3	U	**33**		2.1	U	1.1	U	2.5	U	1.7	U	2.6	U	2.6	U
HA-35	19	9/27/2016	3.9	U	3.9	U	4.5	U	2.7	U	2.4	U	**14**		2.4	U	2.1	U	1.5	U	2.3	U	4.3	U	5.2	U
HA-36	20	9/27/2016	5	U	4.7	U	4.6	U	4.4	U	2.6	U	**5.5**	J	4.2	U	2.2	U	4.9	U	3.4	U	5.1	U	5.1	U
HA-37	24	9/27/2016	0.56	U	**1.6**	J	**0.56**	J	0.5	U	0.3	U	0.31	U	**1.7**	J	0.25	U	0.56	U	0.38	U	0.58	U	0.58	U
HA-38	25	9/27/2016	0.89	U	0.88	U	1	U	0.6	U	0.54	U	0.49	U	0.53	U	0.48	U	0.35	U	0.53	U	0.97	U	1.2	U
HA-39	22	9/27/2016	0.81	U	**1.3**	J	**1.4**	J	0.55	U	0.5	U	0.45	U	0.49	U	0.44	U	0.32	U	0.48	U	0.89	U	1.1	U
HA-40	18	9/27/2016	0.78	U	**1.1**	J	0.9	U	0.53	U	0.48	U	0.43	U	0.47	U	0.42	U	0.3	U	0.46	U	0.85	U	1	U
HA-41	18	9/27/2016	0.74	U	0.33	U	0.78	U	0.2	U	0.21	U	0.23	U	0.33	U	0.23	U	0.63	U	0.16	U	0.67	U	0.59	U
HA-42	23	9/27/2016	0.8	U	**1.5**	J	**1.1**	J	0.54	U	0.49	U	0.44	U	0.48	U	0.43	U	0.31	U	0.47	U	0.87	U	1	U
HA-43	22	9/27/2016	8.2	U	8.1	U	9.4	U	5.5	U	5	U	4.5	U	4.9	U	4.4	U	3.2	U	4.9	U	8.9	U	11	U
HA-44	24	9/27/2016	1.7	U	1.7	U	2	U	1.2	U	1.1	U	0.96	U	1	U	0.94	U	0.68	U	1	U	1.9	U	2.3	U
HA-45	24	9/27/2016	0.51	U	0.48	U	0.47	U	0.45	U	0.27	U	0.28	U	**0.9**	J	**0.57**	J	0.51	U	0.34	U	0.53	U	0.52	U
HA-46	20	9/27/2016	1.8	U	1.7	U	2	U	1.2	U	1.1	U	0.96	U	1.1	U	0.95	U	0.68	U	1	U	1.9	U	2.3	U
		RSL - Residential	2300		2000		1900		39		86		1700		300		NA		34		470,000		470,000		470,000	
		ESL - Tier 1	2700		1900		1900		36		NA		NA		NA		NA		0.17		NA		NA		NA	

Notes:
RSL = Regional Screening Level
ESL = Environmental Screening Level
ug/Kg = micrograms per kilogram
NA = Not Applicable
J = Estimated Detected Result
U = Not detected above the specified method detection limit
Bold values = Detected values above method detection limit
Gray Highlights = Method detection limit above screening level
Yellow Highlights = Value exceeds screening level

Table 3. Pesticide Concentrations, Summary Report, San Jose V

Sample ID	Sample Depth (inches below ground surface)	Sample Date	Endrin ug/Kg Result		Endrin aldehyde ug/Kg Result		gamma-BHC ug/Kg Result		gamma-Chlordane ug/Kg Result		Heptachlor ug/Kg Result		Heptachlor epoxide ug/Kg Result		Methoxychlor ug/Kg Result		Toxaphene ug/Kg Result	
HA-1	18	9/26/2016	2.6	U	3.1	U	1.2	U	**60**		1.3	U	1.4	U	13	U	62	U
HA-2	20	9/26/2016	2.7	U	3.1	U	1.2	U	**15**		1.3	U	1.4	U	14	U	63	U
HA-3	24	9/26/2016	3.2	U	2.2	U	2.2	U	2	U	2	U	1.4	U	15	U	80	U
HA-4	20	9/26/2016	2.8	U	3.2	U	1.2	U	1.7	U	1.4	U	1.5	U	14	U	65	U
HA-5	19	9/26/2016	2.7	U	3.1	U	1.2	U	**3.1**	J	1.4	U	1.5	U	14	U	64	U
HA-6	19	9/26/2016	1.1	U	1.2	U	0.47	U	**19**		0.54	U	0.58	U	5.5	U	25	U
HA-7	20	9/26/2016	2.7	U	3.1	U	1.2	U	**8.2**	J	1.4	U	1.4	U	14	U	64	U
HA-8	20	9/26/2016	0.64	U	0.43	U	0.43	U	0.4	U	0.41	U	0.27	U	2.9	U	16	U
HA-9	26	9/26/2016	0.57	U	0.67	U	0.25	U	0.35	U	0.29	U	0.31	U	2.9	U	14	U
HA-10	18	9/26/2016	0.58	U	0.67	U	0.25	U	0.35	U	0.29	U	0.31	U	**3**	J	14	U
HA-11	24	9/26/2016	0.62	U	0.37	U	0.24	U	0.27	U	0.21	U	0.24	U	3.5	U	10	U
HA-12	18	9/26/2016	0.53	U	0.62	U	0.23	U	0.33	U	0.27	U	0.29	U	2.7	U	13	U
HA-13	22	9/26/2016	3.2	U	2.1	U	2.1	U	2	U	2	U	1.3	U	15	U	79	U
HA-14	16	9/26/2016	0.55	U	0.64	U	0.24	U	0.34	U	0.28	U	0.3	U	2.8	U	13	U
HA-15	18	9/26/2016	0.55	U	0.64	U	0.24	U	0.34	U	0.28	U	0.3	U	2.8	U	13	U
HA-16	18	9/26/2016	0.54	U	0.62	U	0.24	U	0.33	U	**1.4**	J	0.29	U	2.7	U	13	U
HA-17	18	9/26/2016	1.1	U	1.3	U	0.5	U	0.7	U	0.57	U	0.61	U	5.8	U	27	U
HA-18	20	9/26/2016	11	U	13	U	4.8	U	6.7	U	5.5	U	5.9	U	56	U	260	U
HA-19	21	9/26/2016	11	U	13	U	4.8	U	6.6	U	5.4	U	5.8	U	55	U	260	U
HA-20	20	9/26/2016	13	U	8.8	U	8.8	U	8.1	U	8.3	U	5.5	U	59	U	320	U
HA-21	18	9/26/2016	5.3	U	8.7	U	1.8	U	1.5	U	2.2	U	2	U	26	U	100	U
HA-22	20	9/26/2016	0.68	U	0.46	U	0.46	U	0.42	U	0.43	U	0.29	U	3.1	U	17	U
HA-23	18	9/26/2016	12	U	19	U	4	U	3.3	U	4.8	U	4.4	U	58	U	220	U
HA-24	21	9/26/2016	1.2	U	1.9	U	0.4	U	0.33	U	0.48	U	0.44	U	5.7	U	22	U
HA-25	22	9/26/2016	28	U	46	U	9.5	U	**10**	J	11	U	**18**	J	140	U	530	U
HA-26	19	9/26/2016	11	U	18	U	3.9	U	**8.3**	J	4.6	U	**28**	J	56	U	210	U
HA-27	19	9/26/2016	6.5	U	4.4	U	4.4	U	4	U	4.1	U	2.7	U	30	U	160	U
HA-28	17	9/26/2016	0.56	U	0.93	U	0.2	U	0.16	U	0.23	U	0.21	U	2.8	U	11	U
HA-29	19	9/26/2016	0.57	U	0.95	U	0.2	U	0.16	U	0.24	U	0.22	U	2.9	U	11	U
HA-30	19	9/26/2016	1.3	U	0.87	U	0.87	U	0.8	U	0.82	U	0.55	U	5.9	U	32	U
HA-31	19	9/27/2016	6.3	U	4.3	U	4.3	U	**8.6**	J	4	U	2.7	U	29	U	160	U
HA-32	24	9/27/2016	0.55	U	0.91	U	0.19	U	**0.89**	J	0.23	U	0.21	U	2.7	U	11	U
HA-33	20	9/27/2016	12	U	8.4	U	8.3	U	**56**		7.8	U	**8.7**	J	56	U	310	U
HA-34	20	9/27/2016	3.1	U	2.1	U	2.1	U	**24**		2	U	1.3	U	14	U	78	U
HA-35	19	9/27/2016	5	U	4	U	2.5	U	**3.4**	J	2.7	U	2.1	U	27	U	89	U
HA-36	20	9/27/2016	6.1	U	4.2	U	4.2	U	3.8	U	3.9	U	2.6	U	28	U	150	U
HA-37	24	9/27/2016	0.7	U	0.47	U	0.47	U	0.43	U	0.44	U	0.3	U	3.2	U	17	U
HA-38	25	9/27/2016	1.1	U	0.9	U	0.56	U	0.64	U	0.61	U	0.47	U	6.1	U	20	U
HA-39	22	9/27/2016	1	U	0.82	U	0.51	U	0.59	U	0.55	U	0.43	U	5.5	U	18	U
HA-40	18	9/27/2016	0.99	U	0.79	U	0.49	U	0.57	U	0.53	U	0.41	U	5.3	U	18	U
HA-41	18	9/27/2016	0.57	U	0.94	U	0.2	U	0.16	U	0.24	U	0.22	U	2.8	U	11	U
HA-42	23	9/27/2016	1	U	0.8	U	0.5	U	0.57	U	0.54	U	0.42	U	5.4	U	18	U
HA-43	22	9/27/2016	10	U	8.2	U	5.1	U	5.9	U	5.6	U	4.3	U	56	U	180	U
HA-44	24	9/27/2016	2.2	U	1.8	U	1.1	U	1.3	U	1.2	U	0.92	U	12	U	39	U
HA-45	24	9/27/2016	0.63	U	0.43	U	0.43	U	0.39	U	0.4	U	**0.28**	J	2.9	U	16	U
HA-46	20	9/27/2016	2.2	U	1.8	U	1.1	U	1.3	U	1.2	U	0.93	U	12	U	40	U
		RSL - Residential	19,000		NA		570		1700		130		70		320,000		490	
		ESL - Tier 1	0.65		NA		9.8		NA		0.77		0.42		19,000		0.42	

Notes:
RSL = Regional Screening Level
ESL = Environmental Screening Level
ug/Kg = micrograms per kilogram
NA = Not Applicable
J = Estimated Detected Result
U = Not detected above the specified method detection limit
Bold values = Detected values above method detection limit
Gray Highlights = Method detection limit above screening leve
Yellow Highlights = Value exceeds screening level

Table 4. Total Petroleum Hydrocarbon (TPH) Concentrations, Summary Report, San Jose Water Company Columbine Reservoir

Sample ID	Sample Depth (inches below ground surface)	SampleDate	TPH-Diesel mg/Kg Result		TPH-Motor Oil mg/Kg Result	
HA-3	24	9/26/2016	**19**		**47**	
HA-8	20	9/26/2016	**7.1**		**8.3**	
HA-13	22	9/26/2016	**9.6**		**34**	
HA-20	20	9/26/2016	**15**		**130**	
HA-23	18	9/26/2016	**29**		**290**	
HA-28	17	9/26/2016	**1.6**		**12**	
HA-32	24	9/27/2016	**0.93**	J	**3.3**	J
HA-35	19	9/27/2016	**5.9**		**120**	
HA-38	25	9/27/2016	**1.2**	J	**5.6**	J
HA-39	22	9/27/2016	**0.65**	J	**3.8**	J
HA-40	18	9/27/2016	**4.2**		**21**	
HA-41	18	9/27/2016	**2.4**		**8.5**	
HA-42	23	9/27/2016	**1.5**		**16**	
HA-43	22	9/27/2016	**0.88**	J	**35**	
HA-44	24	9/27/2016	**0.6**	J	**4.7**	J
HA-46	20	9/27/2016	**48**		**14**	
		RSL - Residential	96		2500	
		ESL - Tier 1	230		5100	

Notes:
RSL = Regional Screening Level
ESL = Environmental Screening Level
mg/Kg = milligram per kilogram
NA = Not Applicable
J = Estimated Detected Result
U = Not detected above the specified method detection limit
Bold values = Detected values above method detection limit
Gray Highlights = Method detection limit above screening level
Yellow Highlights = Value exceeds screening level

Table 5. Comparison of Metals Concentrations to Disposal Criteria
Summary Report, San Jose Water Company Columbine Reservoir

Analyte	Units	20 x TCLP	10 x STLC	TTLC	Average Concentration	Maximum Concentration	HA-1	HA-2	HA-3	HA-4	HA-5	HA-6	HA-7	HA-8	HA-9	HA-10	HA-11	HA-12	HA-13	HA-14	HA-15
Antimony	mg/Kg	NA	150	500	3.0	10	10	4.6	1 J	0.9 J	2.3	4.3	0.98 J	4.8	6	4.8	1.6 J	4.8	4.9	5.4	2 J
Arsenic	mg/Kg	100	50	500	7.4	15	14	6.9	6.2	7	8.5	6.6	7.6	6.9	7.5	8.4	7.6	7.7	6.4	7.6	8.1
Barium	mg/Kg	2000	1000	10000	189	320	140	180	180	220	210	170	190	210	200	200	190	180	210	180	240
Beryllium	mg/Kg	NA	7.5	75	0.7	6.2	6.2	0.53	0.54	0.58	0.59	0.51	0.57	0.56	0.86	0.7	0.56	0.56	0.54	0.6	0.64
Cadmium	mg/Kg	20	10	100	1.3	6.8	6.8	1.2	1.2	1.1	1.2	0.95	1.1	1.2	0.82	0.94	1.7	1.1	1.4	0.9	2.7
Chromium	mg/Kg	100	50	2500	35	**91**	33	29	29	34	44	30	37	35	37	33	29	49	30	32	40
Cobalt	mg/Kg	NA	800	8000	8.9	20	13	9.1	6.8	8.2	8.3	7.4	7.8	8.7	8.7	10	8.1	8.2	8.4	7.1	11
Copper	mg/Kg	NA	250	2500	12	28	19	11	13	13	13	10	12	8.8	8	8	11	11	11	9.6	17
Lead	mg/Kg	100	50	1000	11	45	16	10	9.5	9.4	11	9.8	11	6.4	7.5	9.6	8	7.1	9.2	7	7.7
Mercury	mg/Kg	4	2	20	0.2	0.52	0.16	0.12	0.22	0.12	0.11	0.09	0.14	0.09	0.15	0.13	0.15	0.13	0.1	0.13	0.38
Molybdenum	mg/Kg	NA	3500	3500	1.6	6.5	6.5	1.4	1.6	1.3	1.5	1.4	1.6	1.6	0.96	1.3	1.7	1.5	1.2	1.4	1.8
Nickel	mg/Kg	NA	200	2000	42	160	41	34	33	40	44	31	41	38	43	45	29	39	31	38	55
Selenium	mg/Kg	20	10	100	0.18	0.21	0.17 U	0.17 U	0.19 U	0.17 U	0.17 U	0.16 U	0.18 U	0.19 U	0.2 U	0.17 U	0.17 U	0.18 U	0.19 U	0.19 U	0.18 U
Silver	mg/Kg	100	50	500	0.15	4.7	4.7	0.04 U	0.05 U	0.04 U	0.04 U	0.04 U	0.05 U	0.05 U	0.05 U	0.04 U	0.04 U	0.04 U	0.05 U	0.05 U	0.05 U
Thallium	mg/Kg	NA	70	700	0.43	1.2	0.32 J	0.46 J	0.47 J	0.37 J	0.38 J	0.14 U	0.22 J	0.35 J	0.17 U	0.17 J	0.15 U	0.42 J	0.17 U	0.18 J	0.16 U
Vanadium	mg/Kg	NA	240	2400	40	66	49	38	37	42	43	36	43	39	43	38	38	40	36	40	45
Zinc	mg/Kg	NA	2500	5000	103	400	150	83	140	120	120	72	92	45	41	65	82	48	100	52	70

Notes:
STLC = Soluble Threshold Limit Concentration
TCLP = Toxicity Characteristic Leaching Procedure
TTLC = Total Threshold Limit Concentration
ft bgs = feet below ground surface
mg/Kg = milligram per kilogram
NA = not applicable
J = estimated detected result
U = not detected above the specified method detection limit
Red Font = Value exceeds TTLC limit, 20 x TCLP limit, and 10 x STLC limit
Green Font = Value exceeds 20 x TCLP limit and 10 x STLC limit
Blue Font = Value exceeds 10 x STLC limit

Table 5. Comparison of Metals Concentrations to Disposal Cri
Summary Report, San Jose Water Company Columbine Reserv

Analyte	Units	20 x TCLP	10 x STLC	TTLC	HA-16	HA-17	HA-18	HA-19	HA-20	HA-21	HA-22	HA-23	HA-24	HA-25	HA-26	HA-27	HA-28	HA-29	HA-30	HA-31	HA-32
Antimony	mg/Kg	NA	150	500	4.3	4.9	1.1 J	2.9	1.1 J	0.15 U	4.2	1.5 J	2.4	2 J	3	2.9	2 J	2.4	1.3 J	2.6	1.7 J
Arsenic	mg/Kg	100	50	500	7.5	6.7	6.8	5.5	6.5	2.2	15	5.8	6.7	8.6	9.1	7.2	7	9.3	6.6	7.4	8.9
Barium	mg/Kg	2000	1000	10000	160	170	160	140	170	55	260	150	220	180	200	190	190	200	180	260	160
Beryllium	mg/Kg	NA	7.5	75	0.52	0.48	0.48	0.4	0.43	0.19	0.77	0.4	0.58	0.41	0.45	0.57	0.55	0.58	0.54	0.49	0.5
Cadmium	mg/Kg	20	10	100	0.98	1.4	1.1	0.95	1.8	0.73	1.1	1.3	0.9	1.7	1.5	1.2	1.1	1.1	1.3	1.3	1.6
Chromium	mg/Kg	100	50	2500	27	28	31	25	**91**	10	**70**	26	32	43	48	35	32	32	31	32	28
Cobalt	mg/Kg	NA	800	8000	6.7	7.9	7.9	7.8	13	2.6	20	7.2	7.3	11	12	7.6	7.1	9.5	7.7	8.5	7.6
Copper	mg/Kg	NA	250	2500	8.2	14	14	13	18	4.8	28	14	10	26	23	13	9	11	9.5	11	9.4
Lead	mg/Kg	100	50	1000	6.6	14	17	11	22	8.9	9.5	21	8	45	30	32	6.2	7.7	6.1	9.2	6.5
Mercury	mg/Kg	4	2	20	0.12	0.1	0.17	0.13	0.25	0.03	0.07	0.13	0.11	0.41	0.28	0.13	0.23	0.11	0.16	0.2	0.15
Molybdenum	mg/Kg	NA	3500	3500	1.3	1.4	1.5	1.2	2.2	0.74	1.1	1.4	1.2	2.6	2.1	1.4	2.3	2.8	1.4	1.8	2.1
Nickel	mg/Kg	NA	200	2000	29	34	42	36	120	12	160	33	37	66	81	42	32	37	34	36	29
Selenium	mg/Kg	20	10	100	0.19 U	0.19 U	0.17 U	0.18 U	0.16 U	0.16 U	0.21 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.19 U	0.16 U	0.19 U	0.16 U	0.16 U
Silver	mg/Kg	100	50	500	0.05 U	0.05 U	0.04 U	0.04 U	0.04 U	0.04 U	0.05 U	0.04 U	0.05 U	0.045 U	0.04 U	0.05 U	0.05 U	0.04 U	0.05 U	0.04 U	0.04 U
Thallium	mg/Kg	NA	70	700	0.85	0.17 U	0.4 J	0.15 U	0.28 J	0.56	0.32 J	0.24 J	1.2	0.65	0.8	0.34 J	0.91	0.8	1.1	0.39 J	0.73
Vanadium	mg/Kg	NA	240	2400	36	38	39	32	40	12	66	36	42	48	49	43	41	40	40	41	37
Zinc	mg/Kg	NA	2500	5000	46	250	270	99	170	130	74	330	84	400	110	400	53	52	48	110	54

Notes:
STLC = Soluble Threshold Limit Concentration
TCLP = Toxicity Characteristic Leaching Procedure
TTLC = Total Threshold Limit Concentration
ft bgs = feet below ground surface
mg/Kg = milligram per kilogram
NA = not applicable
J = estimated detected result
U = not detected above the specified method detection limit
Red Font = Value exceeds TTLC limit, 20 x TCLP limit, and 10 x S
Green Font = Value exceeds 20 x TCLP limit and 10 x STLC limit
Blue Font = Value exceeds 10 x STLC limit

Table 5. Comparison of Metals Concentrations to Disposal Cri
Summary Report, San Jose Water Company Columbine Reserv

Analyte	Units	20 x TCLP	10 x STLC	TTLC	HA-33	HA-34	HA-35	HA-36	HA-37	HA-38	HA-39	HA-40	HA-41	HA-42	HA-43	HA-44	HA-45	HA-46
Antimony	mg/Kg	NA	150	500	1.9 J	1.6 J	2.7	1.7 J	2.3 J	2.3 J	1.7 J	4	1.3 J	1.3 J	4.2	4.9	4.6	4.7
Arsenic	mg/Kg	100	50	500	7.7	6.4	7.7	6.3	8.4	5.3	7.9	6.3	6.7	6.7	6.1	7.2	7.2	8.2
Barium	mg/Kg	2000	1000	10000	320	170	170	160	230	180	190	170	210	190	170	190	200	190
Beryllium	mg/Kg	NA	7.5	75	0.47	0.51	0.52	0.49	0.77	0.51	0.55	0.49	0.59	0.55	0.51	0.55	0.53	0.65
Cadmium	mg/Kg	20	10	100	1.2	1.3	1.3	1.2	1.1	0.63	0.99	0.86	1	0.91	0.96	1	1.2	1.1
Chromium	mg/Kg	100	50	2500	39	30	29	29	39	30	33	30	32	30	28	29	30	37
Cobalt	mg/Kg	NA	800	8000	8.6	7.9	7.7	8.1	9.5	13	9.5	10	11	11	7.8	8.5	7.6	8.8
Copper	mg/Kg	NA	250	2500	13	10	10	12	10	9.6	12	11	13	11	9.2	10	9.6	12
Lead	mg/Kg	100	50	1000	18	11	8.3	11	8	8.2	6.2	8.2	8	8.6	6.4	12	6.4	7.1
Mercury	mg/Kg	4	2	20	0.15	0.52	0.19	0.15	0.1	0.06	0.095	0.07	0.08	0.18	0.16	0.14	0.16	0.14
Molybdenum	mg/Kg	NA	3500	3500	1.6	1.6	1.5	1.4	1.3	0.85	1.4	1	1.4	1.1	1.2	1.4	1.6	1.3
Nickel	mg/Kg	NA	200	2000	41	33	31	35	40	23	37	30	41	31	31	32	33	39
Selenium	mg/Kg	20	10	100	0.18 U	0.17 U	0.18 U	0.19 U	0.2 U	0.21 U	0.16 U	0.15 U	0.18 U	0.17 U	0.18 U	0.18 U	0.17 U	0.2 U
Silver	mg/Kg	100	50	500	0.05 U	0.04 U	0.04 U	0.05 U	0.05 U	0.05 U	0.041 U	0.04 U	0.05 U	0.041 U	0.046 U	0.045 U	0.042 U	0.051 U
Thallium	mg/Kg	NA	70	700	0.55 J	0.68	0.54 J	0.42 J	0.18 U	0.18 U	1	0.2 J	0.33 J	0.15 U	0.5 J	0.23 J	0.33 J	0.59 J
Vanadium	mg/Kg	NA	240	2400	42	37	37	39	45	43	43	38	44	39	35	36	39	45
Zinc	mg/Kg	NA	2500	5000	100	78	61	91	55	29	43	38	57	41	41	45	45	48

Notes:
STLC = Soluble Threshold Limit Concentration
TCLP = Toxicity Characteristic Leaching Procedure
TTLC = Total Threshold Limit Concentration
ft bgs = feet below ground surface
mg/Kg = milligram per kilogram
NA = not applicable
J = estimated detected result
U = not detected above the specified method detection limit
Red Font = Value exceeds TTLC limit, 20 x TCLP limit, and 10 x S
Green Font = Value exceeds 20 x TCLP limit and 10 x STLC limit
Blue Font = Value exceeds 10 x STLC limit

Table 6. Summary of PCB and Metal Concentrations in Bulk Material Samples that Exceed Hazardous Waste Threshold Criteria
Summary Report, San Jose Water Company Columbine Reservoir

Sample ID	Sample Description/Location	Analyte	Concentration (mg/kg)	10 x STLC	20 x TCLP	TTLC (mg/kg)
SJWC-A	Black pipe wrap, 12-inch diameter pipe within overflow sump	**PCBs**	**550**	50	NA	50
		Chromium	130	50	100	2,500
		Lead	130	50	100	1,000
		Nickel	310	200	NA	2,000
SJWC-B	Black pipe wrap, 6-inch diameter pipe within overflow sump	Lead	100	50	100	1,000
SJWC-C	Black pipe wrap, 16-inch diameter pipe within overflow sump	Concentrations below hazardous waste threshold criteria				
SJWC-D	Concrete insulation, 6-inch diameter pipe within overflow sump	Concentrations below hazardous waste threshold criteria				
SJWC-E	Gray caulk at base of column for solar panels	Zinc	2,500	2,500	NA	5,000
SJWC-F	Gray caulk on corrugated metal roof seam	Chromium	260	50	100	2,500
		Lead	57	50	100	1,000
		Nickel	640	200	NA	2,000
		Zinc	**5,800**	2,500	NA	5,000
SJWC-G	Olive paint on west stairwell rail	Barium	1,200	1,000	2,000	10,000
		Lead	350	50	100	1,000
		Zinc	**15,000**	2,500	NA	5,000
SJWC-H	Black asphalt sealant on pavement around reservoir	Concentrations below hazardous waste threshold criteria				
SJWC-I	Olive paint on metal gutter on southwest portion of reservoir roof	Chromium	2,400	50	100	2,500
		Lead	**12,000**	50	100	1,000
		Zinc	**17,000**	2,500	NA	5,000
SJWC-J	Olive paint on northwest platform walkway	Lead	340	50	100	1,000
		Zinc	**7,300**	2,500	NA	5,000

Notes:
PCB = Polychlorinated biphenyl
STLC = Soluble Threshold Limit Concentration
TCLP = Toxicity Characteristic Leaching Procedure
TTLC = Total Threshold Limit Concentration
mg/Kg = milligram per kilogram
NA = not applicable
Only metal or PCB concentrations that exceed hazardous waste threshold criteria are presented in this table.
Bold values = exceed TTLC criteria

Attachment 1

Photograph Documentation

SJWC Columbine Reservoir – Reservoir Interior
Interior of Columbine Reservoir.
Photo taken on June 20, 2016

SJWC Columbine Reservoir – North of Reservoir
Photo taken from northwest corner of reservoir (near sample location HA-28), looking east.
Clayton Road is on the left in the photo.
Photo taken on June 20 2016

SJWC Columbine Reservoir – North of Reservoir
Photo taken from northwest corner of reservoir (near sample location HA-28), looking west.
Photo taken on June 20, 2016

SJWC Columbine Reservoir – North of Reservoir
Photo taken from northwest corner of reservoir, showing reservoir roof
and solar panels along western side.
Photo taken on June 20, 2016

SJWC Columbine Reservoir - North of Reservoir
Roof of reservoir. Photo taken from north side of reservoir, looking south.
Photo taken on June 20, 2016

SJWC Columbine Reservoir - North of Reservoir
Photo from northeast corner of the reservoir (near sample location HA-22), looking west along access road. Clayton Road is on the right of the photo.
Photo taken on June 20, 2016

SJWC Columbine Reservoir – East of Reservoir
Photo from northeast corner of reservoir (near sample location HA-18), looking south along access road.
Photo taken on June 20, 2016

SJWC Columbine Reservoir – East of Reservoir
Photo taken from east side of reservoir, looking west.
Photo taken on June 20, 2016

SJWC Columbine Reservoir – East of Reservoir
Photo taken from east side of the reservoir (near sample location HA-15), looking north.
Clayton Road is in the background.
Photo taken on June 20, 2016

SJWC Columbine Reservoir – South of Reservoir
Photo taken from southeast corner of reservoir (near sample location HA-10),
looking west along access road.
Photo taken on June 20, 2016

SJWC Columbine Reservoir – South of Reservoir
Roof of reservoir. Photo taken near southeast corner of reservoir (near sample location HA-9). Clayton Road is in the background.
Photo taken on June 20, 2016

SJWC Columbine Reservoir – South of Reservoir
Photo taken south of reservoir (near sample location HA-4), looking east along access road.
Photo taken on June 20, 2016

SJWC Columbine Reservoir – South of Reservoir
Reservoir roof. Photo taken from south side of the reservoir (near sample locations HA-5 and HA-6), looking north.
Photo taken on June 20, 2016

SJWC Columbine Reservoir – South of Reservoir
Photo taken from southwest corner of reservoir (near sample location HA-36), looking east.
Photo taken on June 20, 2016

SJWC Columbine Reservoir – South of Reservoir
Reservoir roof. Photo taken from southwest corner of reservoir
(near sample locations HA-1 and HA-36), looking northeast.
Photo taken on June 20, 2016

SJWC Columbine Reservoir – West of Reservoir
Utility area west of reservoir. Photo taken from western side of reservoir
(near sample location HA-34), looking west.
Photo taken on June 20, 2016

SJWC Columbine Reservoir – Outfall Sump

Outfall sump and utility area. B1 pump house is visible under tree in left side of photo.
Photo taken from western side of reservoir (near sample location HA-33), looking southwest.
Photo taken on June 20, 2016

SJWC Columbine Reservoir – Outfall Sump

Outfall sump. Photo taken from southwest corner of reservoir (near sample location HA-36), looking west. Columbine Drive and entrance gate is located in upper right of photo.
Photo taken on June 20, 2016

SJWC Columbine Reservoir - Outfall Sump
Interior of outfall sump. Photo taken from northern side of sump (near sample location HA-44), looking southwest.
Photo taken on June 20, 2016

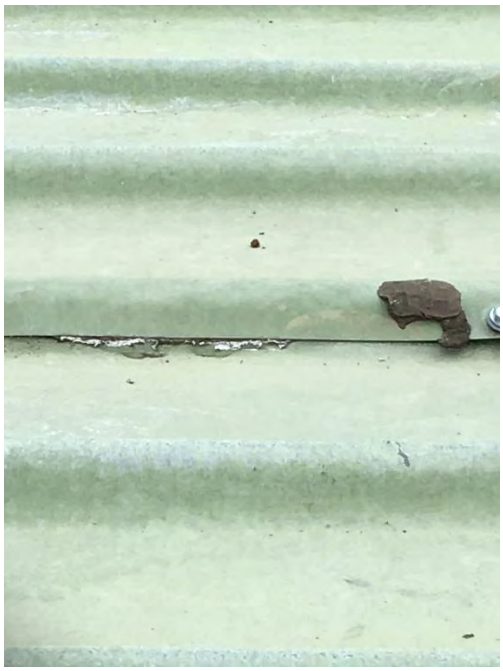
SJWC Columbine Reservoir – West of Reservoir
Electrical equipment and emergency generator.
Photo taken on June 20, 2016

SJWC Columbine Reservoir
Example hand auger sample location
Photo taken on October 26, 2016

SJWC Columbine Reservoir – Outfall Sump
Interior of outfall sump. Photo taken from northern side of sump (near sample location HA-44), looking southwest.
Photo taken on October 26, 2016

SJWC Columbine Reservoir – Outfall Sump
Pipelines entering northeast corner of outfall sump.
Photo taken on October 26, 2016

SJWC Columbine Reservoir – Outfall Sump
Piping along northern wall of outfall sump.
Photo taken from northeast corner of sump, looking west.
Photo taken on October 26, 2016



SJWC Columbine Reservoir
Gray caulking on corrugated metal reservoir roof
Photo taken on October 26, 2016

SJWC Columbine Reservoir
Asphalt sealant along reservoir access road.
Photo taken on October 26, 2016

Attachment 2

ATC Group Services LLC Hazardous Materials Survey

Pre-Renovation Hazardous Materials Survey
Remedy Engineering, Inc.
3650 Clayton Road, San Jose, California 95127
ATC Project Number: 118BS02117

Prepared for:

Remedy Engineering, Inc.
2510 Old Eureka Way
Redding, California 96001

Prepared by:

ATC Group Services LLC
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February 16, 2017

DRAFT

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February 16, 2017

Mr. Jeffrey Morris
Remedy Engineering, Inc.
2510 Old Eureka Way
Redding, California 96001

Subject: Pre-Renovation Hazardous Materials Survey
San Jose Water Company Columbine Reservoir
3650 Clayton Road, San Jose, California 95127
ATC Project Number 118BS02117

Dear Mr. Morris:

At the request of the Remedy Engineering, Inc. (Client), ATC Group Services LLC (ATC) performed a pre-renovation hazardous materials survey located at 3650 Clayton Road, San Jose, California 95127 on October 25, 2016. The purpose of this survey was to determine the presence of asbestos-containing materials (ACMs), lead-based paint (LBP), poly-chlorinated biphenyl (PCB), and metals contamination at the above-referenced property.

The survey was performed by Mr. Miguel Illescas, State of California Division of Occupational Safety and Health (DOSH) Certified Asbestos Consultant (CAC No. 96-1887) and State of California Department of Public Health (DPH) Lead Sampling Technician (ID No. 441). The work was performed under the direction of Mr. Paul Lowe, DOSH CAC No. 07-4137 and DPH Lead Inspector/Assessor (CLIA No. 14752). The asbestos and lead certifications are included in Appendix A.

Asbestos Sampling Methodology and Analysis

The methodologies and procedures employed during the survey were based on the United States Environmental Protection Agency (USEPA) Asbestos Hazard Emergency Response Act (AHERA) inspection protocol. ATC field staff utilized semi-destructive sampling methods to collect samples of accessible suspect asbestos-containing building materials.

A total of four (4) bulk asbestos samples were collected and four (4) total layers were analyzed by Polarized Light Microscopy with Dispersion Staining (PLM) techniques. The PLM techniques were performed in accordance with the methodology approved by the USEPA *"Method for the Determination of Asbestos in Bulk Building Materials"* (EPA/600/R93/116, July 1993).

The samples were analyzed by EMSL Analytical, Inc. (EMSL) located in San Leandro, California. EMSL is certified by the State of California Department of Health Services Environmental Laboratory Accreditation Program (ELAP) and accredited by the United States Department of Commerce National Institutes of Standards and Technology's (NIST) National Voluntary Laboratory Accreditation Program (NVLAP) for asbestos bulk fiber analysis.

Please note, in California, materials containing greater than one-tenth of one percent (>0.1%) asbestos are defined as asbestos-containing construction material (ACCM) and therefore considered positive in this report.

Asbestos Results

The following table summarizes the results of the survey. Materials identified as ACM or ACCM are denoted in **bold**. The asbestos laboratory analytical report and asbestos sampling logs of the materials sampled during the field survey are included in Appendix B. Site sampling diagrams are included in Appendix C.

Table I – Asbestos Survey Results

Sample Number	Location	Homogenous Material	Approximate Quantity	NESHAP Category	Asbestos Content
1-A	**Northeast Overflow – 12" OD**	**Pipe Insulation - Black**	**6 SF**	**RACM**	**25% CH**
1-B	Northeast Overflow – 6" OD	Pipe Insulation - Black	N/A	N/A	ND
1-C	Northwest Overflow – 10" OD	Pipe Insulation - Black	N/A	N/A	ND
2-A	Solar System – Column Base	Caulking – White/Black	N/A	N/A	ND

N/A = Not Applicable; SF = Square Feet; LF = Linear Feet; ND = Not Detected; CH = Chrysotile;
RACM = Regulated Asbestos Containing Material; CAT I = Category I Non Friable Asbestos Containing Material
OD = Outside Diameter

Asbestos is a hazardous substance. Its condition, handling and disposal are regulated by Federal, State and local agencies. ACMs generally do not pose a health threat unless the asbestos fibers are disturbed, become airborne and are inhaled. Contractors working in an area where asbestos is present must be informed of the type and location of ACMs. Abatement of ACMs, including non-friable ACMs, must be performed by a California licensed, certified and registered asbestos abatement contractor in accordance with State and Federal Occupational Safety and Health Administration (Cal-OSHA and OSHA) and local air quality management regulations.

In summary, one (1) sample collected during the survey conducted on October 25, 2016 had asbestos identified and can be classified as ACM.

Lead-Containing Paint Sampling Methodology and Analysis

ATC field staff utilized semi-destructive sampling methods to collect samples of accessible suspect lead-based paint (LBP). ATC conducted representative lead paint chip sampling in the project areas. A total of three (3) samples of suspect lead paint chips were collected in the project areas on October 25, 2016.

Bulk samples, collected by ATC, were uniquely labelled, and were submitted under chain of custody (COC) to EMSL for analysis using Flame Atomic Absorption (Flame AA) according to EPA method 7420 for lead. EMSL is a California licensed laboratory accredited by NIST and the American Industrial Hygiene Association (AIHA). EMSL participates in ELAP, a quality assurance program for Environmental Laboratories.

Please note, in California, painted materials containing any detectable amount in parts per million (>detection limit in ppm) of lead are defined as lead-containing paint (LCP) and therefore considered positive in this report.

Lead-Containing Paint Sampling Results

The following table (Table II – Lead-Containing Paint Sampling Results) summarizes the results of the sampling. Materials identified as LCP are denoted in **bold**. The lead laboratory analytical report and sampling logs of the materials sampled during the field survey are included in Appendix B. Site sampling diagrams are included in Appendix C.

Table II – Lead-Containing Paint Survey Results

Sample Number	Location	Material	Condition	Lead Content (ppm)
L-1	Overflow Pipe Outside Pump House	Black/Gray Paint on Metal	Good	<110
L-2	**East Stairwell Rail**	**Olive Paint on Wood Rail**	**Poor**	**440**
L-3	**Reservoir - South**	**Olive Paint on Metal Roof**	**Good**	**6,500**

Lead-containing paint is paint that contains lead in any detectable amount (>detection limit in parts per million)
Lead-based paint is paint that contains greater than 5,000 ppm.

Lead is a hazardous substance. Its condition, handling and disposal are regulated by Federal, State, and local agencies. Lead in paint generally does not pose a health threat unless the material is disturbed or sufficiently deteriorated to produce dust, which may become airborne and inhaled or ingested. Contractors working in the facility where LCP or LBP is present should be informed and use “lead safe” work practices. All workers should wash their hands and face prior to eating. In addition, to avoid creating a health and safety hazard, it is advised to maintain all paint in good condition.

In summary, two (2) materials sampled during the survey and analyzed had detectable amounts of lead and thus those materials are LCP materials. One (1) material is also considered to have present LBP by definition.

Polychlorinated Biphenyl (PCB) Sampling Methodology and Analysis

ATC field staff utilized semi-destructive sampling methods to collect samples of accessible suspect PCB contaminated materials at the site. ATC conducted representative PCB bulk sampling in the project areas. A total of ten (10) bulk samples of suspect PCB containing materials were collected at the site building on December 27, 2016.

ATC collected approximately 2 ounces of bulk material from each sampling location in a glass sample container. Each container was uniquely labelled and submitted under COC to EMSL Analytical, Inc. (EMSL) for analysis of PCBs using EPA method 8082. The samples were combined into three composite sampling groups, to meet weight requirements. EMSL participates in the ELAP, a quality assurance program for environmental laboratories.

Please note that under Title 40 Code of Federal Register, Section 761.3, materials containing amounts of PCB from equal to and greater than 50 ppm to 500 ppm are defined as PCB contaminated and are considered applicable for remediation. Also under Title 22 (T22) of the California Code of Regulations (CCR), Section 66261.24, materials that contain less than 50 ppm of PCBs are not treated as hazardous waste.

Poly Chlorinated Biphenyl in Bulk Sample Results

The following table (Table III – PCB Sampling Results) summarizes the results of the sampling. Materials identified as PCB containing are denoted in **bold**. The PCB laboratory analytical report and sampling logs of the materials sampled during the field survey are included in Appendix B. Site sampling diagrams are included in Appendix C.

Table III – PCB Sampling Results

Sample Number	Location	Concentration Total PCBs (mg/kg)
SJWC A	NE - Black Pipe Wrap 12" O.D.	550
SJWC B	NE - Black Pipe Wrap 6" O.D.	1.3
SJWC C	NW - Black Pipe Wrap 16" O.D.	ND
SJWC D	NE – Concrete Insulation 6" O.D.	ND
SJWC E	SW – Gray Caulk at Base Column Solar Panels	ND
SJWC F	Gray Caulk – Corrugated Metal Roof	ND
SJWC G	Olive Paint – West Stairwell Rail	ND
SJWC H	Black Asphalt – Middle West Pavement Reservoir	ND
SJWC I	Olive/Green Paint – SW Roof Metal Gutter	1.4
SJWC J	Olive/Green Paint – NW Platform Walkway	ND

ND = None Detected, milligrams per kilogram (mg/kg) = ppm
O.D. = Outside Diameter

In summary, PCB sample results revealed that one (1) of the sampled materials is considered to be PCB-contaminated under the definition found in T40 CFR 761.3.

Metals Sampling Methodology and Analysis

ATC field staff utilized semi-destructive sampling methods to collect samples of accessible suspect metals contaminated materials at the site. ATC conducted representative metal sampling in the project areas. A total of ten (10) bulk samples of suspect metal containing materials were collected at the site building on December 27, 2016.

ATC performed bulk sampling of suspect metals contaminated materials. ATC collected approximately 2 ounces of bulk material from each sampling location in a glass sample container. Each container was uniquely labelled and submitted under COC to EMSL for analysis of metals using EPA method 6010 and 7471. The samples were combined into three composite sampling groups, to meet weight requirements. EMSL participates in the ELAP, a quality assurance program for environmental laboratories.

Please note that under T22-CCR, the following limits were set to determine whether a materials should be forwarded for further testing, Soluble Threshold Limit Concentration (STLC) Analysis (10 times the STLC limit value) prior to disposal:

Antimony – 150 mg/kg
Arsenic – 50 mg/kg
Barium – 1,000 mg/kg
Beryllium – 7.5 mg/kg
Cadmium – 10 mg/kg
Chromium – 50 mg/kg
Cobalt – 800 mg/kg
Copper – 250 mg/kg
Lead – 50 mg/kg
Molybdenum – 3,500 mg/kg
Nickel – 200 mg/kg
Selenium – 10 mg/kg
Silver – 50 mg/kg
Thallium – 70 mg/kg
Vanadium – 240 mg/kg
Zinc – 2,500 mg/kg
Mercury – 2.0 mg/kg

Metals in Bulk Sample Results

The following table (Table IV – Metals Sampling Results) summarizes the results of the sampling. The laboratory analytical report and sampling logs of the materials sampled during the field survey are included in Appendix B. Site sampling diagrams are included in Appendix C.

Table IV – Metals Sampling Results

Sample Number	Material and Location	Metal	Concentration (mg/kg)
SJWC A	NE - Black Pipe Wrap 12” O.D.	Antimony	ND
		Arsenic	ND
		Barium	53
		Beryllium	ND
		Cadmium	ND
		Chromium	**130**
		Cobalt	19
		Copper	7.4
		Lead	**130**
		Molybdenum	ND
		Nickel	**310**
		Selenium	ND
		Silver	ND
		Thallium	ND
		Vanadium	130
		Zinc	180
		Mercury	ND
SJWC B	NE - Black Pipe Wrap 6” O.D.	Antimony	ND
		Arsenic	ND
		Barium	ND
		Beryllium	ND
		Cadmium	ND
		Chromium	48
		Cobalt	67
		Copper	140
		Lead	**100**
		Molybdenum	ND
		Nickel	73
		Selenium	16
		Silver	ND
		Thallium	ND
		Vanadium	74
		Zinc	880
		Mercury	ND

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Sample Number	Material and Location	Metal	Concentration (mg/kg)
SJWC C	NW - Black Pipe Wrap 16” O.D.	Antimony	ND
		Arsenic	ND
		Barium	26
		Beryllium	ND
		Cadmium	ND
		Chromium	3.1
		Cobalt	ND
		Copper	ND
		Lead	2.8
		Molybdenum	ND
		Nickel	33
		Selenium	ND
		Silver	ND
		Thallium	ND
		Vanadium	28
		Zinc	590
		Mercury	ND
SJWC D	NE – Concrete Insulation 6” O.D.	Antimony	ND
		Arsenic	ND
		Barium	64
		Beryllium	ND
		Cadmium	ND
		Chromium	21
		Cobalt	13
		Copper	18
		Lead	9.1
		Molybdenum	ND
		Nickel	34
		Selenium	ND
		Silver	ND
		Thallium	ND
		Vanadium	33
		Zinc	150
		Mercury	ND

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Sample Number	Material and Location	Metal	Concentration (mg/kg)
SJWC E	SW – Gray Caulk at Base Column Solar Panels	Antimony	ND
		Arsenic	ND
		Barium	39
		Beryllium	ND
		Cadmium	ND
		Chromium	6.6
		Cobalt	ND
		Copper	7.5
		Lead	13
		Molybdenum	ND
		Nickel	5.8
		Selenium	14
		Silver	ND
		Thallium	ND
		Vanadium	10
		Zinc	**2,500**
		Mercury	ND
SJWC F	Gray Caulk – Corrugated Metal Roof	Antimony	ND
		Arsenic	ND
		Barium	ND
		Beryllium	ND
		Cadmium	3.4
		Chromium	**260**
		Cobalt	31
		Copper	6.2
		Lead	**57**
		Molybdenum	ND
		Nickel	**640**
		Selenium	ND
		Silver	ND
		Thallium	ND
		Vanadium	9.7
		Zinc	**5,800**
		Mercury	ND

February 16, 2017
ATC Project Number 118BS02117
3650 Clayton Road, San Jose, California 95127

Sample Number	Material and Location	Metal	Concentration (mg/kg)
SJWC G	**Olive Paint – West Stairwell Rail**	Antimony	ND
		Arsenic	ND
		Barium	**1,200**
		Beryllium	ND
		Cadmium	4.6
		Chromium	6.5
		Cobalt	40
		Copper	9.3
		Lead	**350**
		Molybdenum	ND
		Nickel	7.2
		Selenium	ND
		Silver	ND
		Thallium	ND
		Vanadium	6.8
		Zinc	**15,000**
		Mercury	6.2
SJWC H	Black Asphalt – Middle West Pavement Reservoir	Antimony	ND
		Arsenic	ND
		Barium	570
		Beryllium	ND
		Cadmium	ND
		Chromium	21
		Cobalt	7.7
		Copper	17
		Lead	ND
		Molybdenum	ND
		Nickel	37
		Selenium	ND
		Silver	ND
		Thallium	ND
		Vanadium	53
		Zinc	50
		Mercury	ND

Sample Number	Material and Location	Metal	Concentration (mg/kg)
SJWC I	Olive Paint – SW Roof Metal Gutter	Antimony	34
		Arsenic	ND
		Barium	200
		Beryllium	ND
		Cadmium	1.1
		Chromium	**2,400**
		Cobalt	210
		Copper	130
		Lead	**12,000**
		Molybdenum	60
		Nickel	10
		Selenium	ND
		Silver	ND
		Thallium	ND
		Vanadium	21
		Zinc	**17,000**
		Mercury	3.9
SJWC J	Olive Paint – NW Platform Walkway	Antimony	ND
		Arsenic	ND
		Barium	130
		Beryllium	ND
		Cadmium	ND
		Chromium	17
		Cobalt	8.4
		Copper	9.8
		Lead	**340**
		Molybdenum	ND
		Nickel	7.9
		Selenium	ND
		Silver	ND
		Thallium	ND
		Vanadium	4.7
		Zinc	**7,300**
		Mercury	5.3

In summary, metals sample results revealed that seven (7) of the sampled materials are considered to be metal-contaminated and are categorized as hazardous waste and must be forwarded for STLC Analysis prior to disposal.

Conclusions
Based on the analytical results from the samples collected at the project site on October 25, 2016 and December 27, 2016, ATC concludes that:

- ACM pipe wrap/insulation (Black 12" OD Pipe) is present onsite.
- LCP (Olive Paint on Wood Rails) and LBP (Olive Paint on Metal Roofs) were present on site.
- PCB contaminated pipe wrap/insulation (Black 12" OD Pipe) is present onsite.
- Samples A, B, E, F, G, I & J were found to have elevated metals levels and further STLC analysis may be needed prior to disposal of these materials.

Recommendations
Based on the above conclusions, ATC recommends the following:

- Remove hazardous materials according to all federal, state and local regulations prior to disturbance of identified materials.
- Hazardous waste profile sampling prior to disposal of any metal containing materials

Limitations
Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with principles and practices in the fields of environmental science and engineering. The results, findings, conclusions, and recommendations expressed in the report are based only on conditions that were noted during the October 25, 2016 and December 27, 2016 survey of the project area. This warranty is in lieu of all other warranties either expressed or implied. This company is not responsible for the independent conclusions, opinions, or recommendations made by others based on the results and designs presented in this report.

The passage of time may result in a change in the environment characteristics at this site and surrounding properties. This report does not warrant against future operations or conditions, nor does it warrant operations or conditions present of a type or at a location not investigated

Reasonable effort is made by ATC personnel to locate and sample materials representative of the impacted areas. However, for any facility the existence of unique or concealed materials or debris is a possibility. ATC does not warrant, guarantee or profess to have the ability to locate or identify all concealed ACM's, ACCM's, LBP's, lead-containing materials or other hazardous substances at the facility. This report is intended for the sole use of Remedy Engineering, Inc.. This report is not intended to be a construction document. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations is at the risk of said user.

February 16, 2017
ATC Project Number 118BS02117
3650 Clayton Road, San Jose, California 95127

ATC appreciates the opportunity to be of technical assistance to the Remedy Engineering, Inc.. If you have any questions about this survey, please contact the undersigned at (925) 460-5300. Thank you for allowing our firm to perform consulting services. Your business is important to us and we sincerely appreciate your patronage.

Respectfully Submitted,
ATC Group Services LLC

Paul Lowe, CAC #07-4137
Project Manager
for ATC
Phone +1 925 460 5300
Email: paul.lowe@atcassociates.com

Bryan Campbell
Branch Manager
for ATC
Phone +1 925 460 5300
Email: bryan.campbell@atcassociates.com

Enc: Appendix A – Asbestos and Lead Inspector Certifications
Appendix B – Laboratory Analytical Reports & Sample Logs
Appendix C – Site Plans & Sample Locations

APPENDIX A:

Asbestos and Lead Inspector Certifications

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
Division of Occupational Safety and Health
Asbestos Unit
2424 Arden Way, Suite 495
Sacramento, CA 95825-2417
(916) 574-2993 Office (916) 483-0572 Fax
http://www.dir.ca.gov/dirdatabases.html actu@dir.ca.gov

Edmund G. Brown, Jr. *Governor*

601191887C **119**

January 11, 2017

Miguel Rivera Illescas
4542 Wagon Court
Antioch ' CA 94531

Dear Certified Asbestos Consultant or Technician:

Enclosed is your certification card. **To maintain your certification, you must abide by the rules printed on the back of the certification card.**

Your certification is valid for a period of one year. If you wish to renew your certification, you must apply for renewal at least 60 days before the expiration date shown on your card. [8 CCR 341.15(h)(1)].

Please hold and do not send copies of your required AHERA refresher renewal certificates to our office until you apply for renewal of your certification.

Certificates must be kept current if you are actively working as a CAC or CSST. The grace period is only for those who are not actively working as an asbestos consultant or site surveillance technician.

Please contact our office at the above address, fax number or email; of any changes in your contact/mailing information within 15 days of the change.

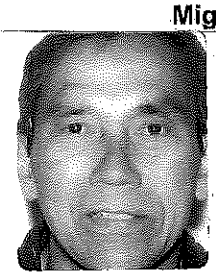
Sincerely,

Jeff Ferrell
Senior Safety Engineer

Attachment: Certification Card

cc: File

State of California
Division of Occupational Safety and Health
Certified Asbestos Consultant



Miguel Rivera Illescas
Name
Certification No. 96-1887
Expires on 01/31/18
This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Renewal – Card Attached (Revised 10/24/2012)

State of California Department of Public Health
Lead-Related Construction Certificate
Certificate Type
Expiration Date
Sampling Technician
02/03/2017
26800
Miguel R. Illescas
ID #: 441

STATE OF CALIFORNIA
DEPARTMENT OF INDUSTRIAL RELATIONS
Division of Occupational Safety and Health
Asbestos Unit
2424 Arden Way, Suite 495
Sacramento, CA 95825-2417
(916) 574-2993 Office (916) 483-0572 Fax
http://www.dir.ca.gov/dirdatabases.html actu@dir.ca.gov

Edmund G. Brown, Jr. *Governor*

701184137C **299**

January 13, 2016

ATC Associates
Paul A Lowe
2400 Camino Ramon, #360
San Ramon ' CA 94583

Dear Certified Asbestos Consultant or Technician:

Enclosed is your certification card. **To maintain your certification, you must abide by the rules printed on the back of the certification card.**

Your certification is valid for a period of one year. If you wish to renew your certification, you must apply for renewal at least 60 days before the expiration date shown on your card. [8 CCR 341.15(h)(1)].

Please hold and do not send copies of your required AHERA refresher renewal certificates to our office until you apply for renewal of your certification.

Certificates must be kept current if you are actively working as a CAC or CSST. The grace period is only for those who are not actively working as an asbestos consultant or site surveillance technician.

Please contact our office at the above address, fax number or email; of any changes in your contact/mailing information within 15 days of the change.

Sincerely,

Jeff Ferrell
Senior Safety Engineer

Attachment: Certification Card

cc: File

Renewal – Card Attached (Revised 10/24/2012)

Mr. Paul A. Lowe
ATC Group Services LLC
2400 Camino Ramon Suite 360
San Ramon, California 94583

APPENDIX B:

Laboratory Analytical Reports & Sample Logs

EMSL Analytical, Inc.

464 McCormick Street San Leandro, CA 94577

Tel/Fax: (510) 895-3675 / (510) 895-3680

http://www.EMSL.com / sanleandrolab@emsl.com

EMSL Order: 091620574
Customer ID: ATC60
Customer PO:
Project ID:

Attention: Paul Lowe
ATC Group Services LLC
2400 Camino Ramon
Suite 360
San Ramon, CA 94583
Project: San Jose Water Co - 118BS02117

Phone: (925) 460-5300
Fax: (925) 463-2559
Received Date: 10/25/2016 2:30 PM
Analysis Date: 10/26/2016
Collected Date:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
1-A *091620574-0001*	Black Pipe Insulation - 12" OD Overflow	White/Black Fibrous Homogeneous		60% Matrix 15% Non-fibrous (Other)	25% Chrysotile
1-B *091620574-0002*	Black Pipe Insulation - 6" OD Overflow	Black Non-Fibrous Homogeneous	10% Glass	10% Quartz 60% Matrix 20% Non-fibrous (Other)	None Detected
1-C *091620574-0003*	Black Pipe Insulation - 10" OD Overflow	Black Non-Fibrous Homogeneous	15% Glass	80% Matrix 5% Non-fibrous (Other)	None Detected
2-A *091620574-0004*	Caulking Base Column - Solar System	White/Black Non-Fibrous Homogeneous		65% Ca Carbonate 35% Non-fibrous (Other)	None Detected

Analyst(s)
Jared Martin (4)

Chris Dojlidko, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc San Leandro, CA NVLAP Lab Code 101048-3, WA C884

Initial report from: 10/26/2016 09:41:24

OrderID: 091620574

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (*Lab Use Only*): 091620574

EMSL ANALYTICAL, INC
464 MCCORMICK STREET
SAN LEANDRO, CA 94577
PHONE: (510) 895-3675
FAX: (510) 230-3537

Company: ATC ASSOCIATES INC

EMSL-Bill to: ☐ Same ☐ Different
*If Bill to is Different note instructions in Comments***
Third Party Billing requires written authorization from third party

Street: 2400 CAMINO RAMON STE 360

City: SAN RAMON **State/Province:** CA **Zip/Postal Code:** **Country:**

Report To (Name): PAUL LOWE **Fax #:**

Telephone #: 925-469-5322 / 510-364-8356 **Email Address:** paul.lowe@atcassociates.com

Project Name/Number: SAN JOSE WATER CO - 118BSC2117

Please Provide Results: ☐ Fax ☑ Email **Purchase Order:** **U.S. State Samples Taken:**

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☑ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

*For TEM Air 3 hr through 6 hr, please call ahead to schedule *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PCM - Air
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☑ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ 4-4.5hr TAT (AHERA only)
- ☐ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group**

Samplers Name: **Samplers Signature:**

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
1-A	BLACK PIPE INSULATION - 12" O.D. OVERHEAD	NE	10-25-16
1-B	" " " 6" O.D. "	NE	"
1-C	" " " 10" O.D. "	NW	"
2-A	CAULKING BASE COLUMN - SOLAR SYSTEM		

Client Sample # (s): 1-A - 1-C **Total # of Samples:**

Relinquished (Client): [signature] **Date:** 10-25-16 **Time:** 1400

Received (Lab): [signature] **Date:** 10/25/16 **Time:** 2:30PM

Comments/Special Instructions:

EMSL Analytical, Inc
464 McCormick Street, San Leandro, CA 94577
Phone/Fax: (510) 895-3675 / (510) 895-3680
http://www.EMSL.com sanleandrolab@emsl.com

EMSL Order:	091620573
CustomerID:	ATC60
CustomerPO:	
ProjectID:	

Attn: **Paul Lowe**
ATC Group Services LLC
2400 Camino Ramon
Suite 360
San Ramon, CA 94583

Phone:	(925) 460-5300
Fax:	(925) 463-2559
Received:	10/25/16 2:30 PM
Collected:	10/25/2016

Project: **118BBS02117**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Lead Concentration*
L-1	*091620573-0001*	10/25/2016	10/26/2016	<110 ppm
	Site: OVERFLOW PIPE OUTSIDE PUMP HOUSE			
L-2	*091620573-0002*	10/25/2016	10/26/2016	440 ppm
	Site: EAST STAIRWELL RAIL			
L-3	*091620573-0003*	10/25/2016	10/26/2016	6500 ppm
	Site: ROOF SOUTH METAL RESIVOIR			

Chris Dojlidko, Laboratory Manager
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc San Leandro, CA A2LA Accredited Environmental Testing Cert #2845.09

Initial report from 10/26/2016 19:23:53

Lead (Pb) Chain of Custody

EMSL Order ID *(Lab Use Only)*: 091620573

PHONE:
FAX:

Company: ATC ASSOCIATES INC	EMSL-Bill to: ☐ Different ☐ Same If Bill to is Different note instructions in Comments**
Street: 2400 CAMINO RAMON STE. 360	*Third Party Billing requires written authorization from third party*
City: SAN RAMON State/Province: CA	Zip/Postal Code: Country:
Report To (Name): PAUL LOWE	Telephone #:
Email Address: paul.lowe@atcassociates.com	Fax #: Purchase Order:
Project Name/Number: 118BS02117	Please Provide Results: ☐ FAX ☐ E-mail ☐ Mail
U.S. State Samples Taken: (3)	CT Samples: ☐ Commercial/Taxable ☐ Residential/Tax Exempt

Turnaround Time (TAT) Options* - Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☑ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

**Analysis completed in accordance with EMSL's Terms and Conditions located in the Price Guide*

Matrix	Method	Instrument	Reporting Limit	Check
Chips ☐ % by wt. ☐ mg/cm² ☑ ppm	SW846-7000B	Flame Atomic Absorption	0.01%	☑
Air KJS	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	☐
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter	☐
	NIOSH 7300 modified	ICP-AES/ICP-MS	0.5 µg/filter	☐
Wipe* ASTM ☐ non ASTM ☐ *If no box is checked, non-ASTM Wipe is assumed	SW846-7000B	Flame Atomic Absorption	10 µg/wipe	☐
	SW846-6010B or C	ICP-AES	1.0 µg/wipe	☐
	SW846-7000B/7010	Graphite Furnace AA	0.075 µg/wipe	☐
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW846-1131/SW846-6010B or C	ICP-AES	0.1 mg/L (ppm)	☐
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)	☐
	SW846-7010	Graphite Furnace AA	0.3 mg/kg (ppm)	☐
	SW846-6010B or C	ICP-AES	2 mg/kg (ppm)	☐
Wastewater Unpreserved ☐ Preserved with HNO_3 pH < 2 ☐	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.7	ICP-AES	0.020 mg/L (ppm)	☐
Drinking Water Unpreserved ☐ Preserved with HNO_3 pH < 2 ☐	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	☐
TSP/SPM Filter	40 CFR Part 50	ICP-AES	12 µg/filter	☐
	40 CFR Part 50	Graphite Furnace AA	3.6 µg/filter	☐
Other:				☐

Name of Sampler: **Signature of Sampler:**

Sample #	Location	Volume/Area	Date/Time Sampled
L-1	BLACK/GRAY PAINT	OVERFLOW PIPE OUTSIDE PUMP HOUSE	10/25/16
L-2	OLIVE PAINT	EAST STAIRWELL RAIL	"
L-3	ROOF - METAL (RESERVOIR, SOUTH)		

Client Sample #'s L-1 → L-3 **Total # of Samples:**

Relinquished (Client):	[signature]	**Date:**	10-25-16	**Time:**	1400
Received (Lab):	[signature]	**Date:**	10/25/16	**Time:**	2:30pm

Comments:

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn: **Paul Lowe**
ATC Group Services LLC
2400 Camino Ramon
Suite 360
San Ramon, CA 94583

Phone: (925) 460-5300
Fax: (925) 463-2559

1/16/2017

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 12/28/2016. The results are tabulated on the attached data pages for the following client designated project:

San Jose Water Company, Columbine Station

The reference number for these samples is EMSL Order #011608963. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Chemistry Laboratory Manager

The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted.
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, CA ELAP 187

The ICS recovery for Vanadium was outside method control limts (high). The ICV recovery for Antimony was outside method control limts (high). The RL standard recovery for Selenium was outside method control limts (high).

The CCV recovery for Arsenic, Antimony, Beryllium, Cadmium and Copper was outside method control limts (high).

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order: 011608963
CustomerID: ATC60
CustomerPO:
ProjectID:

Attn: **Paul Lowe**
ATC Group Services LLC
2400 Camino Ramon
Suite 360
San Ramon, CA 94583

Phone: (925) 460-5300
Fax: (925) 463-2559
Received: 12/28/16 3:20 PM

Project: **San Jose Water Company, Columbine Station**

Analytical Results

Client Sample Description SJWC-A Columbine Station ***Collected:*** 12/27/2016 11:45:00 AM ***Lab ID:*** *0001*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
3540C/8082A	Aroclor-1016	ND	58	mg/Kg	1/10/2017	AB	1/12/2017	EH
3540C/8082A	Aroclor-1221	ND	58	mg/Kg	1/10/2017	AB	1/12/2017	EH
3540C/8082A	Aroclor-1232	ND	58	mg/Kg	1/10/2017	AB	1/12/2017	EH
3540C/8082A	Aroclor-1242	ND	58	mg/Kg	1/10/2017	AB	1/12/2017	EH
3540C/8082A	Aroclor-1248	ND	58	mg/Kg	1/10/2017	AB	1/12/2017	EH
3540C/8082A	Aroclor-1254	550	58	mg/Kg	1/10/2017	AB	1/12/2017	EH
3540C/8082A	Aroclor-1260	ND	58	mg/Kg	1/10/2017	AB	1/12/2017	EH
3540C/8082A	Aroclor-1262	ND	58	mg/Kg	1/10/2017	AB	1/12/2017	EH
3540C/8082A	Aroclor-1268	ND	58	mg/Kg	1/10/2017	AB	1/12/2017	EH
3050B/6010C	Antimony	ND	4.6	mg/Kg	1/9/2017	LY	1/12/2017	JS
3050B/6010C	Arsenic	ND	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Barium	53	23	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Beryllium	ND	0.92	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cadmium	ND	0.92	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Chromium	130	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cobalt	19	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Copper	7.4	4.6	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Lead	130	2.3	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Molybdenum	ND	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Nickel	310	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Selenium	ND	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Silver	ND	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Thallium	ND	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Vanadium	130	2.3	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Zinc	180	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS
7471B	Mercury	ND	0.048	mg/Kg	1/10/2017	CM	1/10/2017	CM

Client Sample Description SJWC-B Columbine Station ***Collected:*** 12/27/2016 11:55:00 AM ***Lab ID:*** *0002*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
3540C/8082A	Aroclor-1016	ND	0.96	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1221	ND	0.96	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1232	ND	0.96	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1242	ND	0.96	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1248	ND	0.96	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1254	1.3	0.96	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1260	ND	0.96	mg/Kg	1/10/2017	AB	1/11/2017	EH

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Project: **San Jose Water Company, Columbine Station**

Analytical Results

Client Sample Description SJWC-B Columbine Station ***Collected:*** 12/27/2016 11:55:00 AM ***Lab ID:*** *0002*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3540C/8082A	Aroclor-1262	ND	0.96	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1268	ND	0.96	mg/Kg	1/10/2017	AB	1/11/2017	EH
3050B/6010C	Antimony	ND	24	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Arsenic	ND	47	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Barium	ND	47	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Beryllium	ND	1.9	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Cadmium	ND	1.9	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Chromium	48	4.7	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Cobalt	67	4.7	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Copper	140	9.4	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Lead	100	4.7	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Molybdenum	ND	4.7	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Nickel	73	9.4	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Selenium	16	9.4	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Silver	ND	4.7	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Thallium	ND	24	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Vanadium	74	4.7	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Zinc	880	9.4	mg/Kg	1/9/2017	LY	1/12/2017	JS
7471B	Mercury	ND	0.048	mg/Kg	1/10/2017	CM	1/10/2017	CM

Client Sample Description SJWC-C Columbine Station ***Collected:*** 12/27/2016 12:10:00 PM ***Lab ID:*** *0003*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3540C/8082A	Aroclor-1016	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1221	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1232	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1242	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1248	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1254	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1260	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1262	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1268	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3050B/6010C	Antimony	ND	4.9	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Arsenic	ND	4.9	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Barium	26	25	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Beryllium	ND	0.99	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cadmium	ND	0.99	mg/Kg	1/9/2017	LY	1/10/2017	JS

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Project: **San Jose Water Company, Columbine Station**

Analytical Results

Client Sample Description SJWC-C Columbine Station ***Collected:*** 12/27/2016 12:10:00 PM ***Lab ID:*** *0003*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
3050B/6010C	Chromium	3.1	2.5	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cobalt	ND	2.5	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Copper	ND	4.9	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Lead	2.8	2.5	mg/Kg	1/9/2017	LY	1/12/2017	JS
3050B/6010C	Molybdenum	ND	2.5	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Nickel	33	4.9	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Selenium	ND	4.9	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Silver	ND	2.5	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Thallium	ND	4.9	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Vanadium	28	2.5	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Zinc	590	9.9	mg/Kg	1/9/2017	LY	1/10/2017	JS
7471B	Mercury	ND	0.049	mg/Kg	1/10/2017	CM	1/10/2017	CM

Client Sample Description SJWC-D Columbine Station ***Collected:*** 12/27/2016 12:20:00 PM ***Lab ID:*** *0004*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
3540C/8082A	Aroclor-1016	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1221	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1232	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1242	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1248	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1254	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1260	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1262	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1268	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3050B/6010C	Antimony	ND	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Arsenic	ND	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Barium	64	23	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Beryllium	ND	0.92	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cadmium	ND	0.92	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Chromium	21	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cobalt	13	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Copper	18	4.6	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Lead	9.1	2.3	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Molybdenum	ND	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Nickel	34	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Selenium	ND	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS

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Project: **San Jose Water Company, Columbine Station**

Analytical Results

Client Sample Description SJWC-D Columbine Station ***Collected:*** 12/27/2016 12:20:00 PM ***Lab ID:*** *0004*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Silver	ND	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Thallium	ND	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Vanadium	33	2.3	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Zinc	150	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS
7471B	Mercury	ND	0.049	mg/Kg	1/10/2017	CM	1/10/2017	CM

Client Sample Description SJWC-E Columbine Station ***Collected:*** 12/27/2016 12:40:00 PM ***Lab ID:*** *0005*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3540C/8082A	Aroclor-1016	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1221	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1232	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1242	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1248	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1254	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1260	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1262	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1268	ND	0.95	mg/Kg	1/10/2017	AB	1/11/2017	EH
3050B/6010C	Antimony	ND	5.0	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Arsenic	ND	5.0	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Barium	39	25	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Beryllium	ND	0.99	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cadmium	ND	0.99	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Chromium	6.6	2.5	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cobalt	ND	2.5	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Copper	7.5	5.0	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Lead	13	2.5	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Molybdenum	ND	2.5	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Nickel	5.8	5.0	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Selenium	14	5.0	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Silver	ND	2.5	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Thallium	ND	5.0	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Vanadium	10	2.5	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Zinc	2500	50	mg/Kg	1/9/2017	LY	1/10/2017	JS
7471B	Mercury	ND	0.048	mg/Kg	1/10/2017	CM	1/10/2017	CM

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Project: **San Jose Water Company, Columbine Station**

Analytical Results

Client Sample Description SJWC-F Columbine Station ***Collected:*** 12/27/2016 1:15:00 PM ***Lab ID:*** *0006*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3540C/8082A	Aroclor-1016	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1221	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1232	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1242	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1248	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1254	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1260	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1262	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1268	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3050B/6010C	Antimony	ND	4.8	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Arsenic	ND	4.8	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Barium	ND	24	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Beryllium	ND	0.95	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cadmium	3.4	0.95	mg/Kg	1/9/2017	LY	1/12/2017	JS
3050B/6010C	Chromium	260	2.4	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cobalt	31	2.4	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Copper	6.2	4.8	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Lead	57	2.4	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Molybdenum	ND	2.4	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Nickel	640	9.5	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Selenium	ND	4.8	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Silver	ND	2.4	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Thallium	ND	24	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Vanadium	9.7	2.4	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Zinc	5800	95	mg/Kg	1/9/2017	LY	1/10/2017	JS
7471B	Mercury	ND	0.046	mg/Kg	1/10/2017	CM	1/10/2017	CM

Client Sample Description SJWC-G Columbine Station ***Collected:*** 12/27/2016 1:25:00 PM ***Lab ID:*** *0007*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3540C/8082A	Aroclor-1016	ND	0.98	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1221	ND	0.98	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1232	ND	0.98	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1242	ND	0.98	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1248	ND	0.98	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1254	ND	0.98	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1260	ND	0.98	mg/Kg	1/10/2017	AB	1/11/2017	EH

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Project: **San Jose Water Company, Columbine Station**

Analytical Results

Client Sample Description SJWC-G Columbine Station ***Collected:*** 12/27/2016 1:25:00 PM ***Lab ID:*** *0007*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3540C/8082A	Aroclor-1262	ND	0.98	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1268	ND	0.98	mg/Kg	1/10/2017	AB	1/11/2017	EH
3050B/6010C	Antimony	ND	4.5	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Arsenic	ND	4.5	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Barium	1200	23	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Beryllium	ND	0.91	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cadmium	4.6	0.91	mg/Kg	1/9/2017	LY	1/12/2017	JS
3050B/6010C	Chromium	6.5	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cobalt	40	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Copper	9.3	4.5	mg/Kg	1/9/2017	LY	1/12/2017	JS
3050B/6010C	Lead	350	2.3	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Molybdenum	ND	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Nickel	7.2	4.5	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Selenium	ND	4.5	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Silver	ND	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Thallium	ND	4.5	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Vanadium	6.8	2.3	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Zinc	15000	230	mg/Kg	1/9/2017	LY	1/12/2017	JS
7471B	Mercury	6.2	1.2	mg/Kg	1/10/2017	CM	1/10/2017	CM

Client Sample Description SJWC-H Columbine Station ***Collected:*** 12/27/2016 1:35:00 PM ***Lab ID:*** *0008*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3540C/8082A	Aroclor-1016	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1221	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1232	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1242	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1248	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1254	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1260	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1262	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1268	ND	0.93	mg/Kg	1/10/2017	AB	1/11/2017	EH
3050B/6010C	Antimony	ND	4.8	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Arsenic	ND	4.8	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Barium	570	24	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Beryllium	ND	0.96	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cadmium	ND	0.96	mg/Kg	1/9/2017	LY	1/10/2017	JS

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order: 011608963
CustomerID: ATC60
CustomerPO:
ProjectID:

Attn: **Paul Lowe**
ATC Group Services LLC
2400 Camino Ramon
Suite 360
San Ramon, CA 94583

Phone: (925) 460-5300
Fax: (925) 463-2559
Received: 12/28/16 3:20 PM

Project: **San Jose Water Company, Columbine Station**

Analytical Results

Client Sample Description SJWC-H Columbine Station ***Collected:*** 12/27/2016 1:35:00 PM ***Lab ID:*** *0008*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Chromium	21	2.4	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cobalt	7.7	2.4	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Copper	17	4.8	mg/Kg	1/9/2017	LY	1/12/2017	JS
3050B/6010C	Lead	ND	2.4	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Molybdenum	ND	2.4	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Nickel	37	4.8	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Selenium	ND	4.8	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Silver	ND	2.4	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Thallium	ND	4.8	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Vanadium	53	2.4	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Zinc	50	4.8	mg/Kg	1/9/2017	LY	1/10/2017	JS
7471B	Mercury	ND	0.046	mg/Kg	1/10/2017	CM	1/10/2017	CM

Client Sample Description SJWC-I Columbine Station ***Collected:*** 12/27/2016 1:45:00 PM ***Lab ID:*** *0009*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3540C/8082A	Aroclor-1016	ND	0.87	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1221	ND	0.87	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1232	ND	0.87	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1242	ND	0.87	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1248	ND	0.87	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1254	1.4	0.87	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1260	ND	0.87	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1262	ND	0.87	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1268	ND	0.87	mg/Kg	1/10/2017	AB	1/11/2017	EH
3050B/6010C	Antimony	34	4.7	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Arsenic	ND	4.7	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Barium	200	23	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Beryllium	ND	0.94	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cadmium	1.1	0.94	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Chromium	2400	23	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cobalt	210	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Copper	130	4.7	mg/Kg	1/9/2017	LY	1/12/2017	JS
3050B/6010C	Lead	12000	120	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Molybdenum	60	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Nickel	10	4.7	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Selenium	ND	4.7	mg/Kg	1/9/2017	LY	1/10/2017	JS

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200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order: 011608963
CustomerID: ATC60
CustomerPO:
ProjectID:

Attn: **Paul Lowe**
ATC Group Services LLC
2400 Camino Ramon
Suite 360
San Ramon, CA 94583

Phone: (925) 460-5300
Fax: (925) 463-2559
Received: 12/28/16 3:20 PM

Project: **San Jose Water Company, Columbine Station**

Analytical Results

Client Sample Description SJWC-I Columbine Station ***Collected:*** 12/27/2016 1:45:00 PM ***Lab ID:*** *0009*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Silver	ND	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Thallium	ND	4.7	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Vanadium	21	2.3	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Zinc	17000	230	mg/Kg	1/9/2017	LY	1/10/2017	JS
7471B	Mercury	3.9	1.2	mg/Kg	1/10/2017	CM	1/10/2017	CM

Client Sample Description SJWC-J Columbine Station ***Collected:*** 12/27/2016 1:55:00 PM ***Lab ID:*** *0010*

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3540C/8082A	Aroclor-1016	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1221	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1232	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1242	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1248	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1254	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1260	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1262	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3540C/8082A	Aroclor-1268	ND	0.97	mg/Kg	1/10/2017	AB	1/11/2017	EH
3050B/6010C	Antimony	ND	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Arsenic	ND	9.2	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Barium	130	23	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Beryllium	ND	0.92	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cadmium	ND	0.92	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Chromium	17	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Cobalt	8.4	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Copper	9.8	4.6	mg/Kg	1/9/2017	LY	1/12/2017	JS
3050B/6010C	Lead	340	2.3	mg/Kg	1/9/2017	LY	1/11/2017	JS
3050B/6010C	Molybdenum	ND	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Nickel	7.9	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Selenium	ND	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Silver	ND	2.3	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Thallium	ND	4.6	mg/Kg	1/9/2017	LY	1/10/2017	JS
3050B/6010C	Vanadium	4.7	2.3	mg/Kg	1/9/2017	LY	1/13/2017	JS
3050B/6010C	Zinc	7300	120	mg/Kg	1/9/2017	LY	1/10/2017	JS
7471B	Mercury	5.3	1.2	mg/Kg	1/10/2017	CM	1/10/2017	CM

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Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	011608963
CustomerID:	ATC60
CustomerPO:	
ProjectID:	

Definitions:

ND - indicates that the analyte was not detected at the reporting limit
RL - Reporting Limit (Analytical)

OrderID: 011608963

Environmental Chemistry
Chain of Custody

EMSL Order Number (Lab Use Only): 011608963

PHONE:
FAX:

Report To Contact Name: PAUL LOWE		Bill To Company: ATC ASSOCIATES INC.	
Company Name: ATC ASSOCIATES INC.		Attention To: SAME	
Street: 2400 CAMINO RAMON, STE. 360		Street:	
City: SAN RAMON State/Province: CA Zip Code: 94583		City: State/Province: Zip Code:	
Phone: 925-460-5300 Fax:		Phone: Fax:	
Project Name: SAN JOSE WATER COMPANY, COLUMBINE STATION		U.S. State where Samples Collected:	
Number of Samples in Shipment:	Date of Shipment:	Purchase Order:	Sampled By (Signature):
Please Provide results: ☐ FAX ☐ E-mail ☐ Mail		Email Results To:	
Standard Turnaround Time: ☐2 Weeks	The following TAT's are subject to lab approval: ☐1 Week ☐4 Days ☐3 Days ☐2 Days ☐1 Day		

Failure to complete will hinder processing of samples

	Client Sample ID	Comp	Grab	Date/Time	Matrix (W=Water S=Soil A=Air SL=Sludge O= Other)	Preservative (1=HCL 2=HNO3 3=H2SO4 4=ICE 5=Other)	PCB	METALS							Comments
1	SWC-A			12/27/16/1145	O	4								NE	BLACK PIPE WRAP 2" O.D.
2	-B			1155										NE	" " " 6" O.D
3	-C			1210										NW	" " " 16" O.D.
4	-D			1220										NE	CONCRETE INSULATION 6" O.D
5	-E			1240										SW	GRAY CAULK / BAR COLUMN SOLAR PANEL

Released By (Signature)	Date & Time	Received By	Date & Time
[signature]	12-27-16 @ 1630	[signature] FX	12/28/16 3:20pm
		Jose Rose	12/28/16 15:20

Please indicate reporting requirements: ☐Results Only ☐Results and QC ☐Reduced Deliverables ☐Disk Deliverable ☐Other _____

Instructions or Comments:
per client 1 week TAT, reference last job for list of metals MG 12/28

Page 1 of 2 pages

Environmental Chemistry
Chain of Custody

EMSL Order Number (*Lab Use Only*): 011608963

PHONE:
FAX:

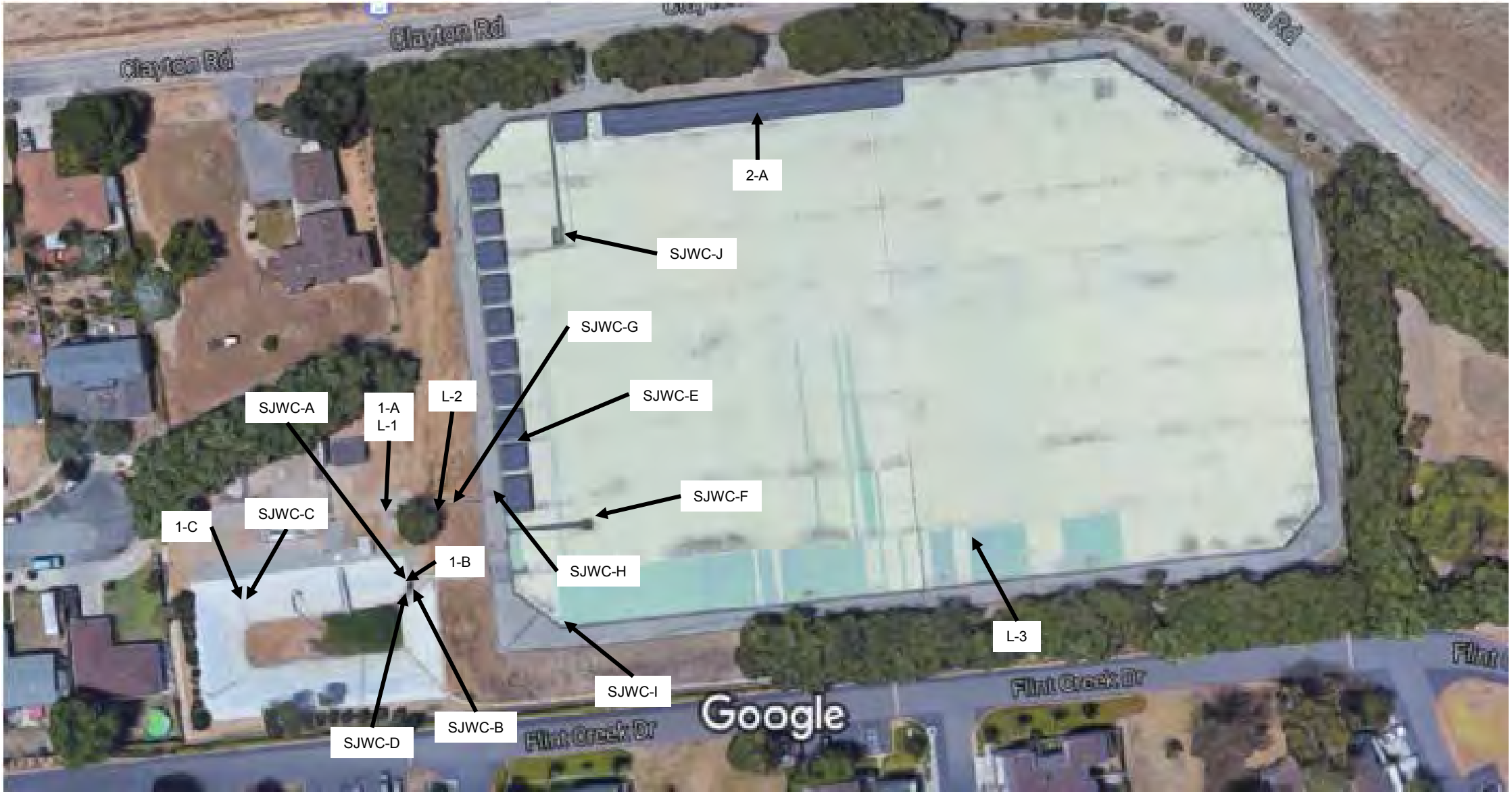
Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Failure to complete will hinder [illegible]				Matrix	Preservative								
Client Sample ID	Comp	Grab	Date/Time	W=Water S=Soil A=Air SL=Sludge O= Other	1=HCL 2=HNO3 3=H2SO4 4=ICE 5=Other	PCB	METALS						Comments
6 SWC-F			12-27-16/1315	O	4	↓	↓						GRAY CAULK - CORRUGATED METAL ROOF SEAM
7 -G			1325	↓	↓	↓	↓						OLIVE PAINT - WEST STAIRWELL RAIL
8 -H			1335	↓	↓	↓	↓						BLACK ASPHALT - PAVEMENT - WEST RESERVOIR
9 -I			1345	↓	↓	↓	↓						OLIVE/GREEN PAINT - SW RIDGE METAL GRATE
10 -J			1355	↓	↓	↓	↓						" PAINT - NW PLATFORM WALKWAY

Page 2 of 2 pages

APPENDIX C:

Site Plans & Sample Locations



N

San Jose Water Company – Columbine Station 3650 Clayton Road San Jose, California 95127	**ATC Job #:** 118BS02117	**Date**: 2/16/2017	ATC ENVIRONMENTAL • GEOTECHNICAL BUILDING SCIENCES • MATERIALS TESTING **ATC Group Services LLC** 2400 Camino Ramon, #360 San Ramon, CA 94583 Phone: 925.460.5300
	Drawn By: PL	**Scale**: NTS	**Figure 1**

Attachment 3

Certified Laboratory Analytical Data

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**281460**
Client:	**Remedy Engineering**
Project:	**106101**
Location:	**SJ Columbine Reservoir Sampling**
Request Date:	**09/26/16**
Samples Received:	**09/26/16**

This data package contains sample and QC results for twenty soil samples, requested for the above referenced project on 09/26/16. See attached cooler receipt form for any sample receipt problems or discrepancies. This report was revised and reissued on 12/13/2016 to include MDLs.

TPH-Extractables by GC (EPA 8015B):

HA-20 (lab # 281460-020) was diluted due to the dark and viscous nature of the sample extract.

No other analytical problems were encountered.

Pesticides (EPA 8081A):

All samples underwent sulfur cleanup using the copper option in EPA Method 3660B.

All samples underwent florisil cleanup using EPA Method 3620C.

High responses were observed for aldrin, alpha-BHC, and delta-BHC in the ICV analyzed 09/12/16 21:30; average ICV drift met method requirements, and these analytes were not detected at or above the RL in the associated samples.

High responses were observed for many analytes in the CCV analyzed 09/27/16 19:14; average CCV drift met method requirements, and these analytes were not detected at or above the RL in the associated samples.

High responses were observed for 4,4'-DDE and endosulfan sulfate in the CCV analyzed 09/27/16 09:04; average CCV drift met method requirements, and these analytes were not detected at or above the RL in the associated samples.

High responses were observed for a number of analytes in the CCV analyzed 09/29/16 18:37; average CCV drift met method requirements, and these analytes were not detected at or above the RL in the associated samples.

High response was observed for methoxychlor in the CCV analyzed 09/29/16 11:30; average CCV drift met method requirements, and this analyte was not detected at or above the RL in the associated samples.

High response was observed for heptachlor in the CCV analyzed 09/27/16 19:57; average CCV drift met method requirements.

High response was observed for dieldrin in the CCV analyzed 09/27/16 19:57;

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number: **281460**
Client: **Remedy Engineering**
Project: **106101**
Location: **SJ Columbine Reservoir Sampling**
Request Date: **09/26/16**
Samples Received: **09/26/16**

Pesticides (EPA 8081A):
average CCV drift met method requirements.

High response was observed for endrin in the CCV analyzed 09/27/16 15:56; average CCV drift met method requirements.

High response was observed for endrin in the CCV analyzed 09/27/16 19:57; average CCV drift met method requirements.

High response was observed for endrin in the CCV analyzed 09/29/16 15:41; average CCV drift met method requirements.

Low surrogate recovery was observed for TCMX in the LCS for batch 239533; the corresponding decachlorobiphenyl surrogate recovery was within limits.

Many samples were diluted due to the color of the sample extracts.

No other analytical problems were encountered.

PCBs (EPA 8082):
All samples underwent sulfuric acid cleanup using EPA Method 3665A.

All samples underwent sulfur cleanup using the copper option in EPA Method 3660B.

Matrix spikes QC853457,QC853458 (batch 239589) were not reported because the parent sample required a dilution that would have diluted out the spikes.

High surrogate recovery was observed for decachlorobiphenyl in the MS for batch 239589; the corresponding TCMX surrogate recovery was within limits, and the parent sample was not a project sample.

No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):
Low recoveries were observed for silver in the MS/MSD of HA-1 (lab # 281460-001); the BS/BSD were within limits, and the associated RPD was within limits.

Low recoveries were observed for many analytes in the post digest spike of HA-1 (lab # 281460-001); the BS/BSD were within limits.

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**281460**
Client:	**Remedy Engineering**
Project:	**106101**
Location:	**SJ Columbine Reservoir Sampling**
Request Date:	**09/26/16**
Samples Received:	**09/26/16**

Metals (EPA 6010B and EPA 7471A):

High % differences were observed for many analytes in the serial dilution of HA-1 (lab # 281460-001).

Cobalt was detected between the MDL and the RL in the method blank for batch 239837; this analyte was detected in samples at a level at least 10 times that of the blank.

No other analytical problems were encountered.

Moisture (ASTM D2216/CLP):
No analytical problems were encountered.

Chain of Custody

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 281460

Project No: 106101
Project Name: SJ Columbine Reservoir Sampling
EDD Format: CH2M **Rpt Level:** ☐ II XIII ☐ IV
Turnaround Time: ☐ RUSH _____ X Standard

Sampler: Tom Corontzos
Report To: Tom Corontzos
Company : Remedy Engineering, Inc.
Telephone: 530-241-7658
Email: tcorontz@remedyengineering.com

Analytical Request

Lab No.	Sample ID.	Sampling Date	Sampling Time	Matrix: Water	Matrix: Soil	Matrix:	Matrix:	# of Containers	Chemical Preservative: HCl	H_2SO_4	HNO_3	NaOH	None	Title 22 CAM Metals (6010, 7471)	Pesticides (8081)	PCBs (8082)	TPH-diesel, motor oil (8015)	Moisture
	HA-1	9-26-16	0758		X								X	X	X			X
	HA-2	9-26-16	0815		X								X	X	X			X
	HA-3	9-26-16	0839		X								X	X	X	X	X	X
	HA-4	9-26-16	0900		X								X	X	X			X
	HA-5	9-26-16	0927		X								X	X	X			X
	HA-6	9-26-16	1015		X								X	X	X			X
	HA-7	9-26-16	1045		X								X	X	X			X
	HA-8	9-26-16	1040		X								X	X	X	X	X	X
	HA-9	9-26-16	1120		X								X	X	X			X
	HA-10	9-26-16	1125		X								X	X	X			X
	HA-11	9-26-16	1300		X								X	X	X			X
	HA-12	9-26-16	1320		X								X	X	X			X
	HA-13	9-26-16	1325		X								X	X	X	X	X	X

Notes:

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:
[signature] 9/26/16 1500 DATE/TIME
[signature] 9:26@1635 DATE/TIME
DATE/TIME

RECEIVED BY:
[signature] 9.26@1500 DATE/TIME
[signature] 9.26 @ 16:35 DATE/TIME
DATE/TIME

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 281466

Project No: 106101
Project Name: SJ Columbine Reservoir Sampling
EDD Format: CH2M **Rpt Level:** ☐ II XIII ☐ IV
Turnaround Time: ☐ RUSH _____ X Standard

Sampler: Tom Corontzos
Report To: Tom Corontzos
Company : Remedy Engineering, Inc.
Telephone: 530-241-7658
Email: tcorontz@remedyengineering.com

Lab No.	Sample ID.	Sampling Date	Sampling Time	Matrix: Water	Matrix: Soil	Matrix:	Matrix:	# of Containers	Chemical Preservative: HCl	H_2SO_4	HNO_3	NaOH	None	Analytical Request: Title 22 CAM Metals (6010, 7471)	Pesticides (8081)	PCBs (8082)	TPH-diesel, motor oil (8015)	Moisture
	HA-14	9-26-16	1355		X								X	X	X			X
	HA-15	9-26-16	1350		X								X	X	X			X
	HA-16	9-26-16	1430		X								X	X	X			X
	HA-17	9-26-16	1420		X								X	X	X			X
	HA-18	9-26-16	1435		X								X	X	X			X
	HA-19	9-26-16	1450		X								X	X	X			X
	HA-20	9-26-16	1445		X								X	X	X	X	X	X
	~~HA-21~~				X								X	X	X			
	~~HA-22~~				X								X	X	X			
	~~HA-23~~				X								X	X	X	X	X	
	~~HA-24~~				X								X	X	X			
	~~HA-25~~				X								X	X	X			
	~~HA-26~~				X								X	X	X			

Notes:

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:
[signature] 9/26/16 1808 DATE/TIME
[signature] 9-26 @ 1635 DATE/TIME
DATE/TIME

RECEIVED BY:
[signature] 9/26 @ 1500 DATE/TIME
[signature] 9/26 @ 1635 DATE/TIME
DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 281460 Date Received 9/26/16 Number of coolers 1
Client Remedy Engineering Project 106101

Date Opened 9/26 By (print) DTN (sign) [illegible]
Date Logged in ↓ By (print) ↓ (sign) ↓
Date Labeled ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc)_____ YES NO
   Shipping info_____

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many _____ Name_____ Date_____
2B. Were custody seals intact upon arrival? _____ YES NO N/A
3. Were custody papers dry and intact when received? _____ YES NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO
5. Is the project identifiable from custody papers? (If so fill out top of form)___ YES NO
6. Indicate the packing in cooler: (if other, describe)_____

   ☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
   ☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels
7. Temperature documentation: * Notify PM if temperature exceeds 6°C

   Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 5.2

   ☒ Temperature blank(s) included? ☒ Thermometer# 4 ☐ IR Gun#_____

   ☒ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
   If YES, what time were they transferred to freezer?_____
9. Did all bottles arrive unbroken/unopened? _____ YES NO
10. Are there any missing / extra samples? _____ YES NO
11. Are samples in the appropriate containers for indicated tests? _____ YES NO
12. Are sample labels present, in good condition and complete? _____ YES NO
13. Do the sample labels agree with custody papers? _____ YES NO
14. Was sufficient amount of sample sent for tests requested? _____ YES NO
15. Are the samples appropriately preserved? _____ YES NO N/A
16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A
17. Did you document your preservative check? (pH strip lot#_____) YES NO N/A
18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A
19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A
20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A
21. Was the client contacted concerning this sample delivery? _____ YES NO
   If YES, Who was called?_____ By_____ Date:_____

COMMENTS

Curtis & Tompkins, Ltd.

Detections Summary for 281460

Results for any subcontracted analyses are not included in this summary.

Client : Remedy Engineering
Project : 106101
Location : SJ Columbine Reservoir Sampling

Client Sample ID : HA-1 Laboratory Sample ID : 281460-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
alpha-Chlordane	9.0	C,J	9.1	1.3	ug/Kg	Dry	5.000	EPA 8081A	EPA 3550B
gamma-Chlordane	60	C	9.1	1.6	ug/Kg	Dry	5.000	EPA 8081A	EPA 3550B
Antimony	10		2.1	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	14		0.26	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	140		0.26	0.056	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	6.2		0.10	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	6.8		0.26	0.026	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	33		0.26	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	13		0.26	0.031	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	19		0.26	0.086	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	16		0.26	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.16		0.018	0.0055	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	6.5		0.26	0.051	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.26	0.068	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Silver	4.7		0.26	0.041	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.32	J	0.52	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	49		0.26	0.059	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	150		1.0	0.21	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	7		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Curtis & Tompkins, Ltd.

Client Sample ID : HA-2 Laboratory Sample ID : 281460-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
alpha-Chlordane	5.6	C,J	9.2	1.3	ug/Kg	Dry	5.000	EPA 8081A	EPA 3550B
gamma-Chlordane	15	C	9.2	1.6	ug/Kg	Dry	5.000	EPA 8081A	EPA 3550B
Antimony	4.6		2.1	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.9		0.26	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	180		0.26	0.056	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.53		0.10	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.2		0.26	0.026	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	29		0.26	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	9.1		0.26	0.031	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	11		0.26	0.086	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	10		0.26	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.12		0.019	0.0056	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.4		0.26	0.051	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	34		0.26	0.068	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.46	J	0.52	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	38		0.26	0.059	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	83		1.0	0.21	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	8		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-3 Laboratory Sample ID : 281460-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	19	Y	1.1	0.34	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	47		5.5	1.7	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Antimony	1.0	J	2.2	0.18	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.2		0.30	0.088	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	180		0.30	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.54		0.12	0.015	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.2		0.30	0.031	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	29		0.30	0.076	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	6.8		0.30	0.036	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	13		0.30	0.10	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	9.5		0.30	0.084	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.22		0.018	0.0055	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.6		0.30	0.059	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	33		0.30	0.079	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.47	J	0.60	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	37		0.30	0.069	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	140		1.2	0.24	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	9		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Curtis & Tompkins, Ltd.

Client Sample ID : HA-4 Laboratory Sample ID : 281460-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
alpha-Chlordane	1.5	C,J	9.5	1.3	ug/Kg	Dry	5.000	EPA 8081A	EPA 3550B
Antimony	0.90	J	2.2	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.0		0.27	0.078	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	220		0.27	0.058	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.58		0.11	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.1		0.27	0.028	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	34		0.27	0.068	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	8.2		0.27	0.032	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	13		0.27	0.090	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	9.4		0.27	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.12		0.017	0.0051	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.3		0.27	0.053	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	40		0.27	0.071	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.37	J	0.54	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	42		0.27	0.062	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	120		1.1	0.22	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	10		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-5 Laboratory Sample ID : 281460-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
alpha-Chlordane	4.0	C,J	9.3	1.3	ug/Kg	Dry	5.000	EPA 8081A	EPA 3550B
gamma-Chlordane	3.1	C,J	9.3	1.7	ug/Kg	Dry	5.000	EPA 8081A	EPA 3550B
Antimony	2.3		2.1	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	8.5		0.26	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	210		0.26	0.056	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.59		0.10	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.2		0.26	0.026	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	44		0.26	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	8.3		0.26	0.031	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	13		0.26	0.086	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	11		0.26	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.11		0.017	0.0052	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.5		0.26	0.051	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	44		0.26	0.068	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.38	J	0.52	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	43		0.26	0.059	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	120		1.0	0.21	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	9		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Curtis & Tompkins, Ltd.

Client Sample ID : HA-6 Laboratory Sample ID : 281460-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
4,4'-DDD	6.7	C,J	7.2	0.74	ug/Kg	Dry	2.000	EPA 8081A	EPA 3550B
4,4'-DDT	2.8	C,J	7.2	0.72	ug/Kg	Dry	2.000	EPA 8081A	EPA 3550B
alpha-Chlordane	3.0	C,J	3.7	0.52	ug/Kg	Dry	2.000	EPA 8081A	EPA 3550B
gamma-Chlordane	19	C	3.7	0.66	ug/Kg	Dry	2.000	EPA 8081A	EPA 3550B
Antimony	4.3		2.0	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.6		0.25	0.074	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	170		0.25	0.055	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.51		0.10	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.95		0.25	0.026	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	30		0.25	0.064	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.4		0.25	0.030	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	10		0.25	0.085	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	9.8		0.25	0.071	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.087		0.018	0.0055	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.4		0.25	0.050	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	31		0.25	0.067	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	36		0.25	0.058	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	72		1.0	0.20	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	8		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-7 Laboratory Sample ID : 281460-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
gamma-Chlordane	8.2	C,J	9.3	1.7	ug/Kg	Dry	5.000	EPA 8081A	EPA 3550B
Antimony	0.98	J	2.2	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.6		0.29	0.083	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	190		0.29	0.061	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.57		0.11	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.1		0.29	0.029	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	37		0.29	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.8		0.29	0.034	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	12		0.29	0.095	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	11		0.29	0.080	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.14		0.017	0.0051	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.6		0.29	0.056	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.29	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.22	J	0.57	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	43		0.29	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	92		1.1	0.23	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	8		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Curtis & Tompkins, Ltd.

Client Sample ID : HA-8 Laboratory Sample ID : 281460-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	7.1	Y	1.1	0.34	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	8.3		5.5	1.7	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
delta-BHC	0.49	C,J	1.9	0.22	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
Antimony	4.8		2.2	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.9		0.29	0.085	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	210		0.29	0.063	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.56		0.12	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.2		0.29	0.030	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	35		0.29	0.074	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	8.7		0.29	0.035	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	8.8		0.29	0.097	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	6.4		0.29	0.081	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.091		0.018	0.0055	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.6		0.29	0.057	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	38		0.29	0.077	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.35	J	0.58	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	39		0.29	0.067	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	45		1.2	0.23	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	9		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-9 Laboratory Sample ID : 281460-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	6.0		2.3	0.18	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.5		0.31	0.090	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	200		0.31	0.066	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.86		0.12	0.015	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.82		0.31	0.032	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	37		0.31	0.078	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	8.7		0.31	0.037	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	8.0		0.31	0.10	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	7.5		0.31	0.086	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.15		0.021	0.0063	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.96		0.31	0.060	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	43		0.31	0.081	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	43		0.31	0.071	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	41		1.2	0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	14		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Curtis & Tompkins, Ltd.

Client Sample ID : HA-10 Laboratory Sample ID : 281460-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
4,4'-DDT	0.86	C,J	3.9	0.39	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
Methoxychlor	3.0	C,J	20	2.9	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
Antimony	4.8		2.2	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	8.4		0.27	0.079	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	200		0.27	0.058	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.70		0.11	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.94		0.27	0.028	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	33		0.27	0.068	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	10		0.27	0.033	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	8.0		0.27	0.091	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	9.6		0.27	0.076	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.13		0.019	0.0058	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.3		0.27	0.053	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	45		0.27	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.17	J	0.54	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	38		0.27	0.062	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	65		1.1	0.22	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	14		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-11 Laboratory Sample ID : 281460-011

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	1.6	J	2.1	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.6		0.26	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	190		0.26	0.056	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.56		0.10	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.7		0.26	0.026	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	29		0.26	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	8.1		0.26	0.031	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	11		0.26	0.086	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	8.0		0.26	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.15		0.018	0.0053	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.7		0.26	0.051	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	29		0.26	0.068	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	38		0.26	0.059	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	82		1.0	0.21	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	9		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Curtis & Tompkins, Ltd.

Client Sample ID : HA-12 Laboratory Sample ID : 281460-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	4.8		2.2	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.7		0.28	0.081	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	180		0.28	0.060	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.56		0.11	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.1		0.28	0.028	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	49		0.28	0.070	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	8.2		0.28	0.033	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	11		0.28	0.092	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	7.1		0.28	0.077	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.13		0.018	0.0053	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.5		0.28	0.054	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	39		0.28	0.073	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.42	J	0.55	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	40		0.28	0.063	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	48		1.1	0.22	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	8		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-13 Laboratory Sample ID : 281460-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	9.6	Y	1.1	0.34	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	34		5.6	1.7	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Antimony	4.9		2.2	0.18	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.4		0.30	0.087	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	210		0.30	0.064	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.54		0.12	0.015	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.4		0.30	0.030	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	30		0.30	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	8.4		0.30	0.036	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	11		0.30	0.10	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	9.2		0.30	0.083	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.098		0.019	0.0056	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.2		0.30	0.058	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	31		0.30	0.079	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	36		0.30	0.068	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	100		1.2	0.24	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	10		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Curtis & Tompkins, Ltd.

Client Sample ID : HA-14 Laboratory Sample ID : 281460-014

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Endosulfan I	0.33	J	1.9	0.28	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
Antimony	5.4		2.2	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.6		0.29	0.085	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	180		0.29	0.063	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.60		0.12	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.90		0.29	0.030	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	32		0.29	0.074	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.1		0.29	0.035	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	9.6		0.29	0.097	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	7.0		0.29	0.081	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.13		0.017	0.0051	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.4		0.29	0.057	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	38		0.29	0.077	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.18	J	0.58	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	40		0.29	0.067	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	52		1.2	0.23	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	10		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-15 Laboratory Sample ID : 281460-015

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
beta-BHC	0.98	J	1.9	0.53	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
Antimony	2.0	J	2.2	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	8.1		0.29	0.083	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	240		0.29	0.062	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.64		0.11	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	2.7		0.29	0.029	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	40		0.29	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.29	0.034	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	17		0.29	0.096	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	7.7		0.29	0.080	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.38		0.018	0.0054	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.8		0.29	0.056	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	55		0.29	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	45		0.29	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	70		1.1	0.23	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	11		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Curtis & Tompkins, Ltd.

Client Sample ID : HA-16 Laboratory Sample ID : 281460-016

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Heptachlor	1.4	C,J	1.9	0.27	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
Antimony	4.3		2.2	0.18	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.5		0.30	0.086	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	160		0.30	0.063	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.52		0.12	0.015	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.98		0.30	0.030	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	27		0.30	0.074	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	6.7		0.30	0.035	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	8.2		0.30	0.098	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	6.6		0.30	0.082	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.12		0.017	0.0050	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.3		0.30	0.058	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	29		0.30	0.078	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.85		0.59	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	36		0.30	0.067	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	46		1.2	0.24	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	8		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-17 Laboratory Sample ID : 281460-017

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
4,4'-DDT	1.4	J	7.6	0.77	ug/Kg	Dry	2.000	EPA 8081A	EPA 3550B
Antimony	4.9		2.3	0.18	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.7		0.30	0.088	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	170		0.30	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.48		0.12	0.015	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.4		0.30	0.031	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	28		0.30	0.076	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.9		0.30	0.036	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	14		0.30	0.10	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	14		0.30	0.084	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.095		0.019	0.0057	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.4		0.30	0.059	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	34		0.30	0.080	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	38		0.30	0.069	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	250		1.2	0.24	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	13		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

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Client Sample ID : HA-18 Laboratory Sample ID : 281460-018

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	1.1	J	2.1	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.8		0.26	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	160		0.26	0.056	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.48		0.10	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.1		0.26	0.026	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	31		0.26	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.9		0.26	0.031	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	14		0.26	0.087	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	17		0.26	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.17		0.018	0.0055	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.5		0.26	0.051	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	42		0.26	0.068	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.40	J	0.52	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	39		0.26	0.059	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	270		1.0	0.21	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	10		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-19 Laboratory Sample ID : 281460-019

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	2.9		2.2	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	5.5		0.27	0.080	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	140		0.27	0.059	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.40		0.11	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.95		0.27	0.028	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	25		0.27	0.069	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.8		0.27	0.033	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	13		0.27	0.092	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	11		0.27	0.077	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.13		0.017	0.0051	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.2		0.27	0.054	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	36		0.27	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	32		0.27	0.063	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	99		1.1	0.22	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	9		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Curtis & Tompkins, Ltd.

Client Sample ID : HA-20 Laboratory Sample ID : 281460-020

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	15	Y	2.3	0.69	mg/Kg	Dry	2.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	130		11	3.4	mg/Kg	Dry	2.000	EPA 8015B	EPA 3550B
4,4'-DDT	15	C,J	74	9.7	ug/Kg	Dry	20.00	EPA 8081A	EPA 3550B
Antimony	1.1	J	2.0	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.5		0.26	0.074	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	170		0.26	0.055	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.43		0.10	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.8		0.26	0.026	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	91		0.26	0.064	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	13		0.26	0.031	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	18		0.26	0.085	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	22		0.26	0.071	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.25		0.019	0.0057	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	2.2		0.26	0.050	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	120		0.26	0.067	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.28	J	0.51	0.14	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	40		0.26	0.058	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	170		1.0	0.20	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	11		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

C = Presence confirmed, but RPD between columns exceeds 40%

J = Estimated value

Y = Sample exhibits chromatographic pattern which does not resemble standard

Laboratory Job Number 281460

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Soil

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16
Basis:	dry	Prepared:	09/28/16
Batch#:	239567		

Field ID:	HA-3	Moisture:	9%
Type:	SAMPLE	Diln Fac:	1.000
Lab ID:	281460-003	Analyzed:	09/29/16

Analyte	Result	RL	MDL
Diesel C10-C24	19 Y	1.1	0.34
Motor Oil C24-C36	47	5.5	1.7

Surrogate	%REC	Limits
o-Terphenyl	110	59-140

Field ID:	HA-8	Moisture:	9%
Type:	SAMPLE	Diln Fac:	1.000
Lab ID:	281460-008	Analyzed:	09/29/16

Analyte	Result	RL	MDL
Diesel C10-C24	7.1 Y	1.1	0.34
Motor Oil C24-C36	8.3	5.5	1.7

Surrogate	%REC	Limits
o-Terphenyl	100	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16
Basis:	dry	Prepared:	09/28/16
Batch#:	239567		

Field ID:	HA-13	Moisture:	10%
Type:	SAMPLE	Diln Fac:	1.000
Lab ID:	281460-013	Analyzed:	09/29/16

Analyte	Result	RL	MDL
Diesel C10-C24	9.6 Y	1.1	0.34
Motor Oil C24-C36	34	5.6	1.7

Surrogate	%REC	Limits
o-Terphenyl	101	59-140

Field ID:	HA-20	Moisture:	11%
Type:	SAMPLE	Diln Fac:	2.000
Lab ID:	281460-020	Analyzed:	09/29/16

Analyte	Result	RL	MDL
Diesel C10-C24	15 Y	2.3	0.69
Motor Oil C24-C36	130	11	3.4

Surrogate	%REC	Limits
o-Terphenyl	69	59-140

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC853363	Analyzed:	09/28/16

Analyte	Result	RL	MDL
Diesel C10-C24	ND	1.0	0.31
Motor Oil C24-C36	ND	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	98	59-140

Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

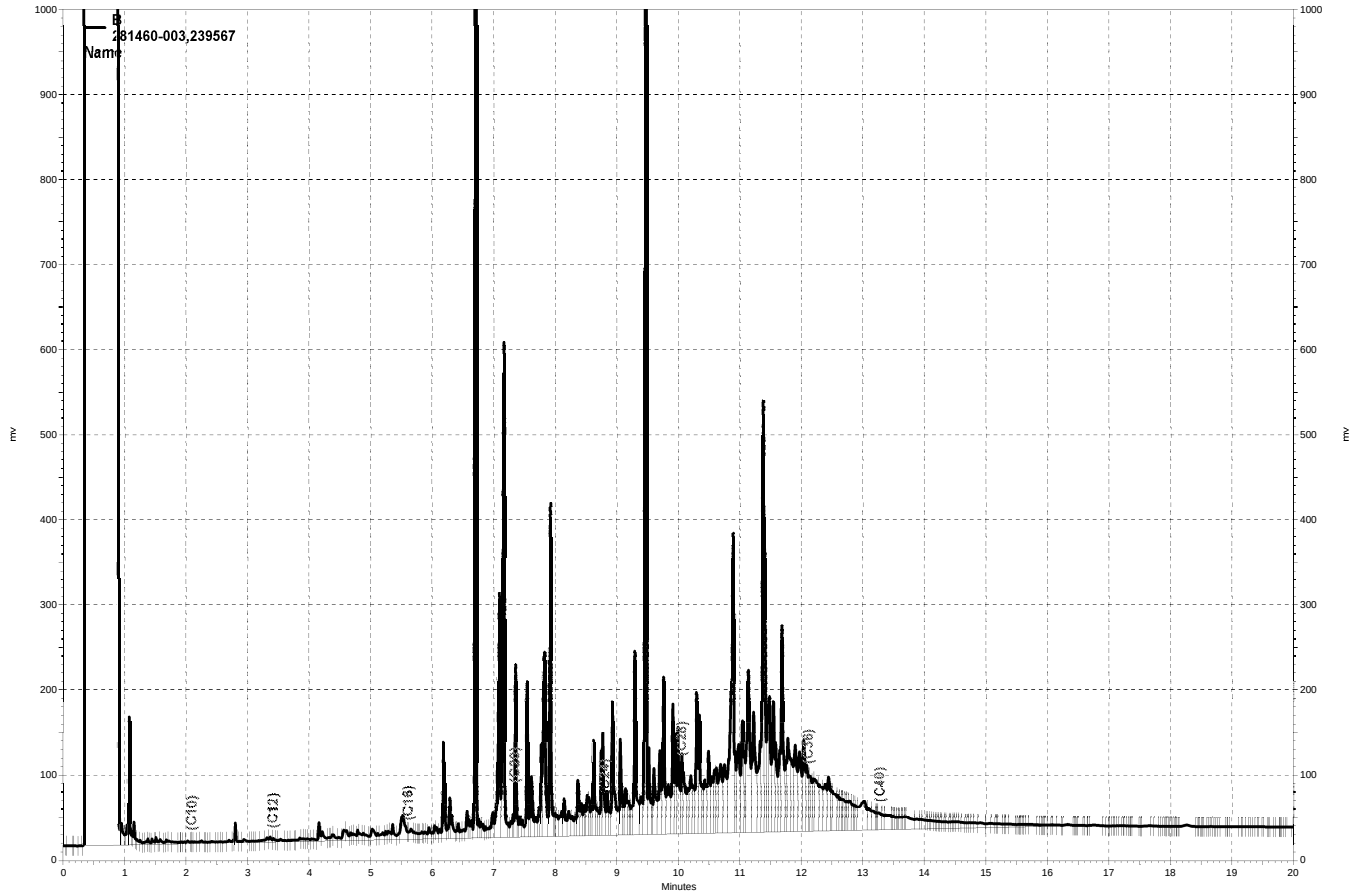
Batch QC Report

Total Extractable Hydrocarbons

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC853364	Batch#:	239567
Matrix:	Soil	Prepared:	09/28/16
Units:	mg/Kg	Analyzed:	09/28/16

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.80	40.43	81	58-137

Surrogate	%REC	Limits
o-Terphenyl	93	59-140



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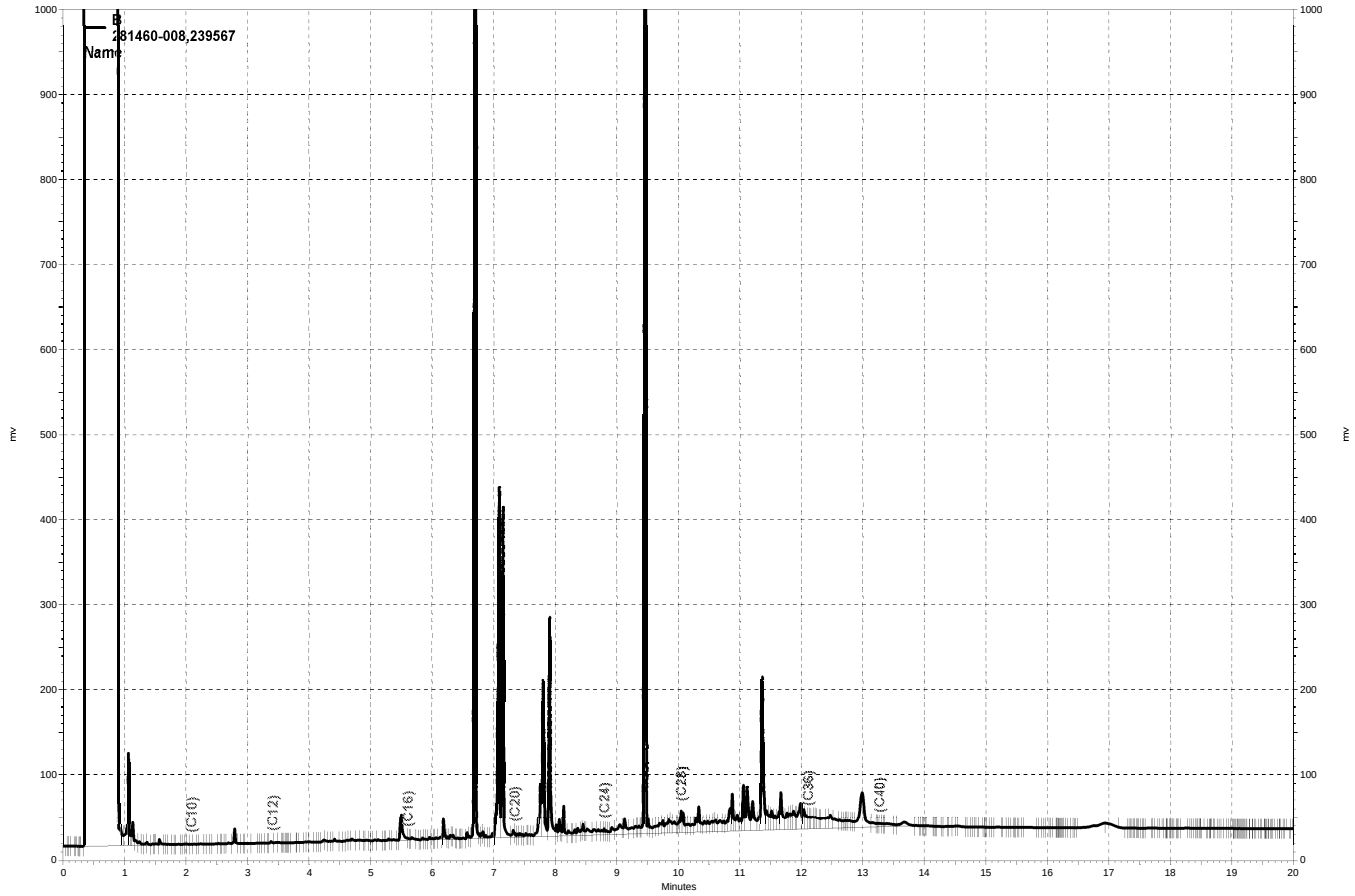

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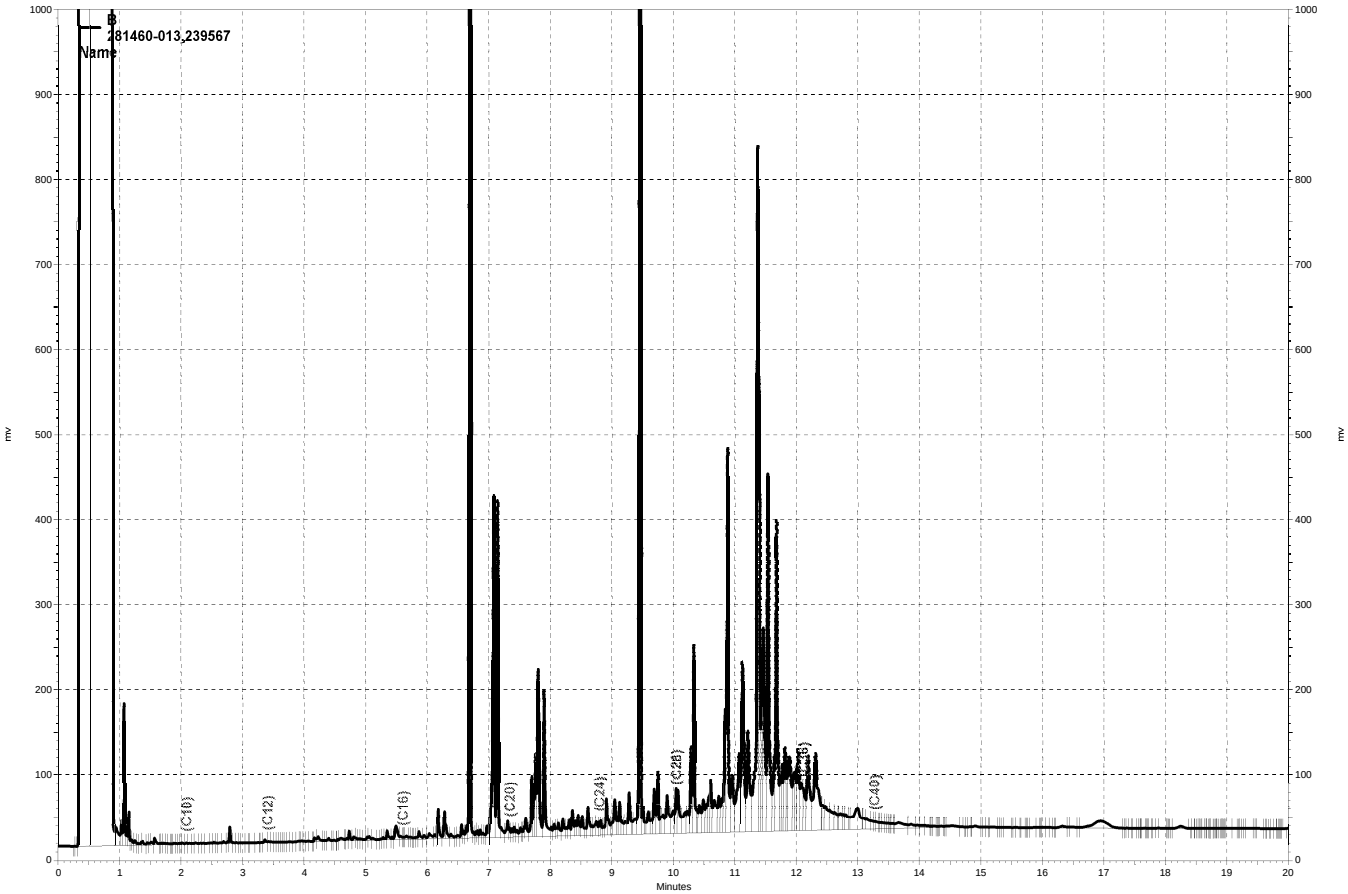

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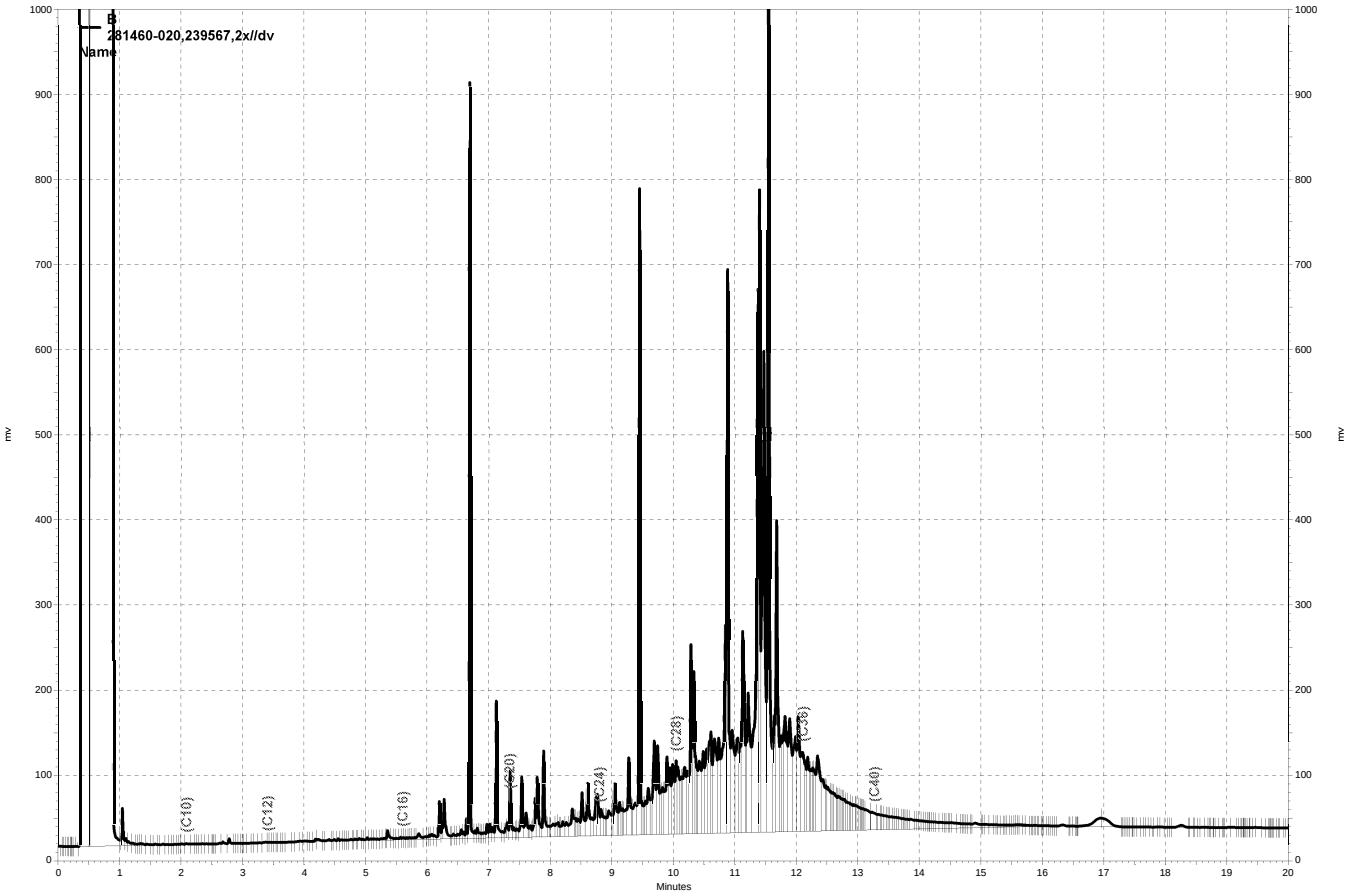

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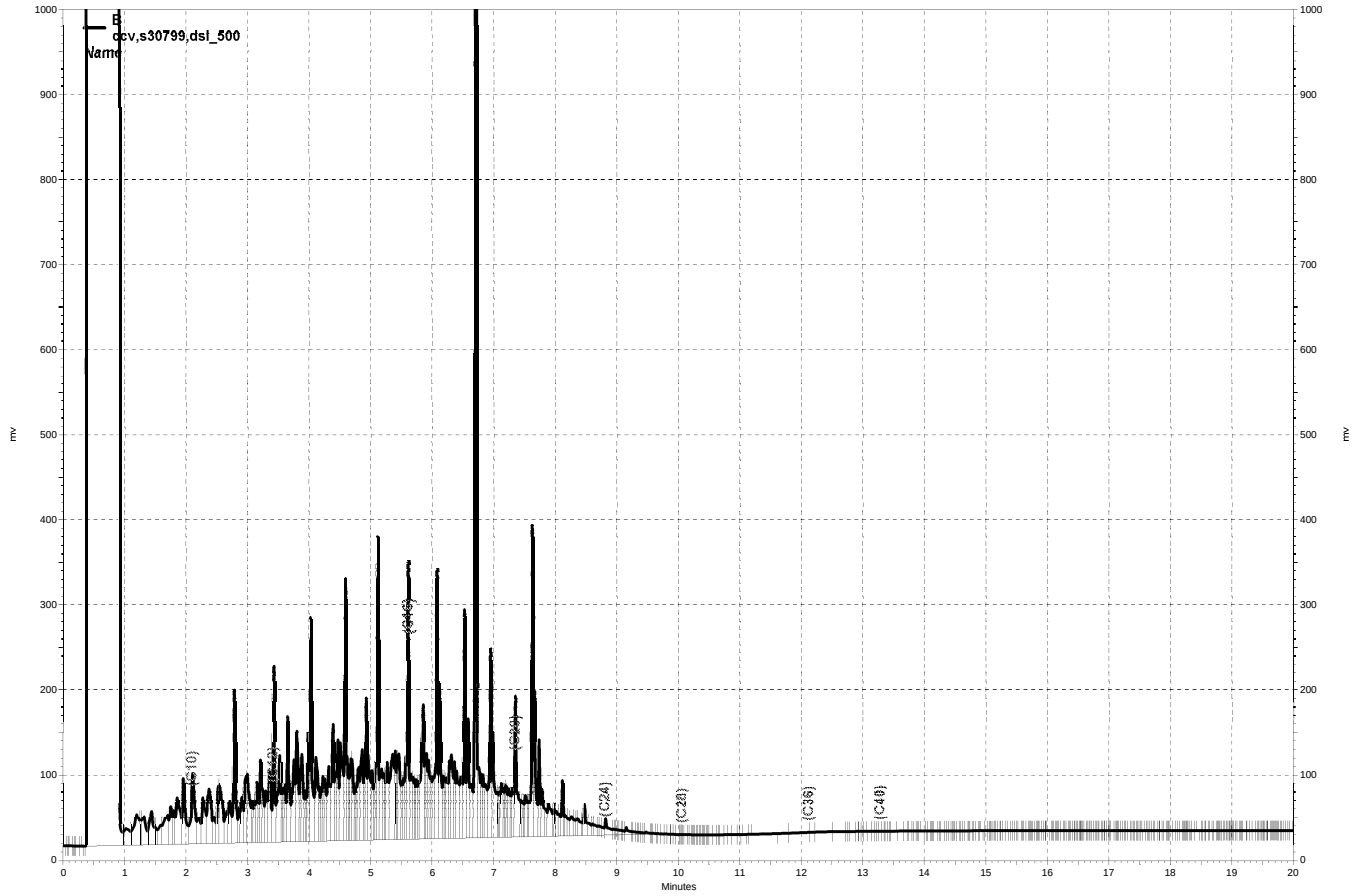

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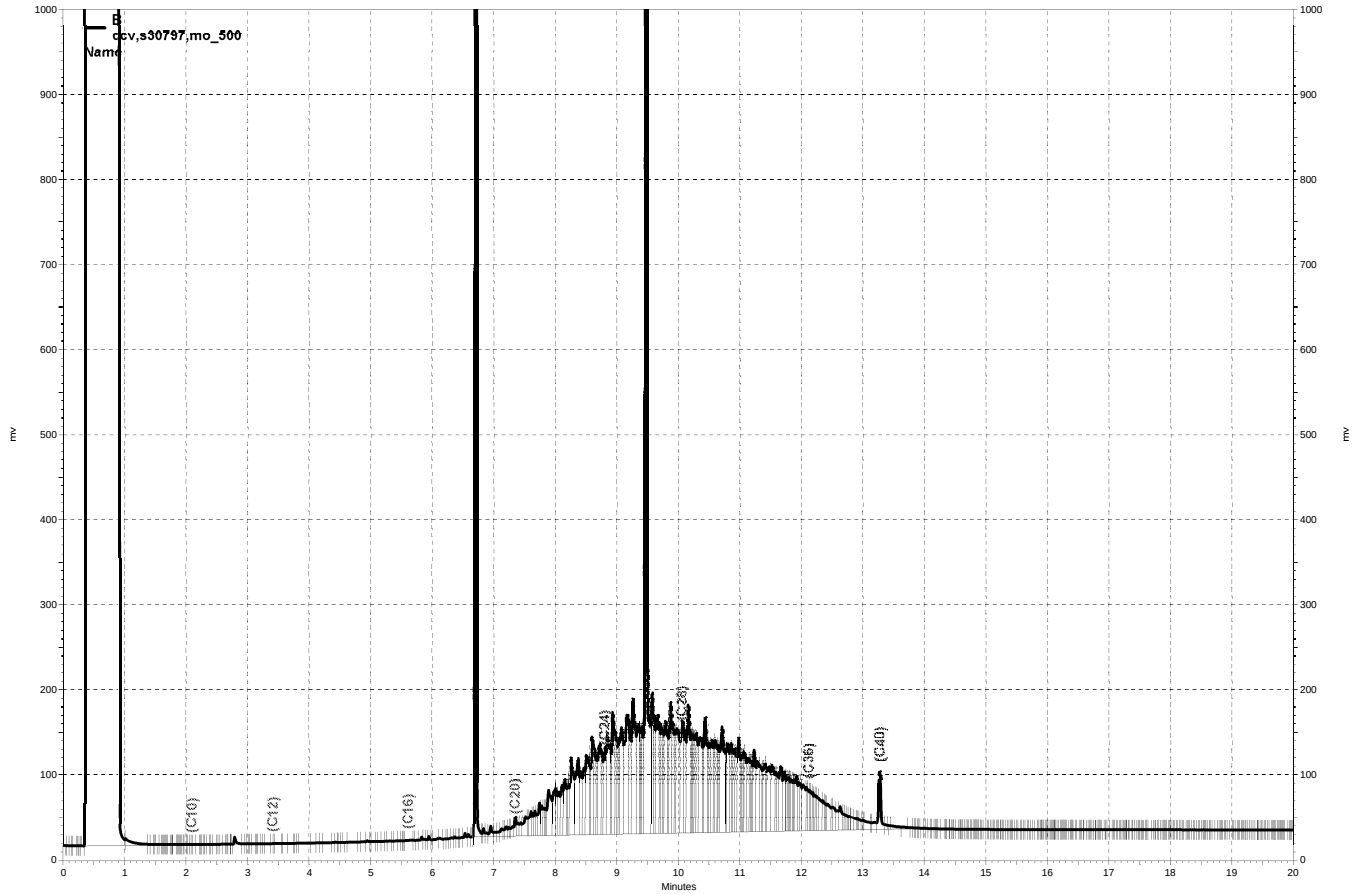

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Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281460 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 166308614001
Units : mg/L

Name : OTP_214
Date : 01-AUG-2016 14:59
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	214a006	166308614006	HEXOTP_5	01-AUG-2016 14:59	S29899
L2	214a007	166308614007	HEXOTP_10	01-AUG-2016 15:26	S29900
L3	214a008	166308614008	HEXOTP_25	01-AUG-2016 15:54	S29901
L4	214a009	166308614009	HEXOTP_50	01-AUG-2016 16:22	S29902
L5	214a010	166308614010	HEXOTP_100	01-AUG-2016 16:49	S29903
L6	214a011	166308614011	HEXOTP_200	01-AUG-2016 17:17	S29904

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	59744	59669	59698	60619	61732	59478	AVRG		1.66E-5		60157	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	-1	10.000	-1	25.000	-1	50.000	1	100.00	3	200.00	-1

RDG 08/02/16 : Corrected automatically drawn baseline in all levels.

RDG 08/02/16 : Hexacosane ICAL are not being use.

Analyst: RDG Date: 08/02/16 Reviewer: EAH Date: 08/02/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281460 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 166308614002
Units : mg/L

Name : MO_214
Date : 01-AUG-2016 22:23
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	214a022	166308614022	MO_50	01-AUG-2016 22:23	S30319
L2	214a023	166308614023	MO_250	01-AUG-2016 22:51	S30320
L3	214a024	166308614024	MO_500	01-AUG-2016 23:19	S30321
L4	214a025	166308614025	MO_1000	01-AUG-2016 23:47	S30322
L5	214a026	166308614026	MO_2500	02-AUG-2016 00:15	S30318 (2X)
L6	214a027	166308614027	MO_5000	02-AUG-2016 00:43	S30318

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	50207	39795	38891	37866	35314	33491	AVRG		2.55E-5		39261	15	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	**28**	250.00	1	500.00	-1	1000.0	-4	2500.0	-10	5000.0	-15

RDG 08/02/16 : Corrected automatically drawn baseline in all levels.

Analyst: RDG Date: 08/02/16 Reviewer: EAH Date: 08/02/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281460 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 166380592001
Units : mg/L

Name : DSL_264
Date : 20-SEP-2016 13:25
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	264b012	166380592012	DSL_10	20-SEP-2016 13:25	S30713
L2	264b013	166380592013	DSL_100	20-SEP-2016 13:53	S30714
L3	264b014	166380592014	DSL_500	20-SEP-2016 14:21	S30715
L4	264b015	166380592015	DSL_1000	20-SEP-2016 14:48	S30716
L5	264b016	166380592016	DSL_5000	20-SEP-2016 15:16	S29858

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	41438	45207	48738	49151	48605	AVRG		2.14E-5		46628	7	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	-11	100.00	-3	500.00	5	1000.0	5	5000.0	4

RDG 09/21/16 : Corrected automatically drawn baseline in multiple levels.

RDG: 09/21/16 BOY: 09/21/16 EAH: 09/21/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281460 GCSV Soil
EPA 8015B

Inst : GC15B
Calnum : 166380592001

Name : DSL_264
Cal Date : 20-SEP-2016

ICV 166380592018 (264b018 20-SEP-2016) stds: S30513

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	493.9	mg/L	-1	15	

Analyst: RDG Date: 09/21/16 Reviewer: EAH Date: 09/21/16

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281460 GCSV Soil: EPA 8015B

Inst : GC26A
Calnum : 866308612001
Units : mg/L

Name : OTPHEX_214
Date : 01-AUG-2016 15:22
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	214a011	866308612011	HEXOTP_5	01-AUG-2016 15:22	S29899
L2	214a012	866308612012	HEXOTP_10	01-AUG-2016 15:50	S29900
L3	214a013	866308612013	HEXOTP_25	01-AUG-2016 16:19	S29901
L4	214a014	866308612014	HEXOTP_50	01-AUG-2016 16:47	S29902
L5	214a015	866308612015	HEXOTP_100	01-AUG-2016 17:15	S29903
L6	214a016	866308612016	HEXOTP_200	01-AUG-2016 17:44	S29904

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	78524	80573	80967	84072	88593	87716	AVRG		1.20E-5		83408	5	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	-6	10.000	-3	25.000	-3	50.000	1	100.00	6	200.00	5

JDG 08/02/16 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 08/02/16 Reviewer: EAH Date: 08/02/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281460 GCSV Soil: EPA 8015B

Inst : GC26A
Calnum : 866321635001
Units : mg/L

Name : DSL_223
Date : 10-AUG-2016 13:05
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	223a007	866321635007	DSL_10	10-AUG-2016 13:05	S29863
L2	223a008	866321635008	DSL_100	10-AUG-2016 13:33	S29864
L3	223a009	866321635009	DSL_500	10-AUG-2016 14:02	S29865
L4	223a010	866321635010	DSL_1000	10-AUG-2016 14:30	S29866
L5	223a011	866321635011	DSL_5000	10-AUG-2016 14:58	S29858

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	96382	88849	76336	83350	82900	AVRG		1.17E-5		85563	9	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	13	100.00	4	500.00	-11	1000.0	-3	5000.0	-3

BJP 08/10/16 : Corrected automatically drawn baseline in all levels.

Analyst: RDG Date: 08/12/16 Reviewer: EAH Date: 08/12/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281460 GCSV Soil
EPA 8015B

Inst : GC26A Name : DSL_223
Calnum : 866321635001 Cal Date : 10-AUG-2016

ICV 866321635013 (223a013 10-AUG-2016) stds: S30513

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	434.0	mg/L	-13	15	

Analyst: RDG Date: 08/12/16 Reviewer: EAH Date: 08/12/16

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281460 GCSV Soil: EPA 8015B

Inst : GC26A
Calnum : 866383764001
Units : mg/L

Name : MO_266
Date : 22-SEP-2016 17:34
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	266a009	866383764009	MO_50	22-SEP-2016 17:34	S30319
L2	266a010	866383764010	MO_250	22-SEP-2016 18:02	S30320
L3	266a011	866383764011	MO_500	22-SEP-2016 18:31	S30321
L4	266a012	866383764012	MO_1000	22-SEP-2016 18:59	S30322
L5	266a013	866383764013	MO_2500	22-SEP-2016 19:27	S30318 (2X)
L6	266a014	866383764014	MO_5000	22-SEP-2016 19:56	S30318

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	50370	50954	52033	44107	37891	43344	AVRG		2.15E-5		46450	12	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	8	250.00	10	500.00	12	1000.0	-5	2500.0	-18	5000.0	-7

Analyst: NLL Date: 09/27/16 Reviewer: EAH Date: 09/27/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

866383764001

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 166392773004 File : 273b004 Time : 28-SEP-2016 19:37
Standards: S30797

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	166308614002	01-AUG-2016	39261	40291	500.0	513.1	mg/L	3	15	
o-Terphenyl	166308614001	01-AUG-2016	60157	67217	50.00	55.87	mg/L	12	15	

RDG 09/29/16 : Corrected automatically drawn baseline.

Analyst: RDG Date: 09/30/16 Reviewer: EAH Date: 09/30/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : DSL_500 IDF : 1.0
Seqnum : 166392773005 File : 273b005 Time : 28-SEP-2016 20:05
Standards: S30799

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	166380592001	20-SEP-2016	46628	53337	500.0	571.9	mg/L	14	15	
o-Terphenyl	166308614001	01-AUG-2016	60157	67225	50.00	55.87	mg/L	12	15	

RDG 09/29/16 : Corrected automatically drawn baseline.

Analyst: RDG Date: 09/30/16 Reviewer: EAH Date: 09/30/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : DSL_250 IDF : 1.0
Seqnum : 166392773018 File : 273b018 Time : 29-SEP-2016 12:49
Standards: S30512

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	166380592001	20-SEP-2016	46628	50819	250.0	272.5	mg/L	9	15	
o-Terphenyl	166308614001	01-AUG-2016	60157	64226	50.00	53.38	mg/L	7	15	

BOY 09/29/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/29/16 Reviewer: EAH Date: 09/30/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 166392773019 File : 273b019 Time : 29-SEP-2016 13:17
Standards: S30797

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	166308614002	01-AUG-2016	39261	40189	500.0	511.8	mg/L	2	15	
o-Terphenyl	166308614001	01-AUG-2016	60157	65421	50.00	54.38	mg/L	9	15	

BOY 09/29/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/29/16 Reviewer: EAH Date: 09/30/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 GCSV Soil
EPA 8015B

Inst : GC26A Run Name : MO_500 IDF : 1.0
Seqnum : 866392075003 File : 272a003 Time : 28-SEP-2016 07:32
Standards: S30797

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	866383764001	22-SEP-2016	46450	43377	500.0	466.9	mg/L	-7	15	
o-Terphenyl	866308612001	01-AUG-2016	83408	83247	50.00	49.90	mg/L	0	15	

RDG 09/28/16 : Corrected automatically drawn baseline.

Analyst: RDG Date: 09/28/16 Reviewer: EAH Date: 09/28/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 GCSV Soil
EPA 8015B

Inst : GC26A Run Name : DSL_500 IDF : 1.0
Seqnum : 866392075004 File : 272a004 Time : 28-SEP-2016 08:00
Standards: S30799

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	866321635001	10-AUG-2016	85563	74794	500.0	437.1	mg/L	-13	15	
o-Terphenyl	866308612001	01-AUG-2016	83408	84295	50.00	50.53	mg/L	1	15	

RDG 09/28/16 : Corrected automatically drawn baseline.

Analyst: RDG Date: 09/28/16 Reviewer: EAH Date: 09/28/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 GCSV Soil
EPA 8015B

Inst : GC26A Run Name : MO_500 IDF : 1.0
Seqnum : 866392075016 File : 272a016 Time : 28-SEP-2016 14:19
Standards: S30797

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	866383764001	22-SEP-2016	46450	43612	500.0	469.4	mg/L	-6	15	
o-Terphenyl	866308612001	01-AUG-2016	83408	84201	50.00	50.48	mg/L	1	15	

BOY 09/28/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/28/16 Reviewer: EAH Date: 09/28/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 GCSV Soil
EPA 8015B

Inst : GC26A Run Name : DSL_250 IDF : 1.0
Seqnum : 866392075017 File : 272a017 Time : 28-SEP-2016 14:47
Standards: S30512

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	866321635001	10-AUG-2016	85563	77110	250.0	225.3	mg/L	-10	15	
o-Terphenyl	866308612001	01-AUG-2016	83408	83744	50.00	50.20	mg/L	0	15	

BOY 09/28/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/28/16 Reviewer: EAH Date: 09/28/16

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 166308614

Instrument : GC15B Begun : 08/01/16 07:34
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	214a001	X	IB			08/01/16 07:34	1.0		
002	214a002	X	CMARKER			08/01/16 08:02	1.0	1	
003	214a003	X	CCV			08/01/16 08:37	1.0	2	
004	214a004	X	CCV			08/01/16 09:05	1.0	3	
005	214a005	IB	CALIB			08/01/16 14:31	1.0		
006	214a006	ICAL	HEXOTP_5			08/01/16 14:59	1.0	4	
007	214a007	ICAL	HEXOTP_10			08/01/16 15:26	1.0	5	
008	214a008	ICAL	HEXOTP_25			08/01/16 15:54	1.0	6	
009	214a009	ICAL	HEXOTP_50			08/01/16 16:22	1.0	7	
010	214a010	ICAL	HEXOTP_100			08/01/16 16:49	1.0	8	
011	214a011	ICAL	HEXOTP_200			08/01/16 17:17	1.0	9	
012	214a012	IB	CALIB			08/01/16 17:45	1.0		
013	214a013	X	DSL_10			08/01/16 18:13	1.0	10	
014	214a014	ICAL	DSL_100			08/01/16 18:40	1.0	11	
015	214a015	ICAL	DSL_500			08/01/16 19:08	1.0	12	
016	214a016	ICAL	DSL_1000			08/01/16 19:36	1.0	13	
017	214a017	ICAL	DSL_5000			08/01/16 20:04	1.0	14	
018	214a018	IB	CALIB			08/01/16 20:31	1.0		
019	214a019	ICV	DSL_500			08/01/16 20:59	1.0	15	
020	214a020	X	ICV			08/01/16 21:27	1.0	15	
021	214a021	IB	CALIB			08/01/16 21:55	1.0		
022	214a022	ICAL	MO_50			08/01/16 22:23	1.0	16	
023	214a023	ICAL	MO_250			08/01/16 22:51	1.0	17	
024	214a024	ICAL	MO_500			08/01/16 23:19	1.0	18	
025	214a025	ICAL	MO_1000			08/01/16 23:47	1.0	19	
026	214a026	ICAL	MO_2500			08/02/16 00:15	1.0	20	
027	214a027	ICAL	MO_5000			08/02/16 00:43	1.0	20	
028	214a028	IB	CALIB			08/02/16 01:11	1.0		
029	214a029	ICAL	JP5_10			08/02/16 01:39	1.0	21	
030	214a030	ICAL	JP5_100			08/02/16 02:07	1.0	22	
031	214a031	ICAL	JP5_500			08/02/16 02:35	1.0	23	
032	214a032	ICAL	JP5_1500			08/02/16 03:03	1.0	24	
033	214a033	ICAL	JP5_2500			08/02/16 03:31	1.0	25	
034	214a034	X	JP5_5000			08/02/16 03:59	1.0	26	
035	214a035	IB	CALIB			08/02/16 04:27	1.0		
036	214a036	CMARKER	C8-C50			08/02/16 04:55	1.0	1	
037	214a037	IB	CALIB			08/02/16 05:23	1.0		
038	214a038	ICAL	DSL_10			08/02/16 12:12	1.0	10	
039	214a039	IB	CALIB			08/02/16 12:39	1.0		

RDG 08/02/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 39.

Standards used: 1=S29702 2=S29874 3=S30068 4=S29899 5=S29900 6=S29901 7=S29902 8=S29903 9=S29904 10=S29863 11=S29864 12=S29865 13=S29866 14=S29858 15=S30130 16=S30319 17=S30320 18=S30321 19=S30322 20=S30318 21=S30505 22=S30506 23=S30507 24=S30508 25=S30509 26=S30199

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 166380592

Instrument : GC15B Begun : 09/20/16 07:12
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	264b001	X	IB			09/20/16 07:12	1.0		
002	264b002	X	CMARKER			09/20/16 07:40	1.0	1	
003	264b003	X	CCV			09/20/16 08:08	1.0	2	
004	264b004	X	CCV			09/20/16 08:36	1.0	3	
005	264b005	X	CCV			09/20/16 09:04	1.0	3	
006	264b006	X	CCV			09/20/16 09:33	1.0	4	
007	264b007	CHECK	GRANULAR			09/20/16 11:05	1.0		
008	264b008	CHECK	POWDER			09/20/16 11:33	1.0		
009	264b009	X	IB			09/20/16 12:01	1.0		
010	264b010	X	IB			09/20/16 12:29	1.0		
011	264b011	IB	CALIB			09/20/16 12:57	1.0		
012	264b012	ICAL	DSL_10			09/20/16 13:25	1.0	5	
013	264b013	ICAL	DSL_100			09/20/16 13:53	1.0	6	
014	264b014	ICAL	DSL_500			09/20/16 14:21	1.0	7	
015	264b015	ICAL	DSL_1000			09/20/16 14:48	1.0	8	
016	264b016	ICAL	DSL_5000			09/20/16 15:16	1.0	9	
017	264b017	IB	CALIB			09/20/16 15:44	1.0		
018	264b018	ICV	DSL_500			09/20/16 16:12	1.0	10	
019	264b019	X	ICV			09/20/16 16:40	1.0	10	
020	264b020	IB	CALIB			09/20/16 17:08	1.0		
021	264b021	CMARKER	C8-C50			09/20/16 17:35	1.0	1	
022	264b022	IB	CALIB			09/20/16 18:03	1.0		

RDG 09/21/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Standards used: 1=S30168 2=S30797 3=S30799 4=S30514 5=S30713 6=S30714 7=S30715 8=S30716 9=S29858 10=S30513

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 166392773

Instrument : GC15B Begun : 09/28/16 18:13
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	273b001	X	IB				09/28/16 18:13	1.0		
002	273b002	X	IB				09/28/16 18:41	1.0		
003	273b003	CMARKER	C8-C50				09/28/16 19:09	1.0	1	
004	273b004	CCV	MO_500				09/28/16 19:37	1.0	2	
005	273b005	CCV	DSL_500				09/28/16 20:05	1.0	3	
006	273b006	LOD	207488-036		Soil	239567	09/29/16 06:49	1.0		
007	273b007	SAMPLE	281442-001	S	Soil	239567	09/29/16 07:40	1.0		
008	273b008	SAMPLE	281321-007	S	Water	239491	09/29/16 08:08	1.0		
009	273b009	SAMPLE	281322-001	S	Water	239491	09/29/16 08:37	1.0		
010	273b010	SAMPLE	281511-006		Soil	239567	09/29/16 09:05	1.0		
011	273b011	SAMPLE	281421-001	S	Soil	239567	09/29/16 09:33	1.0		
012	273b012	SAMPLE	281460-003		Soil	239567	09/29/16 10:01	1.0		
013	273b013	SAMPLE	281460-008		Soil	239567	09/29/16 10:29	1.0		
014	273b014	SAMPLE	281460-013		Soil	239567	09/29/16 10:57	1.0		
015	273b015	SAMPLE	281460-020		Soil	239567	09/29/16 11:25	2.0		
016	273b016	X	IB				09/29/16 11:53	1.0		
017	273b017	X	MO_500				09/29/16 12:21	1.0	2	
018	273b018	CCV	DSL_250				09/29/16 12:49	1.0	4	
019	273b019	CCV	MO_500				09/29/16 13:17	1.0	2	
020	273b020	X	CMARKER				09/29/16 13:45	1.0	1	
021	273b021	SAMPLE	281321-002		Water	239491	09/29/16 14:38	1.0		
022	273b022	SAMPLE	281321-003		Water	239491	09/29/16 15:05	1.0		
023	273b023	SAMPLE	281321-004		Water	239491	09/29/16 15:33	1.0		
024	273b024	SAMPLE	281321-005		Water	239491	09/29/16 16:01	1.0		
025	273b025	SAMPLE	281321-006		Water	239491	09/29/16 16:29	1.0		
026	273b026	SAMPLE	281321-007		Water	239491	09/29/16 16:56	1.0		
027	273b027	SAMPLE	280903-002		Water	239189	09/29/16 17:24	1.0		
028	273b028	SAMPLE	281285-002		Water	239451	09/29/16 17:52	1.0		
029	273b029	SAMPLE	281243-014		Water	239409	09/29/16 18:20	1.0		
030	273b030	SAMPLE	280839-010		Water	239187	09/29/16 18:47	10.0		
031	273b031	X	IB				09/29/16 19:15	1.0		
032	273b032	CCV	MO_500				09/29/16 19:43	1.0	2	
033	273b033	CCV	DSL_1000				09/29/16 20:11	1.0	5	
034	273b034	X	CCV				09/29/16 20:39	1.0	2	
035	273b035	X	CCV				09/29/16 21:07	1.0	5	
036	273b036	X	CMARKER				09/29/16 21:35	1.0	1	
037	273b037	SAMPLE	281459-001	S	Soil	239556	09/29/16 22:04	1.0		
038	273b038	SAMPLE	281459-002	S	Soil	239556	09/29/16 22:32	1.0		
039	273b039	SAMPLE	281459-003	S	Soil	239556	09/29/16 23:00	1.0		
040	273b040	SAMPLE	281459-004	S	Soil	239556	09/29/16 23:28	1.0		
041	273b041	SAMPLE	281459-005	S	Soil	239556	09/29/16 23:56	1.0		
042	273b042	SAMPLE	281459-006	S	Soil	239556	09/30/16 00:24	1.0		
043	273b043	SAMPLE	280996-004		Soil	239556	09/30/16 00:52	1.0		sh
044	273b044	SAMPLE	281451-001		Soil	239556	09/30/16 01:20	1.0		
045	273b045	SAMPLE	281453-001		Soil	239556	09/30/16 01:48	1.0		
046	273b046	SAMPLE	281455-001		Soil	239556	09/30/16 02:16	1.0		
047	273b047	X	IB				09/30/16 02:44	1.0		
048	273b048	CCV	MO_500				09/30/16 03:12	1.0	2	
049	273b049	CCV	DSL_500				09/30/16 03:40	1.0	3	
050	273b050	X	CCV				09/30/16 04:08	1.0	2	
051	273b051	X	CCV				09/30/16 04:35	1.0	3	
052	273b052	X	CMARKER				09/30/16 05:03	1.0	1	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 166392773

Instrument : GC15B
Method : EPA 8015B

Begun : 09/28/16 18:13
SOP Version : TEH_rv19

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
053	273b053	SAMPLE	281277-002		Water	239491	09/30/16 05:31	1.0		
054	273b054	SAMPLE	281277-003		Water	239491	09/30/16 05:59	1.0		
055	273b055	SAMPLE	281277-004		Water	239491	09/30/16 06:27	1.0		
056	273b056	SAMPLE	281277-005		Water	239491	09/30/16 06:56	1.0		
057	273b057	SAMPLE	281277-006		Water	239491	09/30/16 07:24	1.0		
058	273b058	SAMPLE	281277-007		Water	239491	09/30/16 07:52	1.0		
059	273b059	SAMPLE	281278-001		Water	239491	09/30/16 08:20	1.0		
060	273b060	SAMPLE	281322-001		Water	239491	09/30/16 08:48	1.0		
061	273b061	SAMPLE	281516-026		Soil	239567	09/30/16 09:16	1.0		
062	273b062	SAMPLE	281568-009		Soil	239614	09/30/16 09:45	1.0		9:BUNKC:10-40=47000
063	273b063	X	IB				09/30/16 10:13	1.0		
064	273b064	CCV	MO_500				09/30/16 10:51	1.0	2	
065	273b065	CCV	DSL_250				09/30/16 11:19	1.0	4	
066	273b066	X	CMARKER				09/30/16 11:47	1.0	1	
067	273b067	CHECK	CCV				09/30/16 12:15	1.0	3	
068	273b068	CHECK	CCV				09/30/16 12:43	1.0	5	
069	273b069	SAMPLE	281297-001		Water	239609	09/30/16 13:24	1.0		
070	273b070	SAMPLE	281562-005	S	Water	239609	09/30/16 13:52	1.0		
071	273b071	BS	QC853525	S	Water	239609	09/30/16 14:32	1.0		
072	273b072	BSD	QC853526	S	Water	239609	09/30/16 15:00	1.0		
073	273b073	SAMPLE	281297-001		Water	239609	09/30/16 15:27	1.0		
074	273b074	CCV	MO_500				09/30/16 15:56	1.0	2	
075	273b075	CCV	DSL_500				09/30/16 16:24	1.0	3	

RDG 09/29/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 5.

BOY 09/30/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 6 through 75.

Standards used: 1=S30168 2=S30797 3=S30799 4=S30512 5=S30800

Flags used: sh=out of sample hold

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 866308612

Instrument : GC26A Begun : 08/01/16 07:32
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	214a001	X	IB				08/01/16 07:32	1.0		
002	214a002	X	CMARKER				08/01/16 08:01	1.0	1	
003	214a003	CCV	MO_500				08/01/16 08:29	1.0	2	
004	214a004	CCV	DSL_1000				08/01/16 08:58	1.0	3	
005	214a005	BS	QC845175	S	Water	237524	08/01/16 12:16	1.0		
006	214a006	BSD	QC845176	S	Water	237524	08/01/16 12:44	1.0		
007	214a007	SAMPLE	279130-002	S	Water	237524	08/01/16 13:12	1.0		
008	214a008	CCV	MO_500				08/01/16 13:41	1.0	2	
009	214a009	CCV	DSL_500				08/01/16 14:09	1.0	4	
010	214a010	IB	CALIB				08/01/16 14:53	1.0		
011	214a011	ICAL	HEXOTP_5				08/01/16 15:22	1.0	5	
012	214a012	ICAL	HEXOTP_10				08/01/16 15:50	1.0	6	
013	214a013	ICAL	HEXOTP_25				08/01/16 16:19	1.0	7	
014	214a014	ICAL	HEXOTP_50				08/01/16 16:47	1.0	8	
015	214a015	ICAL	HEXOTP_100				08/01/16 17:15	1.0	9	
016	214a016	ICAL	HEXOTP_200				08/01/16 17:44	1.0	10	
017	214a017	IB	CALIB				08/01/16 18:12	1.0		
018	214a018	X	CMARKER				08/01/16 18:41	1.0	1	

JDG 08/01/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 9.

JDG 08/02/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 10 through 18.

Standards used: 1=S29702 2=S30068 3=S29874 4=S30130 5=S29899 6=S29900 7=S29901 8=S29902 9=S29903 10=S29904

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 866321635

Instrument : GC26A Begun : 08/10/16 08:35
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	223a001	X	IB			08/10/16 08:35	1.0		
002	223a002	X	CMARKER			08/10/16 09:03	1.0	1	
003	223a003	CCV	MO_500			08/10/16 09:32	1.0	2	
004	223a004	CCV	DSL_1000			08/10/16 10:01	1.0	3	
005	223a005	X	IB			08/10/16 12:08	1.0		
006	223a006	IB	CALIB			08/10/16 12:37	1.0		
007	223a007	ICAL	DSL_10			08/10/16 13:05	1.0	4	
008	223a008	ICAL	DSL_100			08/10/16 13:33	1.0	5	
009	223a009	ICAL	DSL_500			08/10/16 14:02	1.0	6	
010	223a010	ICAL	DSL_1000			08/10/16 14:30	1.0	7	
011	223a011	ICAL	DSL_5000			08/10/16 14:58	1.0	8	
012	223a012	IB	CALIB			08/10/16 15:26	1.0		
013	223a013	ICV	DSL_500			08/10/16 15:55	1.0	9	
014	223a014	X	ICV			08/10/16 16:23	1.0	9	
015	223a015	IB	CALIB			08/10/16 16:52	1.0		
016	223a016	ICAL	MO_50			08/10/16 17:20	1.0	10	
017	223a017	ICAL	MO_250			08/10/16 17:48	1.0	11	
018	223a018	ICAL	MO_500			08/10/16 18:17	1.0	12	
019	223a019	ICAL	MO_1000			08/10/16 18:45	1.0	13	
020	223a020	ICAL	MO_2500			08/10/16 19:14	1.0	14	
021	223a021	ICAL	MO_5000			08/10/16 19:42	1.0	14	
022	223a022	IB	CALIB			08/10/16 20:11	1.0		
023	223a023	CMARKER	C8-C50			08/10/16 20:39	1.0	1	
024	223a024	IB	CALIB			08/11/16 15:26	1.0		
025	223a025	CHECK	TANK			08/11/16 15:54	1.0		
026	223a026	CHECK	TANK			08/11/16 16:22	1.0		

RDG 08/12/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 26.

Standards used: 1=S29702 2=S30068 3=S29874 4=S29863 5=S29864 6=S29865 7=S29866 8=S29858 9=S30513 10=S30319 11=S30320 12=S30321 13=S30322 14=S30318

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 866383764

Instrument : GC26A Begun : 09/22/16 12:04
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	266a001	X	IB			09/22/16 12:04	1.0		
002	266a002	X	IB			09/22/16 12:33	1.0		
003	266a003	X	C8-C50			09/22/16 13:01	1.0	1	
004	266a004	CCV	MO_500			09/22/16 13:29	1.0	2	
005	266a005	CCV	DSL_1000			09/22/16 13:58	1.0	3	
006	266a006	CCV	MO_500			09/22/16 14:50	1.0	2	
007	266a007	IB	CALIB			09/22/16 16:37	1.0		
008	266a008	X	IB			09/22/16 17:05	1.0		
009	266a009	ICAL	MO_50			09/22/16 17:34	1.0	4	
010	266a010	ICAL	MO_250			09/22/16 18:02	1.0	5	
011	266a011	ICAL	MO_500			09/22/16 18:31	1.0	6	
012	266a012	ICAL	MO_1000			09/22/16 18:59	1.0	7	
013	266a013	ICAL	MO_2500			09/22/16 19:27	1.0	8	
014	266a014	ICAL	MO_5000			09/22/16 19:56	1.0	8	
015	266a015	X	IB			09/22/16 20:24	1.0		
016	266a016	CMARKER	C8-C50			09/22/16 20:53	1.0	1	

NLL 09/22/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 5.

NLL 09/23/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 6 through 16.

Standards used: 1=S30168 2=S30797 3=S30514 4=S30319 5=S30320 6=S30321 7=S30322 8=S30318

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 866392075

Instrument : GC26A Begun : 09/28/16 06:35
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	272a001	X	IB				09/28/16 06:35	1.0		
002	272a002	X	CMARKER				09/28/16 07:03	1.0	1	
003	272a003	CCV	MO_500				09/28/16 07:32	1.0	2	
004	272a004	CCV	DSL_500				09/28/16 08:00	1.0	3	
005	272a005	CHECK	TANK				09/28/16 08:37	1.0		
006	272a006	CHECK	TANK				09/28/16 09:05	1.0		
007	272a007	CHECK	TANK				09/28/16 09:34	1.0		
008	272a008	X	CCV				09/28/16 10:03	1.0	4	
009	272a009	LOD	203815-027		Water	237611	09/28/16 10:32	1.0		eh
010	272a010	LCS	QC851885		Water	239189	09/28/16 11:04	1.0		1:BUNKC:12-40=5100
011	272a011	LCS	QC852184		Water	239261	09/28/16 11:33	1.0		
012	272a012	BLANK	QC853363		Soil	239567	09/28/16 12:19	1.0		
013	272a013	LCS	QC853364		Soil	239567	09/28/16 12:48	1.0		
014	272a014	LOD	207488-036		Soil	239567	09/28/16 13:16	1.0		
015	272a015	SAMPLE	280922-002	S	Water	239309	09/28/16 13:45	1.0		
016	272a016	CCV	MO_500				09/28/16 14:19	1.0	2	
017	272a017	CCV	DSL_250				09/28/16 14:47	1.0	5	
018	272a018	CCV	JP5_250				09/28/16 15:16	1.0	4	
019	272a019	X	CMARKER				09/28/16 16:01	1.0	1	
020	272a020	CHECK	TEHSURR				09/28/16 16:29	1.0	6	
021	272a021	SAMPLE	281459-007	S	Soil	239556	09/28/16 16:57	1.0		
022	272a022	SAMPLE	281459-008	S	Soil	239556	09/28/16 17:26	1.0		2:BUNKC:12-40=5400
023	272a023	SAMPLE	281459-009	S	Soil	239556	09/28/16 17:55	1.0		
024	272a024	SAMPLE	281459-010	S	Soil	239556	09/28/16 18:23	1.0		
025	272a025	SAMPLE	281459-011	S	Soil	239556	09/28/16 18:52	1.0		
026	272a026	SAMPLE	281459-012	S	Soil	239556	09/28/16 19:20	1.0		
027	272a027	SAMPLE	281459-013	S	Soil	239556	09/28/16 19:49	1.0		
028	272a028	SAMPLE	281459-014	S	Soil	239556	09/28/16 20:18	1.0		
029	272a029	SAMPLE	281277-002	S	Water	239491	09/28/16 20:46	1.0		
030	272a030	SAMPLE	281277-003	S	Water	239491	09/28/16 21:15	1.0		
031	272a031	X	IB				09/28/16 21:44	1.0		
032	272a032	CCV	MO_500				09/28/16 22:12	1.0	2	
033	272a033	CCV	DSL_500				09/28/16 22:41	1.0	3	
034	272a034	X	CCV				09/28/16 23:10	1.0	2	
035	272a035	X	CCV				09/28/16 23:38	1.0	3	
036	272a036	X	CMARKER				09/29/16 00:07	1.0	1	
037	272a037	SAMPLE	281277-004	S	Water	239491	09/29/16 00:35	1.0		
038	272a038	SAMPLE	281277-005	S	Water	239491	09/29/16 01:03	1.0		
039	272a039	SAMPLE	281277-006	S	Water	239491	09/29/16 01:32	1.0		
040	272a040	SAMPLE	281277-007	S	Water	239491	09/29/16 02:00	1.0		
041	272a041	SAMPLE	281278-001	S	Water	239491	09/29/16 02:28	1.0		
042	272a042	SAMPLE	281321-002	S	Water	239491	09/29/16 02:56	1.0		
043	272a043	SAMPLE	281321-003	S	Water	239491	09/29/16 03:25	1.0		
044	272a044	SAMPLE	281321-004	S	Water	239491	09/29/16 03:53	1.0		
045	272a045	SAMPLE	281321-005	S	Water	239491	09/29/16 04:21	1.0		
046	272a046	SAMPLE	281321-006	S	Water	239491	09/29/16 04:50	1.0		
047	272a047	X	IB				09/29/16 05:18	1.0		
048	272a048	CCV	MO_500				09/29/16 05:46	1.0	2	
049	272a049	CCV	DSL_1000				09/29/16 06:15	1.0	7	
050	272a050	X	CMARKER				09/29/16 06:58	1.0	1	
051	272a051	BLANK	QC853541		Soil	239614	09/29/16 07:27	1.0		
052	272a052	LCS	QC853542		Soil	239614	09/29/16 07:55	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 866392075

Instrument : GC26A Begun : 09/28/16 06:35
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
053	272a053	MSS	281539-001		Soil	239614	09/29/16 08:24	1.0		
054	272a054	MS	QC853543		Soil	239614	09/29/16 08:53	1.0		
055	272a055	MSD	QC853544		Soil	239614	09/29/16 09:22	1.0		
056	272a056	MSS	281496-001		Soil	239567	09/29/16 09:50	1.0		
057	272a057	SAMPLE	281538-001		Soil	239614	09/29/16 10:19	1.0		2:BUNKC:12-40=8500
058	272a058	X	IB				09/29/16 10:48	1.0		
059	272a059	CCV	MO_500				09/29/16 11:17	1.0	2	
060	272a060	CCV	DSL_500				09/29/16 11:46	1.0	3	
061	272a061	X	CMARKER				09/29/16 12:15	1.0	1	
062	272a062	SAMPLE	280922-016	S	Water	239145	09/29/16 12:43	1.0		
063	272a063	MS	QC853411		Soil	239567	09/29/16 13:12	1.0		
064	272a064	MSD	QC853412		Soil	239567	09/29/16 13:41	1.0		
065	272a065	SAMPLE	281528-001		Soil	239614	09/29/16 14:09	1.0		3:BUNKC:12-40=11000
066	272a066	SAMPLE	281528-002		Soil	239614	09/29/16 14:38	1.0		11:BUNKC:12-40=280000
067	272a067	SAMPLE	281536-001		Soil	239614	09/29/16 15:06	1.0		2:BUNKC:12-40=6500
068	272a068	SAMPLE	281243-014	S	Water	239409	09/29/16 15:35	1.0		
069	272a069	SAMPLE	281254-009	S	Water	239451	09/29/16 16:03	1.0		
070	272a070	SAMPLE	281285-002	S	Water	239451	09/29/16 16:32	1.0		
071	272a071	SAMPLE	281516-024		Soil	239567	09/29/16 17:00	1.0		
072	272a072	X	IB				09/29/16 17:28	1.0		
073	272a073	CCV	MO_500				09/29/16 17:57	1.0	2	
074	272a074	CCV	DSL_1000				09/29/16 18:25	1.0	7	
075	272a075	X	CMARKER				09/29/16 18:55	1.0	1	
076	272a076	BLANK	QC853541	S	Soil	239614	09/29/16 19:24	1.0		
077	272a077	LCS	QC853542	S	Soil	239614	09/29/16 19:52	1.0		
078	272a078	SAMPLE	281563-001	S	Miscell.	239614	09/29/16 20:21	1.0		
079	272a079	SAMPLE	281528-002		Soil	239614	09/29/16 20:50	20.0		3:BUNKC:12-40=13000
080	272a080	SAMPLE	281563-002	S	Soil	239614	09/29/16 21:18	3.0		
081	272a081	SAMPLE	281563-003	S	Soil	239614	09/29/16 21:47	3.0		
082	272a082	SAMPLE	281563-002		Soil	239614	09/29/16 22:15	3.0		
083	272a083	SAMPLE	281563-003		Soil	239614	09/29/16 22:44	3.0		
084	272a084	X	IB				09/29/16 23:13	1.0		
085	272a085	SAMPLE	281567-001	S	Soil	239614	09/29/16 23:41	2.0		
086	272a086	SAMPLE	281567-002	S	Soil	239614	09/30/16 00:10	2.0		
087	272a087	SAMPLE	281567-003	S	Soil	239614	09/30/16 00:38	5.0		
088	272a088	SAMPLE	281567-004	S	Soil	239614	09/30/16 01:06	5.0		
089	272a089	X	IB				09/30/16 01:35	1.0		
090	272a090	CCV	MO_500				09/30/16 02:03	1.0	2	
091	272a091	CCV	DSL_500				09/30/16 02:31	1.0	3	
092	272a092	X	CCV				09/30/16 02:59	1.0	2	
093	272a093	X	CCV				09/30/16 03:28	1.0	3	
094	272a094	X	CMARKER				09/30/16 03:56	1.0	1	
095	272a095	MS	QC853411		Soil	239567	09/30/16 04:24	1.0		
096	272a096	MSD	QC853412		Soil	239567	09/30/16 04:52	1.0		
097	272a097	SAMPLE	281564-005		Soil	239652	09/30/16 05:21	1.0		2:BUNKC:10-40=11000
098	272a098	SAMPLE	281564-006		Soil	239652	09/30/16 05:49	1.0		
099	272a099	SAMPLE	281564-007		Soil	239652	09/30/16 06:17	1.0		
100	272a100	SAMPLE	281564-008		Soil	239652	09/30/16 06:46	1.0		1:BUNKC:10-40=5000
101	272a101	SAMPLE	281564-009		Soil	239652	09/30/16 07:15	1.0		
102	272a102	SAMPLE	281564-010		Soil	239652	09/30/16 07:44	1.0		
103	272a103	SAMPLE	281564-011		Soil	239652	09/30/16 08:12	1.0		
104	272a104	SAMPLE	281564-012		Soil	239652	09/30/16 08:41	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 866392075

Instrument : GC26A Begun : 09/28/16 06:35
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
105	272a105	X	IB				09/30/16 09:10	1.0		
106	272a106	CCV	MO_500				09/30/16 09:38	1.0	2	
107	272a107	CCV	DSL_1000				09/30/16 10:07	1.0	7	
108	272a108	X	CMARKER				09/30/16 10:35	1.0	1	
109	272a109	SAMPLE	280670-002		Water	239056	09/30/16 11:04	1.0		
110	272a110	SAMPLE	281563-001	S	Miscell.	239614	09/30/16 11:36	1.0		
111	272a111	SAMPLE	281500-001		Water	239609	09/30/16 12:20	1.0		
112	272a112	CCV	MO_500				09/30/16 13:11	1.0	2	
113	272a113	CCV	DSL_500				09/30/16 13:39	1.0	3	
114	272a114	SAMPLE	281564-001	S	Soil	239652	09/30/16 14:24	1.0		
115	272a115	SAMPLE	281564-002	S	Soil	239652	09/30/16 14:52	1.0		
116	272a116	SAMPLE	281564-003	S	Soil	239652	09/30/16 15:20	1.0		
117	272a117	SAMPLE	281564-004	S	Soil	239652	09/30/16 15:48	1.0		
118	272a118	SAMPLE	281564-005	S	Soil	239652	09/30/16 16:16	1.0		2:BUNKC:10-40=7900
119	272a119	SAMPLE	281564-006	S	Soil	239652	09/30/16 16:45	1.0		
120	272a120	SAMPLE	281564-007	S	Soil	239652	09/30/16 17:13	1.0		
121	272a121	SAMPLE	281564-008	S	Soil	239652	09/30/16 17:41	1.0		
122	272a122	SAMPLE	281564-009	S	Soil	239652	09/30/16 18:09	1.0		
123	272a123	SAMPLE	281564-010	S	Soil	239652	09/30/16 18:37	1.0		
124	272a124	X	IB				09/30/16 19:06	1.0		
125	272a125	CCV	MO_500				09/30/16 19:34	1.0	2	
126	272a126	CCV	DSL_1000				09/30/16 20:03	1.0	7	
127	272a127	X	CCV				09/30/16 20:31	1.0	2	
128	272a128	X	CCV				09/30/16 21:00	1.0	7	
129	272a129	X	CMARKER				09/30/16 21:28	1.0	1	
130	272a130	BLANK	QC853695	S	Soil	239652	09/30/16 21:57	1.0		
131	272a131	LCS	QC853696	S	Soil	239652	09/30/16 22:25	1.0		
132	272a132	SAMPLE	281254-001	S	Water	239609	09/30/16 22:54	1.0		
133	272a133	SAMPLE	281254-002	S	Water	239609	09/30/16 23:22	1.0		
134	272a134	SAMPLE	281564-011	S	Soil	239652	09/30/16 23:50	1.0		
135	272a135	SAMPLE	281564-012	S	Soil	239652	10/01/16 00:19	1.0		
136	272a136	SAMPLE	281564-013	S	Soil	239652	10/01/16 00:47	1.0		
137	272a137	SAMPLE	281564-014	S	Soil	239652	10/01/16 01:15	1.0		
138	272a138	SAMPLE	281564-015	S	Soil	239652	10/01/16 01:44	1.0		
139	272a139	SAMPLE	281564-016	S	Soil	239652	10/01/16 02:12	1.0		
140	272a140	SAMPLE	281408-002		Water	239491	10/01/16 02:41	1.0		
141	272a141	X	IB				10/01/16 03:09	1.0		
142	272a142	CCV	MO_500				10/01/16 03:37	1.0	2	
143	272a143	CCV	DSL_500				10/01/16 04:06	1.0	3	
144	272a144	X	CCV				10/01/16 04:34	1.0	2	
145	272a145	X	CCV				10/01/16 05:02	1.0	3	
146	272a146	X	CMARKER				10/01/16 05:31	1.0	1	

RDG 09/28/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

RDG 09/29/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 19 through 55.

BOY 09/29/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 55 through 74.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 866392075

Instrument : GC26A Begun : 09/28/16 06:35
Method : EPA 8015B SOP Version : TEH_rv19

RDG 09/30/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 75 through 104.

BOY 09/30/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 105 through 113.

RDG 10/03/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 114 through 146.

Standards used: 1=S30168 2=S30797 3=S30799 4=S30457 5=S30512 6=S30988 7=S30800

Flags used: eh=out of extract hold

SAMPLE PREPARATION SUMMARY

Batch # : 239567
Started By : BJH
Method : 3550B
Spike #1 ID : S30717

Prep Date : 28-SEP-2016 08:45
Spike #2 ID : S30912

Analysis : TEHM
Finished By : BJH
Units : g
Spike #3 ID : S30321

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
207488-036		Soil	49.94	5	1	0.1001		1		.32		TEHM	See comment 1 below
281421-001		Soil	50.24	5	1	0.09952		1			3630C	TEHM	
281442-001		Soil	50.16	5	1	0.09968		1			3630C	TEHM	
281460-003		Soil	50	5	1	0.1000		1				TEHM	
281460-008		Soil	50.18	5	1	0.09964		1				TEHM	
281460-013		Soil	49.99	5	1	0.1000		1				TEHM	
281460-020		Soil	49.91	5	1	0.1002		1				TEHM	
281496-001		Soil	50.1	5	1	0.0998		1				TEHM	
281511-006		Soil	50.16	5	1	0.09968		1				TEH	
281516-003		Soil	50.18	5	1	0.09964		1				TEHM	
281516-008		Soil	49.97	5	1	0.1001		1				TEHM	
281516-012		Soil	50	5	1	0.1000		1				TEHM	
281516-015		Soil	50.15	5	1	0.0997		1				TEHM	
281516-018		Soil	50.22	5	1	0.09956		1				TEHM	
281516-019		Soil	50.1	5	1	0.0998		1				TEHM	
281516-020		Soil	50.11	5	1	0.09978		1				TEHM	
281516-021		Soil	50.29	5	1	0.09942		1				TEHM	
281516-022		Soil	50.04	5	1	0.09992		1				TEHM	
281516-023		Soil	49.96	5	1	0.1001		1				TEHM	
281516-024		Soil	50.05	5	1	0.0999		1				TEHM	
281516-026		Soil	49.95	5	1	0.1001		1				TEHM	
QC853363	BLANK	Soil	50.02	5	1	0.09996		1			3630C	TEHM	
QC853364	LCS	Soil	50.2	5	1	0.0996		1	1		3630C	TEHM	
QC853411	MS	Soil	50.3	5	1	0.0994		1	1			TEHM	
QC853412	MSD	Soil	50.22	5	1	0.09956		1	1			TEHM	

Comment 1: Prepped 28-SEP-2016 10:23; add on 9/28/16 @1023

Analyst: BOY Date: 09/30/16 Reviewer: EAH Date: 09/30/16

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: BJH
Cleanup Date: 9/28/16

Benchbook # **BK 3946**
Page 3

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
281421-001	279567	☑ 1.0 ☐	☑ 1.0 ☐	
281442-001		☑ 1.0 ☐	☑ 1.0 ☐	
MB QC853363		☑ 1.0 ☐	☑ 1.0 ☐	
LCS 1 4		☑ 1.0 ☐	☑ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
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		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	AZG 9/28/16

	Mfg & Lot # / Time / Program	Initials / Date
☑ Extracts were cleaned up using C&T assembled 1.0 g columns	Y14A041	BJH 9/28/16
☐ Extracts were cleaned up using — g cartridges	N/A	
Extracts were eluted with 4.0 mL CH_2Cl_2	EM560176	
Concentrated to volumes as noted above		

BJH 9/28/16
Extraction Chemist / Date

Continued from page ____
Continued on page ____

AZG 9/28/16
Reviewed by / Date

TEH (8015) Soil Prep Log

Curtis & Tompkins, Ltd.

BK 3909 Page 86

LIMS Batch No: 2395567
LIMS Analysis TEH
Date Extracted: 9/28/16

Extraction Method:
☑ EPA 3550 Sonication
☐ _____

Cleanup Method (if necessary):
☑ EPA 3630 Silica Gel

Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Cleanup (x if needed)	Comments
281421-001	B	50.24	☑5.0 ☐	X	
281442-001	C	50.16	☑5.0 ☐	X	
281460-003	A	50.00	☑5.0 ☐		organic matter rocks
8		50.18	☑5.0 ☐		
13		49.99	☑5.0 ☐		
20		49.91	☑5.0 ☐		
281496-001	A	50.10	☑5.0 ☐		MSS
281516-003	A	50.18	☑5.0 ☐		organic material rocks
8		49.97	☑5.0 ☐		
12		50.00	☑5.0 ☐		
15		50.15	☑5.0 ☐		
18		50.22	☑5.0 ☐		
19		50.10	☑5.0 ☐		
20		50.11	☑5.0 ☐		
21		50.29	☑5.0 ☐		
22		50.04	☑5.0 ☐		
23		49.96	☑5.0 ☐		
24		50.05	☑5.0 ☐		
26		49.95	☑5.0 ☐		
MB QC853363		50.02	☑5.0 ☐	X	
LCS 4		50.20	☑5.0 ☐	X	
MS QC853411	A	50.30	☑5.0 ☐		Mid light color
MSD 2		50.22	☑5.0 ☐		Dark color.
281511-006	comp	50.16	☑5.0 ☐		comp of 281315 #1,2,8,11,13 @ 20g each
2807488-036	N/A	49.94	☑5.0 ☐		* Ab @ 1023 9/28/16 BJH

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

☑ Balance ID: Dish1 Has been calibrated? ☑ Yes ☐ No

	Mfg & Lot # / LIMS # / Time	Date/Initials
Baked, solvent-rinsed granular Na2SO4 weighed out for QC samples	EM816M	BJH 9/28/16
Samples were dried with CH2Cl2-rinsed powdered Na2SO4	EM0835C506	
1.0 mL of Surrogate solution was added to all samples	330717C	
1.0 mL of Spike solution was added to all spikes	320912A	
1:1 CH_2Cl_2 (lot# EM561716):Acetone(lot# FC163343) was added to all	✓	
Solvent added at (time)	0845	
Sonicated 3 times w/ ≥100mL 1:1 DCM:Acetone	✓	BJH 9/28/16
Extracts filtered through baked, rinsed powdered Na_2SO_4	EM0835C506	
Concentrated to final volume in boiling H2O bath	100°	
Relinquished to TEH Department	✓	

*Spike w/ MO520 530321A @ 0.32mL

BJH 9/28/16
Extraction Chemist / Date

Continued from page ____
Continued on page ____

9/28/16
Reviewed by / Date

Laboratory Job Number 281460

ANALYTICAL REPORT

Pesticides

Matrix: Soil

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-1	Batch#:	239533
Lab ID:	281460-001	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	5.000		

Moisture: 7%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	9.1	1.3
beta-BHC	ND	9.1	2.5
gamma-BHC	ND	9.1	1.2
delta-BHC	ND	9.1	1.3
Heptachlor	ND	9.1	1.3
Aldrin	ND	9.1	1.4
Heptachlor epoxide	ND	9.1	1.4
Endosulfan I	ND	9.1	1.4
Dieldrin	ND	9.1	2.3
4,4'-DDE	ND	18	2.5
Endrin	ND	18	2.6
Endosulfan II	ND	18	2.3
Endosulfan sulfate	ND	18	2.7
4,4'-DDD	ND	18	1.8
Endrin aldehyde	ND	18	3.1
4,4'-DDT	ND	18	1.8
alpha-Chlordane	9.0 C J	9.1	1.3
gamma-Chlordane	60 C	9.1	1.6
Methoxychlor	ND	91	13
Toxaphene	ND	320	62

Surrogate	%REC	Limits
TCMX	66	44-125
Decachlorobiphenyl	68	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-2	Batch#:	239533
Lab ID:	281460-002	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	5.000		

Moisture: 8%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	9.2	1.4
beta-BHC	ND	9.2	2.5
gamma-BHC	ND	9.2	1.2
delta-BHC	ND	9.2	1.3
Heptachlor	ND	9.2	1.3
Aldrin	ND	9.2	1.4
Heptachlor epoxide	ND	9.2	1.4
Endosulfan I	ND	9.2	1.4
Dieldrin	ND	9.2	2.3
4,4'-DDE	ND	18	2.5
Endrin	ND	18	2.7
Endosulfan II	ND	18	2.3
Endosulfan sulfate	ND	18	2.7
4,4'-DDD	ND	18	1.8
Endrin aldehyde	ND	18	3.1
4,4'-DDT	ND	18	1.8
alpha-Chlordane	5.6 C J	9.2	1.3
gamma-Chlordane	15 C	9.2	1.6
Methoxychlor	ND	92	14
Toxaphene	ND	320	63

Surrogate	%REC	Limits
TCMX	88	44-125
Decachlorobiphenyl	86	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-3	Batch#:	239589
Lab ID:	281460-003	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/29/16
Diln Fac:	5.000		

Moisture: 9%

Analyte	Result	RL	MDL
alpha-BHC	ND	9.4	1.4
beta-BHC	ND	9.4	2.2
gamma-BHC	ND	9.4	2.2
delta-BHC	ND	9.4	1.1
Heptachlor	ND	9.4	2.0
Aldrin	ND	9.4	2.3
Heptachlor epoxide	ND	9.4	1.4
Endosulfan I	ND	9.4	1.8
Dieldrin	ND	9.4	2.6
4,4'-DDE	ND	18	2.4
Endrin	ND	18	3.2
Endosulfan II	ND	18	2.7
Endosulfan sulfate	ND	18	2.7
4,4'-DDD	ND	18	2.6
Endrin aldehyde	ND	18	2.2
4,4'-DDT	ND	18	2.4
alpha-Chlordane	ND	9.4	1.4
gamma-Chlordane	ND	9.4	2.0
Methoxychlor	ND	94	15
Toxaphene	ND	330	80

Surrogate	%REC	Limits
TCMX	58	44-125
Decachlorobiphenyl	78	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-4	Batch#:	239533
Lab ID:	281460-004	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	5.000		

Moisture: 10%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	9.5	1.4
beta-BHC	ND	9.5	2.6
gamma-BHC	ND	9.5	1.2
delta-BHC	ND	9.5	1.4
Heptachlor	ND	9.5	1.4
Aldrin	ND	9.5	1.5
Heptachlor epoxide	ND	9.5	1.5
Endosulfan I	ND	9.5	1.4
Dieldrin	ND	9.5	2.4
4,4'-DDE	ND	18	2.6
Endrin	ND	18	2.8
Endosulfan II	ND	18	2.4
Endosulfan sulfate	ND	18	2.8
4,4'-DDD	ND	18	1.9
Endrin aldehyde	ND	18	3.2
4,4'-DDT	ND	18	1.9
alpha-Chlordane	1.5 C J	9.5	1.3
gamma-Chlordane	ND	9.5	1.7
Methoxychlor	ND	95	14
Toxaphene	ND	330	65

Surrogate	%REC	Limits
TCMX	86	44-125
Decachlorobiphenyl	78	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-5	Batch#:	239533
Lab ID:	281460-005	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	5.000		

Moisture: 9%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	9.3	1.4
beta-BHC	ND	9.3	2.6
gamma-BHC	ND	9.3	1.2
delta-BHC	ND	9.3	1.3
Heptachlor	ND	9.3	1.4
Aldrin	ND	9.3	1.4
Heptachlor epoxide	ND	9.3	1.5
Endosulfan I	ND	9.3	1.4
Dieldrin	ND	9.3	2.4
4,4'-DDE	ND	18	2.6
Endrin	ND	18	2.7
Endosulfan II	ND	18	2.4
Endosulfan sulfate	ND	18	2.8
4,4'-DDD	ND	18	1.9
Endrin aldehyde	ND	18	3.1
4,4'-DDT	ND	18	1.8
alpha-Chlordane	4.0 C J	9.3	1.3
gamma-Chlordane	3.1 C J	9.3	1.7
Methoxychlor	ND	93	14
Toxaphene	ND	330	64

Surrogate	%REC	Limits
TCMX	85	44-125
Decachlorobiphenyl	84	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-6	Batch#:	239533
Lab ID:	281460-006	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	2.000		

Moisture: 8%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	3.7	0.55
beta-BHC	ND	3.7	1.0
gamma-BHC	ND	3.7	0.47
delta-BHC	ND	3.7	0.54
Heptachlor	ND	3.7	0.54
Aldrin	ND	3.7	0.57
Heptachlor epoxide	ND	3.7	0.58
Endosulfan I	ND	3.7	0.55
Dieldrin	ND	3.7	0.94
4,4'-DDE	ND	7.2	1.0
Endrin	ND	7.2	1.1
Endosulfan II	ND	7.2	0.94
Endosulfan sulfate	ND	7.2	1.1
4,4'-DDD	6.7 C J	7.2	0.74
Endrin aldehyde	ND	7.2	1.2
4,4'-DDT	2.8 C J	7.2	0.72
alpha-Chlordane	3.0 C J	3.7	0.52
gamma-Chlordane	19 C	3.7	0.66
Methoxychlor	ND	37	5.5
Toxaphene	ND	130	25

Surrogate	%REC	Limits
TCMX	88	44-125
Decachlorobiphenyl	94	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-7	Batch#:	239533
Lab ID:	281460-007	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	5.000		

Moisture: 8%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	9.3	1.4
beta-BHC	ND	9.3	2.6
gamma-BHC	ND	9.3	1.2
delta-BHC	ND	9.3	1.3
Heptachlor	ND	9.3	1.4
Aldrin	ND	9.3	1.4
Heptachlor epoxide	ND	9.3	1.4
Endosulfan I	ND	9.3	1.4
Dieldrin	ND	9.3	2.4
4,4'-DDE	ND	18	2.6
Endrin	ND	18	2.7
Endosulfan II	ND	18	2.4
Endosulfan sulfate	ND	18	2.7
4,4'-DDD	ND	18	1.9
Endrin aldehyde	ND	18	3.1
4,4'-DDT	ND	18	1.8
alpha-Chlordane	ND	9.3	1.3
gamma-Chlordane	8.2 C J	9.3	1.7
Methoxychlor	ND	93	14
Toxaphene	ND	330	64

Surrogate	%REC	Limits
TCMX	76	44-125
Decachlorobiphenyl	77	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-8	Batch#:	239589
Lab ID:	281460-008	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/29/16
Diln Fac:	1.000		

Moisture: 9%

Analyte	Result	RL	MDL
alpha-BHC	ND	1.9	0.27
beta-BHC	ND	1.9	0.44
gamma-BHC	ND	1.9	0.43
delta-BHC	0.49 C J	1.9	0.22
Heptachlor	ND	1.9	0.41
Aldrin	ND	1.9	0.46
Heptachlor epoxide	ND	1.9	0.27
Endosulfan I	ND	1.9	0.35
Dieldrin	ND	1.9	0.51
4,4'-DDE	ND	3.6	0.49
Endrin	ND	3.6	0.64
Endosulfan II	ND	3.6	0.54
Endosulfan sulfate	ND	3.6	0.53
4,4'-DDD	ND	3.6	0.52
Endrin aldehyde	ND	3.6	0.43
4,4'-DDT	ND	3.6	0.48
alpha-Chlordane	ND	1.9	0.28
gamma-Chlordane	ND	1.9	0.40
Methoxychlor	ND	19	2.9
Toxaphene	ND	66	16

Surrogate	%REC	Limits
TCMX	65	44-125
Decachlorobiphenyl	76	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-9	Batch#:	239533
Lab ID:	281460-009	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	1.000		

Moisture: 14%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	2.0	0.29
beta-BHC	ND	2.0	0.55
gamma-BHC	ND	2.0	0.25
delta-BHC	ND	2.0	0.29
Heptachlor	ND	2.0	0.29
Aldrin	ND	2.0	0.30
Heptachlor epoxide	ND	2.0	0.31
Endosulfan I	ND	2.0	0.30
Dieldrin	ND	2.0	0.50
4,4'-DDE	ND	3.8	0.55
Endrin	ND	3.8	0.57
Endosulfan II	ND	3.8	0.50
Endosulfan sulfate	ND	3.8	0.59
4,4'-DDD	ND	3.8	0.40
Endrin aldehyde	ND	3.8	0.67
4,4'-DDT	ND	3.8	0.39
alpha-Chlordane	ND	2.0	0.28
gamma-Chlordane	ND	2.0	0.35
Methoxychlor	ND	20	2.9
Toxaphene	ND	70	14

Surrogate	%REC	Limits
TCMX	62	44-125
Decachlorobiphenyl	71	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-10	Batch#:	239533
Lab ID:	281460-010	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	1.000		

Moisture: 14%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	2.0	0.29
beta-BHC	ND	2.0	0.55
gamma-BHC	ND	2.0	0.25
delta-BHC	ND	2.0	0.29
Heptachlor	ND	2.0	0.29
Aldrin	ND	2.0	0.31
Heptachlor epoxide	ND	2.0	0.31
Endosulfan I	ND	2.0	0.30
Dieldrin	ND	2.0	0.51
4,4'-DDE	ND	3.9	0.55
Endrin	ND	3.9	0.58
Endosulfan II	ND	3.9	0.51
Endosulfan sulfate	ND	3.9	0.59
4,4'-DDD	ND	3.9	0.40
Endrin aldehyde	ND	3.9	0.67
4,4'-DDT	0.86 C J	3.9	0.39
alpha-Chlordane	ND	2.0	0.28
gamma-Chlordane	ND	2.0	0.35
Methoxychlor	3.0 C J	20	2.9
Toxaphene	ND	70	14

Surrogate	%REC	Limits
TCMX	77	44-125
Decachlorobiphenyl	81	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-11	Batch#:	239533
Lab ID:	281460-011	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	1.000		

Moisture: 9%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.9	0.22
beta-BHC	ND	1.9	0.45
gamma-BHC	ND	1.9	0.24
delta-BHC	ND	1.9	0.31
Heptachlor	ND	1.9	0.21
Aldrin	ND	1.9	0.23
Heptachlor epoxide	ND	1.9	0.24
Endosulfan I	ND	1.9	0.19
Dieldrin	ND	1.9	0.44
4,4'-DDE	ND	3.6	0.65
Endrin	ND	3.6	0.62
Endosulfan II	ND	3.6	0.55
Endosulfan sulfate	ND	3.6	0.57
4,4'-DDD	ND	3.6	0.80
Endrin aldehyde	ND	3.6	0.37
4,4'-DDT	ND	3.6	0.52
alpha-Chlordane	ND	1.9	0.23
gamma-Chlordane	ND	1.9	0.27
Methoxychlor	ND	19	3.5
Toxaphene	ND	66	10

Surrogate	%REC	Limits
TCMX	80	44-125
Decachlorobiphenyl	68	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-12	Batch#:	239533
Lab ID:	281460-012	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	1.000		

Moisture: 8%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.8	0.27
beta-BHC	ND	1.8	0.51
gamma-BHC	ND	1.8	0.23
delta-BHC	ND	1.8	0.27
Heptachlor	ND	1.8	0.27
Aldrin	ND	1.8	0.28
Heptachlor epoxide	ND	1.8	0.29
Endosulfan I	ND	1.8	0.27
Dieldrin	ND	1.8	0.47
4,4'-DDE	ND	3.6	0.51
Endrin	ND	3.6	0.53
Endosulfan II	ND	3.6	0.47
Endosulfan sulfate	ND	3.6	0.54
4,4'-DDD	ND	3.6	0.37
Endrin aldehyde	ND	3.6	0.62
4,4'-DDT	ND	3.6	0.36
alpha-Chlordane	ND	1.8	0.26
gamma-Chlordane	ND	1.8	0.33
Methoxychlor	ND	18	2.7
Toxaphene	ND	65	13

Surrogate	%REC	Limits
TCMX	68	44-125
Decachlorobiphenyl	81	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-13	Batch#:	239589
Lab ID:	281460-013	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/29/16
Diln Fac:	5.000		

Moisture: 10%

Analyte	Result	RL	MDL
alpha-BHC	ND	9.3	1.3
beta-BHC	ND	9.3	2.2
gamma-BHC	ND	9.3	2.1
delta-BHC	ND	9.3	1.1
Heptachlor	ND	9.3	2.0
Aldrin	ND	9.3	2.3
Heptachlor epoxide	ND	9.3	1.3
Endosulfan I	ND	9.3	1.7
Dieldrin	ND	9.3	2.5
4,4'-DDE	ND	18	2.4
Endrin	ND	18	3.2
Endosulfan II	ND	18	2.7
Endosulfan sulfate	ND	18	2.6
4,4'-DDD	ND	18	2.6
Endrin aldehyde	ND	18	2.1
4,4'-DDT	ND	18	2.4
alpha-Chlordane	ND	9.3	1.4
gamma-Chlordane	ND	9.3	2.0
Methoxychlor	ND	93	15
Toxaphene	ND	330	79

Surrogate	%REC	Limits
TCMX	57	44-125
Decachlorobiphenyl	73	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-14	Batch#:	239533
Lab ID:	281460-014	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	1.000		

Moisture: 10%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.9	0.28
beta-BHC	ND	1.9	0.52
gamma-BHC	ND	1.9	0.24
delta-BHC	ND	1.9	0.27
Heptachlor	ND	1.9	0.28
Aldrin	ND	1.9	0.29
Heptachlor epoxide	ND	1.9	0.30
Endosulfan I	0.33 J	1.9	0.28
Dieldrin	ND	1.9	0.48
4,4'-DDE	ND	3.7	0.52
Endrin	ND	3.7	0.55
Endosulfan II	ND	3.7	0.48
Endosulfan sulfate	ND	3.7	0.56
4,4'-DDD	ND	3.7	0.38
Endrin aldehyde	ND	3.7	0.64
4,4'-DDT	ND	3.7	0.37
alpha-Chlordane	ND	1.9	0.27
gamma-Chlordane	ND	1.9	0.34
Methoxychlor	ND	19	2.8
Toxaphene	ND	67	13

Surrogate	%REC	Limits
TCMX	87	44-125
Decachlorobiphenyl	95	39-121

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-15	Batch#:	239533
Lab ID:	281460-015	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	1.000		

Moisture: 11%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.9	0.28
beta-BHC	0.98 J	1.9	0.53
gamma-BHC	ND	1.9	0.24
delta-BHC	ND	1.9	0.28
Heptachlor	ND	1.9	0.28
Aldrin	ND	1.9	0.29
Heptachlor epoxide	ND	1.9	0.30
Endosulfan I	ND	1.9	0.29
Dieldrin	ND	1.9	0.49
4,4'-DDE	ND	3.7	0.53
Endrin	ND	3.7	0.55
Endosulfan II	ND	3.7	0.49
Endosulfan sulfate	ND	3.7	0.57
4,4'-DDD	ND	3.7	0.38
Endrin aldehyde	ND	3.7	0.64
4,4'-DDT	ND	3.7	0.37
alpha-Chlordane	ND	1.9	0.27
gamma-Chlordane	ND	1.9	0.34
Methoxychlor	ND	19	2.8
Toxaphene	ND	67	13

Surrogate	%REC	Limits
TCMX	58	44-125
Decachlorobiphenyl	76	39-121

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-16	Batch#:	239533
Lab ID:	281460-016	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	1.000		

Moisture: 8%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.9	0.27
beta-BHC	ND	1.9	0.51
gamma-BHC	ND	1.9	0.24
delta-BHC	ND	1.9	0.27
Heptachlor	1.4 C J	1.9	0.27
Aldrin	ND	1.9	0.29
Heptachlor epoxide	ND	1.9	0.29
Endosulfan I	ND	1.9	0.28
Dieldrin	ND	1.9	0.47
4,4'-DDE	ND	3.6	0.51
Endrin	ND	3.6	0.54
Endosulfan II	ND	3.6	0.47
Endosulfan sulfate	ND	3.6	0.55
4,4'-DDD	ND	3.6	0.37
Endrin aldehyde	ND	3.6	0.62
4,4'-DDT	ND	3.6	0.36
alpha-Chlordane	ND	1.9	0.26
gamma-Chlordane	ND	1.9	0.33
Methoxychlor	ND	19	2.7
Toxaphene	ND	65	13

Surrogate	%REC	Limits
TCMX	70	44-125
Decachlorobiphenyl	76	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-17	Batch#:	239533
Lab ID:	281460-017	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	2.000		

Moisture: 13%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	3.9	0.58
beta-BHC	ND	3.9	1.1
gamma-BHC	ND	3.9	0.50
delta-BHC	ND	3.9	0.57
Heptachlor	ND	3.9	0.57
Aldrin	ND	3.9	0.61
Heptachlor epoxide	ND	3.9	0.61
Endosulfan I	ND	3.9	0.59
Dieldrin	ND	3.9	1.0
4,4'-DDE	ND	7.6	1.1
Endrin	ND	7.6	1.1
Endosulfan II	ND	7.6	1.0
Endosulfan sulfate	ND	7.6	1.2
4,4'-DDD	ND	7.6	0.79
Endrin aldehyde	ND	7.6	1.3
4,4'-DDT	1.4 J	7.6	0.77
alpha-Chlordane	ND	3.9	0.56
gamma-Chlordane	ND	3.9	0.70
Methoxychlor	ND	39	5.8
Toxaphene	ND	140	27

Surrogate	%REC	Limits
TCMX	46	44-125
Decachlorobiphenyl	59	39-121

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-18	Batch#:	239533
Lab ID:	281460-018	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	20.00		

Moisture: 10%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	38	5.6
beta-BHC	ND	38	10
gamma-BHC	ND	38	4.8
delta-BHC	ND	38	5.5
Heptachlor	ND	38	5.5
Aldrin	ND	38	5.8
Heptachlor epoxide	ND	38	5.9
Endosulfan I	ND	38	5.6
Dieldrin	ND	38	9.6
4,4'-DDE	ND	73	10
Endrin	ND	73	11
Endosulfan II	ND	73	9.6
Endosulfan sulfate	ND	73	11
4,4'-DDD	ND	73	7.6
Endrin aldehyde	ND	73	13
4,4'-DDT	ND	73	7.4
alpha-Chlordane	ND	38	5.3
gamma-Chlordane	ND	38	6.7
Methoxychlor	ND	380	56
Toxaphene	ND	1,300	260

Surrogate	%REC	Limits
TCMX	DO	44-125
Decachlorobiphenyl	DO	39-121

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-19	Batch#:	239533
Lab ID:	281460-019	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	20.00		

Moisture: 9%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	37	5.5
beta-BHC	ND	37	10
gamma-BHC	ND	37	4.8
delta-BHC	ND	37	5.4
Heptachlor	ND	37	5.4
Aldrin	ND	37	5.7
Heptachlor epoxide	ND	37	5.8
Endosulfan I	ND	37	5.6
Dieldrin	ND	37	9.5
4,4'-DDE	ND	72	10
Endrin	ND	72	11
Endosulfan II	ND	72	9.5
Endosulfan sulfate	ND	72	11
4,4'-DDD	ND	72	7.5
Endrin aldehyde	ND	72	13
4,4'-DDT	ND	72	7.3
alpha-Chlordane	ND	37	5.2
gamma-Chlordane	ND	37	6.6
Methoxychlor	ND	370	55
Toxaphene	ND	1,300	260

Surrogate	%REC	Limits
TCMX	DO	44-125
Decachlorobiphenyl	DO	39-121

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-20	Batch#:	239589
Lab ID:	281460-020	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/29/16
Diln Fac:	20.00		

Moisture: 11%

Analyte	Result	RL	MDL
alpha-BHC	ND	38	5.5
beta-BHC	ND	38	8.9
gamma-BHC	ND	38	8.8
delta-BHC	ND	38	4.6
Heptachlor	ND	38	8.3
Aldrin	ND	38	9.4
Heptachlor epoxide	ND	38	5.5
Endosulfan I	ND	38	7.1
Dieldrin	ND	38	10
4,4'-DDE	ND	74	9.8
Endrin	ND	74	13
Endosulfan II	ND	74	11
Endosulfan sulfate	ND	74	11
4,4'-DDD	ND	74	10
Endrin aldehyde	ND	74	8.8
4,4'-DDT	15 C J	74	9.7
alpha-Chlordane	ND	38	5.7
gamma-Chlordane	ND	38	8.1
Methoxychlor	ND	380	59
Toxaphene	ND	1,300	320

Surrogate	%REC	Limits
TCMX	DO	44-125
Decachlorobiphenyl	DO	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC853224	Batch#:	239533
Matrix:	Soil	Prepared:	09/27/16
Units:	ug/Kg	Analyzed:	09/27/16

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.7	0.20
beta-BHC	ND	1.7	0.41
gamma-BHC	ND	1.7	0.22
delta-BHC	ND	1.7	0.28
Heptachlor	ND	1.7	0.19
Aldrin	ND	1.7	0.20
Heptachlor epoxide	ND	1.7	0.22
Endosulfan I	ND	1.7	0.18
Dieldrin	ND	1.7	0.40
4,4'-DDE	ND	3.3	0.59
Endrin	ND	3.3	0.56
Endosulfan II	ND	3.3	0.50
Endosulfan sulfate	ND	3.3	0.51
4,4'-DDD	ND	3.3	0.73
Endrin aldehyde	ND	3.3	0.34
4,4'-DDT	ND	3.3	0.47
alpha-Chlordane	ND	1.7	0.21
gamma-Chlordane	ND	1.7	0.25
Methoxychlor	ND	17	3.1
Toxaphene	ND	60	9.1

Surrogate	%REC	Limits
TCMX	68	44-125
Decachlorobiphenyl	67	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC853225	Batch#:	239533
Matrix:	Soil	Prepared:	09/27/16
Units:	ug/Kg	Analyzed:	09/27/16

Cleanup Method: EPA 3620B

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	13.36	6.077	45	44-121
Heptachlor	13.36	6.542 #	49	45-129
Aldrin	13.36	6.464	48	45-120
Dieldrin	13.36	10.44 #	78	49-131
Endrin	13.36	8.201 #	61	43-135
4,4'-DDT	13.36	10.94	82	37-141

Surrogate	%REC	Limits
TCMX	33 *	44-125
Decachlorobiphenyl	76	39-121

#= CCV drift outside limits; average CCV drift within limits per method requirements
*= Value outside of QC limits; see narrative

Curtis & Tompkins, Ltd.

Batch QC Report

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-11	Batch#:	239533
MSS Lab ID:	281460-011	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/27/16
Basis:	dry	Analyzed:	09/27/16
Diln Fac:	1.000		

Type:	MS	Moisture:	9%
Lab ID:	QC853226	Cleanup Method:	EPA 3620B

Analyte	MSS Result	Spiked	Result	%REC	Limits
gamma-BHC	<0.2378	14.23	9.890	70	51-126
Heptachlor	<0.2108	14.23	10.34	73	53-135
Aldrin	<0.2254	14.23	10.17	71	52-121
Dieldrin	<0.4380	14.23	11.15	78	50-138
Endrin	<0.6167	14.23	11.63	82	41-156
4,4'-DDT	<0.5208	14.23	11.91	84	30-156

Surrogate	%REC	Limits
TCMX	59	44-125
Decachlorobiphenyl	70	39-121

Type:	MSD	Moisture:	9%
Lab ID:	QC853227	Cleanup Method:	EPA 3620B

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
gamma-BHC	14.56	10.49	72	51-126	3	40
Heptachlor	14.56	10.83	74	53-135	2	34
Aldrin	14.56	10.75	74	52-121	3	44
Dieldrin	14.56	11.26	77	50-138	1	38
Endrin	14.56	11.83	81	41-156	1	38
4,4'-DDT	14.56	12.40	85	30-156	2	58

Surrogate	%REC	Limits
TCMX	80	44-125
Decachlorobiphenyl	74	39-121

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC853452	Batch#:	239589
Matrix:	Soil	Prepared:	09/28/16
Units:	ug/Kg	Analyzed:	09/29/16

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.097
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.089
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.26
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND	1.7	0.43
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	85	44-125
Decachlorobiphenyl	81	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Organochlorine Pesticides

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC853456	Batch#:	239589
Matrix:	Soil	Prepared:	09/28/16
Units:	ug/Kg	Analyzed:	09/29/16

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	13.56	10.13	75	44-121
Heptachlor	13.56	9.840	73	45-129
Aldrin	13.56	10.19	75	45-120
Dieldrin	13.56	10.48	77	49-131
Endrin	13.56	13.65 #	101	43-135
4,4'-DDT	13.56	9.742	72	37-141

Surrogate	%REC	Limits
TCMX	79	44-125
Decachlorobiphenyl	65	39-121

#= CCV drift outside limits; average CCV drift within limits per method requirements

Confirmation Report for 281460 PEST Soil
Curtis & Tompkins Laboratories

Units: ug/Kg

Lab ID	Client ID	Analyte	Result	Confirmation	RPD	%D
281460-001	HA-1	gamma-Chlordane	60.17 C	12.33	132	-80
281460-002	HA-2	gamma-Chlordane	14.60 C	5.924	85	-59
281460-006	HA-6	gamma-Chlordane	18.77 C	5.048	115	-73

C=RPD between columns exceeds 40%

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281460 PEST Soil: EPA 8081A

Inst : GC21
Calnum : 246290041001
Units : pg/uL

Name : gc21_isopest_201
Date : 19-JUL-2016 19:13

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	201_009	246290041009	ISOPEST_1/2	19-JUL-2016 19:13	S29540 (2X)
L2	201_010	246290041010	ISOPEST_1	19-JUL-2016 19:34	S29540
L3	201_011	246290041011	ISOPEST_2	19-JUL-2016 19:56	S29541
L4	201_012	246290041012	ISOPEST_3	19-JUL-2016 20:18	S29542
L5	201_013	246290041013	ISOPEST_4	19-JUL-2016 20:40	S29543
L6	201_014	246290041014	ISOPEST_5	19-JUL-2016 21:02	S29544
L7	201_015	246290041015	ISOPEST_6	19-JUL-2016 21:24	S29545
L8	201_016	246290041016	ISOPEST_7	19-JUL-2016 21:45	S29546

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	X	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
alpha-BHC	A	32660	32393	31493	29863	29034	31145	23408	17471	AVRG	R		3.52E-5		28434	19	0.990	20	
gamma-BHC	A	31150	29319	29143	27855	26868	28990	21902	16053	AVRG	R		3.79E-5		26410	19	0.990	20	
beta-BHC	A	12564	12015	11722	10981	10604	11750	10196	8909.1	AVRG	R		9.02E-5		11093	11	0.990	20	
delta-BHC	A	26973	26438	26032	26709	24814	26219	19922	14667	AVRG	R		4.17E-5		23972	18	0.990	20	
Heptachlor	A	29341	27677	26985	25544	24649	26575	20007	14478	AVRG	R		4.10E-5		24407	20	0.990	20	
Aldrin	A	28695	27776	26563	25606	24636	26686	19836	14308	AVRG	R		4.12E-5		24263	20	0.990	20	
Heptachlor epoxide	A	25839	24553	23547	22449	21560	23230	17672	12861	AVRG	R		4.66E-5		21464	20	0.990	20	
gamma-Chlordane	A	25858	25172	23970	23114	22540	24610	18500	13435	AVRG	R		4.51E-5		22150	19	0.990	20	
alpha-Chlordane	A	25092	23553	22792	21894	21417	23410	17637	13239	AVRG	R		4.73E-5		21129	18	0.990	20	
4,4'-DDE	A	24083	22945	22327	21448	19037	19043	12826		AVRG	R		4.94E-5		20244	19	0.990	20	
Endosulfan I	A	24116	23137	22231	21188	20245	22287	16957	12548	AVRG	R		4.92E-5		20339	19	0.990	20	
Dieldrin	A	25030	24512	23942	22704	19940	19984	13255		AVRG	R		4.69E-5		21338	19	0.990	20	
Endrin	A	20058	19634	18679	18411	16726	17064	11860		AVRG	R		5.72E-5		17490	16	0.990	20	
4,4'-DDD	A	19418	18784	18313	17922	16345	16903	11624		AVRG	R		5.87E-5		17044	15	0.990	20	
Endosulfan II	A	20679	20040	19549	18888	17230	17415	12018		AVRG	R		5.56E-5		17974	16	0.990	20	
4,4'-DDT	A	19880	19594	19057	18871	17111	17449	11838		AVRG	R		5.65E-5		17685	16	0.990	20	
Endrin aldehyde	A	16211	15312	14524	14302	13848	14292	10424		AVRG	R		7.08E-5		14130	13	0.990	20	
Methoxychlor	A	8531.6	8412.5	8016.8	6962.7	5297.5	4940.4	3053.2		QUAD	A	54018.2	6639.30	-7.41087	6459.2	0.997	0.990	20	
Endosulfan sulfate	A	18645	17872	16956	16240	14941	15638	11081		AVRG	R		6.29E-5		15910	16	0.990	20	
TCMX	A	15817	15311	14427	19191	17275	18452	13788	10623	AVRG	R		6.41E-5		15610	18	0.990	20	
Decachlorobiphenyl	A	15623	14912	14144	13730	13017	14007	10751	7821.2	AVRG	R		7.69E-5		13001	20	0.990	20	
alpha-BHC	B	6604.0	8005.0	7699.2	7231.4	6041.4	5922.8	4015.8		QUAD	A	861.176	7640.77	-72.8657	6502.8	0.999	0.990	20	
gamma-BHC	B	6526.0	7405.0	7268.8	6692.0	5466.0	5516.2	3696.0		QUAD	A	1244.22	7004.54	-66.6477	6081.4	0.998	0.990	20	
beta-BHC	B	2862.0	2982.5	2853.4	2672.2	2528.7	2744.3	2150.4	1611.3	AVRG	R		3.92E-4		2550.6	18	0.990	20	
delta-BHC	B	6913.0	7297.0	7112.4	6656.1	5313.6	5319.9	3511.4		QUAD	A	1744.92	6821.69	-66.9207	6017.6	0.998	0.990	20	

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	X	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Heptachlor	B	6968.0	7050.0	6885.0	6430.8	5157.2	5211.2	3463.3		QUAD	A	1660.91	6616.16	-63.7105	5880.8	0.998	0.990	20	
Aldrin	B	6626.0	7136.5	6791.4	6480.1	5401.6	5234.8	3423.6		QUAD	A	786.071	6896.61	-69.7900	5870.6	0.999	0.990	20	
Heptachlor epoxide	B	6241.0	6317.0	6033.6	5682.8	4695.2	4587.8	3086.4		QUAD	A	1345.03	5909.72	-57.0241	5234.8	0.999	0.990	20	
gamma-Chlordane	B	6412.0	6515.5	6096.0	5728.1	4842.9	4733.4	3129.1		QUAD	A	900.482	6141.20	-60.5765	5351.0	0.999	0.990	20	
alpha-Chlordane	B	5752.0	5877.0	5645.4	5363.5	4417.1	4338.0	2977.3		QUAD	A	1233.48	5529.91	-51.5704	4910.0	0.999	0.990	20	
4,4'-DDE	B	5681.5	5936.5	5387.1	4545.3	3392.9	3199.3	1989.0		QUAD	A	8752.46	4214.40	-23.2047	4304.5	0.995	0.990	20	
Endosulfan I	B	5750.0	5869.5	5713.0	5338.2	4408.8	4402.2	2970.2		QUAD	A	1023.94	5597.02	-52.9288	4921.7	0.999	0.990	20	
Dieldrin	B	6108.5	6376.0	5704.3	4772.1	3465.4	3242.0	2006.4		QUAD	A	10648.5	4269.25	-23.7914	4525.0	0.994	0.990	20	
Endrin	B	4919.0	5100.3	4753.7	4029.9	3004.2	2866.9	1823.2		QUAD	A	7402.99	3729.39	-19.8676	3785.3	0.995	0.990	20	
4,4'-DDD	B	4764.0	4940.5	4549.6	3963.1	2997.4	2800.1	1793.1		QUAD	A	6725.65	3695.43	-19.7662	3686.8	0.996	0.990	20	
Endosulfan II	B	5028.5	5150.8	4738.4	4100.3	3102.9	2920.1	1864.7		QUAD	A	7042.40	3834.68	-20.4713	3843.7	0.996	0.990	20	
4,4'-DDT	B	4511.5	4806.0	4548.8	3996.9	3048.2	2875.2	1801.2		QUAD	A	5568.39	3836.94	-20.9747	3655.4	0.997	0.990	20	
Endrin aldehyde	B	3784.5	3815.0	3597.3	3377.0	2708.9	2595.0	1691.9		QUAD	A	2516.64	3417.26	-17.5296	3081.4	0.999	0.990	20	
Methoxychlor	B	2016.3	2014.3	1651.6	1228.2	811.33	713.02			QUAD	A	12984.5	1382.59	-2.96595	1405.8	0.990	0.990	20	
Endosulfan sulfate	B	4544.5	4682.8	4430.1	3963.0	3072.2	2923.3	1847.1		QUAD	A	4722.32	3879.93	-20.8472	3637.5	0.998	0.990	20	
TCMX	B	3962.5	4599.8	4345.1	4023.5	3322.6	3383.1			AVRG	R		2.54E-4		3939.4	13	0.990	20	
Decachlorobiphenyl	B	4229.0	4150.3	4114.2	3785.5	2968.3	2798.8	1830.7		QUAD	A	3715.04	3711.47	-19.2306	3411.0	0.998	0.990	20	
Average EPA 8081A	A														(n=23)	18		20	
Average EPA 8081A	B														(n=23)	**27**		20	arsd ***

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
alpha-BHC	A	1.0000	15	2.0000	14	5.0000	11	10.000	5	20.000	2	25.000	10	50.000	-18	100.00	**-39**
gamma-BHC	A	1.0000	18	2.0000	11	5.0000	10	10.000	5	20.000	2	25.000	10	50.000	-17	100.00	**-39**
beta-BHC	A	1.0000	13	2.0000	8	5.0000	6	10.000	-1	20.000	-4	25.000	6	50.000	-8	100.00	-20
delta-BHC	A	1.0000	13	2.0000	10	5.0000	9	10.000	11	20.000	4	25.000	9	50.000	-17	100.00	**-39**
Heptachlor	A	1.0000	20	2.0000	13	5.0000	11	10.000	5	20.000	1	25.000	9	50.000	-18	100.00	**-41**
Aldrin	A	1.0000	18	2.0000	14	5.0000	9	10.000	6	20.000	2	25.000	10	50.000	-18	100.00	**-41**
Heptachlor epoxide	A	1.0000	20	2.0000	14	5.0000	10	10.000	5	20.000	0	25.000	8	50.000	-18	100.00	**-40**
gamma-Chlordane	A	1.0000	17	2.0000	14	5.0000	8	10.000	4	20.000	2	25.000	11	50.000	-16	100.00	**-39**
alpha-Chlordane	A	1.0000	19	2.0000	11	5.0000	8	10.000	4	20.000	1	25.000	11	50.000	-17	100.00	**-37**
4,4'-DDE	A	2.0000	19	4.0000	13	10.000	10	20.000	6	40.000	-6	50.000	-6	100.00	**-37**		
Endosulfan I	A	1.0000	19	2.0000	14	5.0000	9	10.000	4	20.000	0	25.000	10	50.000	-17	100.00	**-38**
Dieldrin	A	2.0000	17	4.0000	15	10.000	12	20.000	6	40.000	-7	50.000	-6	100.00	**-38**		
Endrin	A	2.0000	15	4.0000	12	10.000	7	20.000	5	40.000	-4	50.000	-2	100.00	**-32**		
4,4'-DDD	A	2.0000	14	4.0000	10	10.000	7	20.000	5	40.000	-4	50.000	-1	100.00	**-32**		
Endosulfan II	A	2.0000	15	4.0000	11	10.000	9	20.000	5	40.000	-4	50.000	-3	100.00	**-33**		
4,4'-DDT	A	2.0000	12	4.0000	11	10.000	8	20.000	7	40.000	-3	50.000	-1	100.00	**-33**		
Endrin aldehyde	A	2.0000	15	4.0000	8	10.000	3	20.000	1	40.000	-2	50.000	1	100.00	**-26**		
Methoxychlor	A	10.000	**-53**	20.000	-12	50.000	11	100.00	10	200.00	-3	250.00	-2	500.00	**-100**		
Endosulfan sulfate	A	2.0000	17	4.0000	12	10.000	7	20.000	2	40.000	-6	50.000	-2	100.00	**-30**		
TCMX	A	2.0000	1	4.0000	-2	10.000	-8	20.000	**23**	40.000	11	50.000	18	100.00	-12	200.00	**-32**
Decachlorobiphenyl	A	2.0000	20	4.0000	15	10.000	9	20.000	6	40.000	0	50.000	8	100.00	-17	200.00	**-40**
alpha-BHC	B	1.0000	**-24**	2.0000	1	5.0000	4	10.000	4	20.000	-4	25.000	2	50.000	0		
gamma-BHC	B	1.0000	**-24**	2.0000	-1	5.0000	6	10.000	4	20.000	-6	25.000	4	50.000	0		
beta-BHC	B	1.0000	12	2.0000	17	5.0000	12	10.000	5	20.000	-1	25.000	8	50.000	-16	100.00	**-37**
delta-BHC	B	1.0000	**-24**	2.0000	-4	5.0000	5	10.000	6	20.000	-6	25.000	3	50.000	1		
Heptachlor	B	1.0000	-19	2.0000	-4	5.0000	4	10.000	5	20.000	-6	25.000	4	50.000	0		
Aldrin	B	1.0000	-15	2.0000	0	5.0000	1	10.000	4	20.000	-3	25.000	2	50.000	**-100**		
Heptachlor epoxide	B	1.0000	-16	2.0000	-3	5.0000	3	10.000	4	20.000	-4	25.000	2	50.000	1		
gamma-Chlordane	B	1.0000	-9	2.0000	1	5.0000	1	10.000	2	20.000	-4	25.000	2	50.000	-1		
alpha-Chlordane	B	1.0000	-18	2.0000	-3	5.0000	3	10.000	5	20.000	-4	25.000	2	50.000	0		
4,4'-DDE	B	2.0000	**-69**	4.0000	-9	10.000	14	20.000	11	40.000	-5	50.000	-2	100.00	**-100**		
Endosulfan I	B	1.0000	-15	2.0000	-2	5.0000	3	10.000	4	20.000	-5	25.000	3	50.000	0		
Dieldrin	B	2.0000	**-82**	4.0000	-11	10.000	16	20.000	14	40.000	-5	50.000	-3	100.00	**-100**		
Endrin	B	2.0000	**-67**	4.0000	-11	10.000	15	20.000	11	40.000	-5	50.000	-1	100.00	**-100**		
4,4'-DDD	B	2.0000	**-62**	4.0000	-10	10.000	12	20.000	11	40.000	-4	50.000	-2	100.00	**-100**		
Endosulfan II	B	2.0000	**-61**	4.0000	-10	10.000	12	20.000	11	40.000	-4	50.000	-2	100.00	**-100**		
4,4'-DDT	B	2.0000	**-55**	4.0000	-9	10.000	11	20.000	10	40.000	-4	50.000	-1	100.00	**-100**		
Endrin aldehyde	B	2.0000	**-26**	4.0000	-5	10.000	3	20.000	7	40.000	-3	50.000	0	100.00	**-100**		
Methoxychlor	B	10.000	**-47**	20.000	3	50.000	15	100.00	2	200.00	-15	250.00	**-100**				
Endosulfan sulfate	B	2.0000	**-43**	4.0000	-8	10.000	8	20.000	9	40.000	-4	50.000	0	100.00	**-100**		
TCMX	B	2.0000	1	4.0000	17	10.000	10	20.000	2	40.000	-16	50.000	-14				
Decachlorobiphenyl	B	2.0000	**-36**	4.0000	-12	10.000	7	20.000	9	40.000	-3	50.000	-1	100.00	**-100**		

RFC 07/20/16 : Corrected automatically drawn baseline for all channels in all levels.

RFC 07/20/16 : Separated from coeluting peak for all channels in all levels.

RFC 07/20/16 : Dropped various high points to achieve optimal RSD values.

Analyst: RFC Date: 07/20/16 Reviewer: EAH Date: 07/21/16

arsd=average ICAL %RSD out

X=A: Instrument response = a0 + amount * a1 + amount^2 * a2 (invert equation before quantitating); X=R: Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281460 PEST Soil
EPA 8081A

Inst : GC21 Name : gc21_isopest_201
Calnum : 246290041001 Cal Date : 19-JUL-2016

ICV 246290041018 (201_018 19-JUL-2016) stds: S29465

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
alpha-BHC	A	20.00	20.87	pg/uL	4	15	
gamma-BHC	A	20.00	20.46	pg/uL	2	15	
beta-BHC	A	20.00	19.76	pg/uL	-1	15	
delta-BHC	A	20.00	20.98	pg/uL	5	15	
Heptachlor	A	20.00	20.28	pg/uL	1	15	
Aldrin	A	20.00	20.64	pg/uL	3	15	
Heptachlor epoxide	A	20.00	20.89	pg/uL	4	15	
gamma-Chlordane	A	20.00	20.79	pg/uL	4	15	
alpha-Chlordane	A	20.00	20.64	pg/uL	3	15	
4,4'-DDE	A	20.00	21.67	pg/uL	8	15	
Endosulfan I	A	20.00	20.63	pg/uL	3	15	
Dieldrin	A	20.00	21.34	pg/uL	7	15	
Endrin	A	20.00	21.04	pg/uL	5	15	
4,4'-DDD	A	20.00	21.03	pg/uL	5	15	
Endosulfan II	A	20.00	21.66	pg/uL	8	15	
4,4'-DDT	A	20.00	21.31	pg/uL	7	15	
Endrin aldehyde	A	20.00	21.39	pg/uL	7	15	
Methoxychlor	A	200.0	191.1	pg/uL	-4	15	
Endosulfan sulfate	A	20.00	19.75	pg/uL	-1	15	
alpha-BHC	B	20.00	19.18	pg/uL	-4	15	
gamma-BHC	B	20.00	19.07	pg/uL	-5	15	
beta-BHC	B	20.00	20.66	pg/uL	3	15	
delta-BHC	B	20.00	19.23	pg/uL	-4	15	
Heptachlor	B	20.00	19.48	pg/uL	-3	15	
Aldrin	B	20.00	19.03	pg/uL	-5	15	
Heptachlor epoxide	B	20.00	18.95	pg/uL	-5	15	
gamma-Chlordane	B	20.00	19.20	pg/uL	-4	15	
alpha-Chlordane	B	20.00	19.33	pg/uL	-3	15	
4,4'-DDE	B	20.00	22.95	pg/uL	15	15	
Endosulfan I	B	20.00	19.12	pg/uL	-4	15	
Dieldrin	B	20.00	22.29	pg/uL	11	15	
Endrin	B	20.00	22.12	pg/uL	11	15	
4,4'-DDD	B	20.00	22.20	pg/uL	11	15	
Endosulfan II	B	20.00	22.59	pg/uL	13	15	
4,4'-DDT	B	20.00	22.27	pg/uL	11	15	
Endrin aldehyde	B	20.00	21.87	pg/uL	9	15	
Methoxychlor	B	200.0	170.3	pg/uL	-15	15	
Endosulfan sulfate	B	20.00	20.82	pg/uL	4	15	
Average EPA 8081A	A	n=21			5	15	
Average EPA 8081A	B	n=21			8	15	

Analyst: RFC Date: 07/20/16 Reviewer: EAH Date: 07/21/16

average ICAL %RSD out (B)

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281460 PEST Soil: EPA 8081A

Inst : GC23
Calnum : 806350313001
Units : pg/uL

Name : isopest_243ical
Date : 30-AUG-2016 13:29

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	243_006	806350313006	ISOPEST_1/2	30-AUG-2016 13:29	S30768
L2	243_007	806350313007	ISOPEST_1	30-AUG-2016 13:47	S30769
L3	243_008	806350313008	ISOPEST_2	30-AUG-2016 14:05	S30770
L4	243_009	806350313009	ISOPEST_3	30-AUG-2016 14:24	S30771
L5	243_010	806350313010	ISOPEST_4	30-AUG-2016 14:42	S30772
L6	243_011	806350313011	ISOPEST_5	30-AUG-2016 15:00	S30773
L7	243_012	806350313012	ISOPEST_6	30-AUG-2016 15:18	S30774
L8	243_013	806350313013	ISOPEST_7	30-AUG-2016 15:36	S30775

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	X	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
alpha-BHC	A	12628	13789	16832	18477	15268	14287	9819.2		AVRG	R		6.92E-5		14443	20	0.990	20	
gamma-BHC	A	11135	12139	14818	16204	13599	12583	8635.3		AVRG	R		7.86E-5		12730	19	0.990	20	
beta-BHC	A	4946.0	4762.5	4883.4	5661.8	6088.9	6089.7	4766.9	3503.6	AVRG	R		1.97E-4		5087.8	17	0.990	20	
delta-BHC	A	10543	11728	13831	14975	11876	10991			AVRG	R		8.11E-5		12324	14	0.990	20	
Heptachlor	A	8410.0	9415.0	11365	12890	10734	10079	6801.9		AVRG	R		1.00E-4		9956.5	20	0.990	20	
Aldrin	A	9217.0	9598.5	12186	13507	11027	10299			AVRG	R		9.11E-5		10972	15	0.990	20	
Heptachlor epoxide	A	8172.0	8754.5	10508	11784	9879.9	9314.4	6316.4		AVRG	R		1.08E-4		9247.0	19	0.990	20	
gamma-Chlordane	A	7962.0	8519.0	10274	11687	9973.6	9325.0	6326.5		AVRG	R		1.09E-4		9152.4	19	0.990	20	
alpha-Chlordane	A	7284.0	7969.0	9579.6	11137	9821.6	9109.5	6304.5		AVRG	R		1.14E-4		8743.6	19	0.990	20	
4,4'-DDE	A	7201.5	8323.8	10168	9491.4	7091.0	6354.9			AVRG	R		1.23E-4		8105.1	18	0.990	20	
Endosulfan I	A	7224.0	7733.5	9454.6	11235	9969.0	9462.3	6396.7		AVRG	R		1.14E-4		8782.1	19	0.990	20	
Dieldrin	A	7468.0	8771.5	10637	9666.2	7123.6	6419.6	4164.5		QUAD	A	9515.20	8958.45	-49.1878	7750.0	0.991	0.990	20	
Endrin	A	5310.5	5836.3	7287.7	7900.9	6224.5	5713.7			AVRG	R		1.57E-4		6378.9	16	0.990	20	
4,4'-DDD	A	4736.5	5429.8	6894.7	7769.6	6173.6	5644.1			AVRG	R		1.64E-4		6108.0	18	0.990	20	
Endosulfan II	A	5475.0	6192.8	7723.1	8363.9	6625.9	6079.6			AVRG	R		1.48E-4		6743.4	16	0.990	20	
4,4'-DDT	A	5160.5	5740.3	7325.6	8006.4	6429.5	5902.5			AVRG	R		1.56E-4		6427.5	17	0.990	20	
Endrin aldehyde	A	4270.5	4835.0	5966.8	6880.9	5841.4	5453.0			AVRG	R		1.80E-4		5541.3	17	0.990	20	
Methoxychlor	A	2377.9	2849.2	3011.1	2530.6	1764.8	1587.1			QUAD	A	734.550	3072.73	-6.11340	2353.4	0.995	0.990	20	
Endosulfan sulfate	A	4436.0	5014.0	6049.6	7091.8	6107.9	5796.6	3909.7		AVRG	R		1.82E-4		5486.5	20	0.990	20	
TCMX	A	6250.5	6359.5	8191.8	10154	8982.7	8806.9	6100.5		AVRG	R		1.28E-4		7835.1	20	0.990	20	
Decachlorobiphenyl	A	3054.5	3236.8	3525.6	4193.3	4106.7	4087.2	3124.2	2365.5	AVRG	R		2.89E-4		3461.7	19	0.990	20	
alpha-BHC	B	2170.0	1676.5	1830.2	2149.3	2202.5	2253.3	2196.1	1846.0	AVRG	R		4.90E-4		2040.5	11	0.990	20	
gamma-BHC	B	2106.0	1612.0	1685.2	2014.1	2023.7	2080.5	1965.8	1567.8	AVRG	R		5.31E-4		1881.9	12	0.990	20	
beta-BHC	B	1059.0	715.50	749.00	859.80	837.55	845.92	870.02	802.63	AVRG	R		0.00119		842.43	12	0.990	20	
delta-BHC	B	1878.0	1228.0	1385.8	1711.6	1762.2	1768.2	1684.3	1289.5	AVRG	R		6.30E-4		1588.5	16	0.990	20	

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	X	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Heptachlor	B	2150.0	1471.0	1635.0	1977.5	1932.5	2049.8	1857.2	1414.8	AVRG	R		5.52E-4		1811.0	15	0.990	20	
Aldrin	B	2618.0	1967.5	2056.4	2461.2	2419.8	2412.1	2082.5	1509.2	AVRG	R		4.56E-4		2190.8	16	0.990	20	
Heptachlor epoxide	B	2002.0	1524.0	1572.4	1845.4	1805.6	1819.2	1598.9	1184.0	AVRG	R		5.99E-4		1668.9	15	0.990	20	
gamma-Chlordane	B	2208.0	1630.0	1700.8	2019.2	1983.2	2000.0	1734.3	1282.5	AVRG	R		5.50E-4		1819.7	16	0.990	20	
alpha-Chlordane	B	2003.0	1504.0	1578.6	1862.7	1837.3	1866.4	1647.1	1225.1	AVRG	R		5.92E-4		1690.5	15	0.990	20	
4,4'-DDE	B	2001.0	1466.5	1518.9	1855.4	1681.3	1603.8	1222.6		AVRG	R		6.17E-4		1621.4	16	0.990	20	
Endosulfan I	B	1786.0	1328.5	1373.0	1628.5	1565.2	1609.8	1430.7	1074.0	AVRG	R		6.78E-4		1474.5	15	0.990	20	
Dieldrin	B	2026.0	1522.3	1582.0	1866.5	1663.9	1599.1	1222.7		AVRG	R		6.10E-4		1640.4	16	0.990	20	
Endrin	B	1533.0	1165.8	1211.6	1432.1	1327.4	1280.9	1004.1		AVRG	R		7.82E-4		1279.2	14	0.990	20	
4,4'-DDD	B	1303.0	977.75	964.90	1207.4	1171.0	1139.0	936.39		AVRG	R		9.09E-4		1099.9	13	0.990	20	
Endosulfan II	B	1220.0	960.25	938.70	1114.9	1081.6	1058.6	894.08	651.67	AVRG	R		0.00101		989.97	17	0.990	20	
4,4'-DDT	B	1644.5	1239.8	1225.4	1529.8	1456.7	1394.8	1121.5		AVRG	R		7.28E-4		1373.2	14	0.990	20	
Endrin aldehyde	B	1016.5	821.50	802.20	916.55	915.45	897.56	783.90	591.24	AVRG	R		0.00119		843.11	15	0.990	20	
Methoxychlor	B	631.30	493.75	457.12	517.37	434.14	395.97			AVRG	R		0.00205		488.27	17	0.990	20	
Endosulfan sulfate	B	1153.5	926.75	924.30	1063.8	1056.8	1047.0	955.07	782.35	AVRG	R		0.00101		988.69	12	0.990	20	
TCMX	B	1652.5	1092.8	1356.9	1684.4	1682.9	1725.6	1687.5	1434.4	AVRG	R		6.50E-4		1539.6	15	0.990	20	
Decachlorobiphenyl	B	1108.5	1008.0	940.00	1101.5	1141.5	1096.1	1037.1	908.82	AVRG	R		9.59E-4		1042.7	8	0.990	20	
Average EPA 8081A	A														(n=23)	19		20	
Average EPA 8081A	B														(n=23)	14		20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
alpha-BHC	A	1.0000	-13	2.0000	-5	5.0000	17	10.000	**28**	20.000	6	25.000	-1	50.000	**-32**		
gamma-BHC	A	1.0000	-13	2.0000	-5	5.0000	16	10.000	**27**	20.000	7	25.000	-1	50.000	**-32**		
beta-BHC	A	1.0000	-3	2.0000	-6	5.0000	-4	10.000	11	20.000	20	25.000	20	50.000	-6	100.00	**-31**
delta-BHC	A	1.0000	-14	2.0000	-5	5.0000	12	10.000	**22**	20.000	-4	25.000	-11				
Heptachlor	A	1.0000	-16	2.0000	-5	5.0000	14	10.000	**29**	20.000	8	25.000	1	50.000	**-32**		
Aldrin	A	1.0000	-16	2.0000	-13	5.0000	11	10.000	**23**	20.000	0	25.000	-6				
Heptachlor epoxide	A	1.0000	-12	2.0000	-5	5.0000	14	10.000	**27**	20.000	7	25.000	1	50.000	**-32**		
gamma-Chlordane	A	1.0000	-13	2.0000	-7	5.0000	12	10.000	**28**	20.000	9	25.000	2	50.000	**-31**		
alpha-Chlordane	A	1.0000	-17	2.0000	-9	5.0000	10	10.000	**27**	20.000	12	25.000	4	50.000	**-28**		
4,4'-DDE	A	2.0000	-11	4.0000	3	10.000	**25**	20.000	17	40.000	-13	50.000	**-22**				
Endosulfan I	A	1.0000	-18	2.0000	-12	5.0000	8	10.000	**28**	20.000	14	25.000	8	50.000	**-27**		
Dieldrin	A	2.0000	**-70**	4.0000	**-27**	10.000	15	20.000	18	40.000	-2	50.000	-6	100.00	**-100**		
Endrin	A	2.0000	-17	4.0000	-9	10.000	14	20.000	**24**	40.000	-2	50.000	-10				
4,4'-DDD	A	2.0000	**-22**	4.0000	-11	10.000	13	20.000	**27**	40.000	1	50.000	-8				
Endosulfan II	A	2.0000	-19	4.0000	-8	10.000	15	20.000	**24**	40.000	-2	50.000	-10				
4,4'-DDT	A	2.0000	-20	4.0000	-11	10.000	14	20.000	**25**	40.000	0	50.000	-8				
Endrin aldehyde	A	2.0000	**-23**	4.0000	-13	10.000	8	20.000	**24**	40.000	5	50.000	-2				
Methoxychlor	A	10.000	**-24**	20.000	-5	50.000	9	100.00	3	200.00	-12	250.00	**-100**				
Endosulfan sulfate	A	2.0000	-19	4.0000	-9	10.000	10	20.000	**29**	40.000	11	50.000	6	100.00	**-29**		
TCMX	A	2.0000	-20	4.0000	-19	10.000	5	20.000	**30**	40.000	15	50.000	12	100.00	**-22**		
Decachlorobiphenyl	A	2.0000	-12	4.0000	-6	10.000	2	20.000	**21**	40.000	19	50.000	18	100.00	-10	200.00	**-32**
alpha-BHC	B	1.0000	6	2.0000	-18	5.0000	-10	10.000	5	20.000	8	25.000	10	50.000	8	100.00	-10
gamma-BHC	B	1.0000	12	2.0000	-14	5.0000	-10	10.000	7	20.000	8	25.000	11	50.000	4	100.00	-17
beta-BHC	B	1.0000	**26**	2.0000	-15	5.0000	-11	10.000	2	20.000	-1	25.000	0	50.000	3	100.00	-5
delta-BHC	B	1.0000	18	2.0000	**-23**	5.0000	-13	10.000	8	20.000	11	25.000	11	50.000	6	100.00	-19
Heptachlor	B	1.0000	19	2.0000	-19	5.0000	-10	10.000	9	20.000	7	25.000	13	50.000	3	100.00	**-22**
Aldrin	B	1.0000	19	2.0000	-10	5.0000	-6	10.000	12	20.000	10	25.000	10	50.000	-5	100.00	**-31**
Heptachlor epoxide	B	1.0000	20	2.0000	-9	5.0000	-6	10.000	11	20.000	8	25.000	9	50.000	-4	100.00	**-29**
gamma-Chlordane	B	1.0000	**21**	2.0000	-10	5.0000	-7	10.000	11	20.000	9	25.000	10	50.000	-5	100.00	**-30**
alpha-Chlordane	B	1.0000	18	2.0000	-11	5.0000	-7	10.000	10	20.000	9	25.000	10	50.000	-3	100.00	**-28**
4,4'-DDE	B	2.0000	**23**	4.0000	-10	10.000	-6	20.000	14	40.000	4	50.000	-1	100.00	**-25**		
Endosulfan I	B	1.0000	**21**	2.0000	-10	5.0000	-7	10.000	10	20.000	6	25.000	9	50.000	-3	100.00	**-27**
Dieldrin	B	2.0000	**24**	4.0000	-7	10.000	-4	20.000	14	40.000	1	50.000	-3	100.00	**-25**		
Endrin	B	2.0000	20	4.0000	-9	10.000	-5	20.000	12	40.000	4	50.000	0	100.00	**-22**		
4,4'-DDD	B	2.0000	18	4.0000	-11	10.000	-12	20.000	10	40.000	6	50.000	4	100.00	-15		
Endosulfan II	B	2.0000	**23**	4.0000	-3	10.000	-5	20.000	13	40.000	9	50.000	7	100.00	-10	200.00	**-34**
4,4'-DDT	B	2.0000	20	4.0000	-10	10.000	-11	20.000	11	40.000	6	50.000	2	100.00	-18		
Endrin aldehyde	B	2.0000	**21**	4.0000	-3	10.000	-5	20.000	9	40.000	9	50.000	6	100.00	-7	200.00	**-30**
Methoxychlor	B	10.000	**29**	20.000	1	50.000	-6	100.00	6	200.00	-11	250.00	-19				
Endosulfan sulfate	B	2.0000	17	4.0000	-6	10.000	-7	20.000	8	40.000	7	50.000	6	100.00	-3	200.00	**-21**
TCMX	B	2.0000	7	4.0000	**-29**	10.000	-12	20.000	9	40.000	9	50.000	12	100.00	10	200.00	-7
Decachlorobiphenyl	B	2.0000	6	4.0000	-3	10.000	-10	20.000	6	40.000	9	50.000	5	100.00	-1	200.00	-13

JCD 08/31/16 : Corrected automatically drawn baseline for all channels in all levels.

JCD 08/31/16 : Separated from coeluting peak for all channels in all levels.

RFC: 09/09/16 EAH: 09/09/16 JCD: 09/12/16 BJP: 09/12/16

X=A: Instrument response = a0 + amount * a1 + amount^2 * a2 (invert equation before quantitating); X=R: Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281460 PEST Soil
EPA 8081A

Inst : GC23 Name : isopest_243ical
Calnum : 806350313001 Cal Date : 30-AUG-2016

ICV 806350313015 (243_015 30-AUG-2016) stds: S29465

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
alpha-BHC	A	20.00	21.08	pg/uL	5	15	
gamma-BHC	A	20.00	20.88	pg/uL	4	15	
beta-BHC	A	20.00	23.61	pg/uL	**18**	15	v+
delta-BHC	A	20.00	18.98	pg/uL	-5	15	
Heptachlor	A	20.00	21.37	pg/uL	7	15	
Aldrin	A	20.00	19.87	pg/uL	-1	15	
Heptachlor epoxide	A	20.00	21.67	pg/uL	8	15	
gamma-Chlordane	A	20.00	21.48	pg/uL	7	15	
alpha-Chlordane	A	20.00	21.97	pg/uL	10	15	
4,4'-DDE	A	20.00	23.65	pg/uL	**18**	15	v+
Endosulfan I	A	20.00	22.58	pg/uL	13	15	
Dieldrin	A	20.00	23.80	pg/uL	**19**	15	v+
Endrin	A	20.00	23.72	pg/uL	**19**	15	v+
4,4'-DDD	A	20.00	24.44	pg/uL	**22**	15	v+
Endosulfan II	A	20.00	24.24	pg/uL	**21**	15	v+
4,4'-DDT	A	20.00	24.34	pg/uL	**22**	15	v+
Endrin aldehyde	A	20.00	24.85	pg/uL	**24**	15	v+
Methoxychlor	A	200.0	166.0	pg/uL	**-17**	15	v-
Endosulfan sulfate	A	20.00	24.09	pg/uL	**20**	15	v+
alpha-BHC	B	20.00	20.62	pg/uL	3	15	
gamma-BHC	B	20.00	20.51	pg/uL	3	15	
beta-BHC	B	20.00	19.22	pg/uL	-4	15	
delta-BHC	B	20.00	20.51	pg/uL	3	15	
Heptachlor	B	20.00	21.37	pg/uL	7	15	
Aldrin	B	20.00	20.89	pg/uL	4	15	
Heptachlor epoxide	B	20.00	21.24	pg/uL	6	15	
gamma-Chlordane	B	20.00	20.70	pg/uL	3	15	
alpha-Chlordane	B	20.00	21.09	pg/uL	5	15	
4,4'-DDE	B	20.00	21.84	pg/uL	9	15	
Endosulfan I	B	20.00	20.65	pg/uL	3	15	
Dieldrin	B	20.00	21.13	pg/uL	6	15	
Endrin	B	20.00	21.04	pg/uL	5	15	
4,4'-DDD	B	20.00	21.42	pg/uL	7	15	
Endosulfan II	B	20.00	22.28	pg/uL	11	15	
4,4'-DDT	B	20.00	20.97	pg/uL	5	15	
Endrin aldehyde	B	20.00	21.48	pg/uL	7	15	
Methoxychlor	B	200.0	174.5	pg/uL	-13	15	
Endosulfan sulfate	B	20.00	19.77	pg/uL	-1	15	
Average EPA 8081A	A	n=21			14	15	
Average EPA 8081A	B	n=21			6	15	

Analyst: JCD Date: 09/12/16 Reviewer: EAH Date: 09/12/16

+=high bias -=low bias v=ICV

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281460 PEST Soil: EPA 8081A

Inst : GC30
Calnum : 356369195001
Units : pg/uL

Name : gc30_256_ICAL
Date : 12-SEP-2016 19:06

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	256_007	356369195007	ISOPEST_1/2	12-SEP-2016 19:06	S30768
L2	256_008	356369195008	ISOPEST_1	12-SEP-2016 19:22	S30769
L3	256_009	356369195009	ISOPEST_2	12-SEP-2016 19:38	S30770
L4	256_010	356369195010	ISOPEST_3	12-SEP-2016 19:54	S30771
L5	256_011	356369195011	ISOPEST_4	12-SEP-2016 20:10	S30772
L6	256_012	356369195012	ISOPEST_5	12-SEP-2016 20:26	S30773
L7	256_013	356369195013	ISOPEST_6	12-SEP-2016 20:42	S30774
L8	256_014	356369195014	ISOPEST_7	12-SEP-2016 20:58	S30775

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	X	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
alpha-BHC	A	8648.0	8748.5	10330	10342	9227.4	8404.4	6263.3		AVRG	R		1.13E-4		8852.0	16	0.990	20	
gamma-BHC	A	7978.0	7917.0	9339.0	9720.6	8823.9	8096.4	6170.8		AVRG	R		1.21E-4		8292.2	14	0.990	20	
beta-BHC	A	2797.0	2600.5	2943.2	3279.8	3726.6	3640.7	3396.9	2676.5	AVRG	R		3.19E-4		3132.6	14	0.990	20	
delta-BHC	A	8132.0	7838.5	8878.6	9682.4	8821.7	8160.6	6353.0		AVRG	R		1.21E-4		8266.7	13	0.990	20	
Heptachlor	A	7821.0	7679.5	8788.8	9570.8	8959.9	8206.6	6437.0		AVRG	R		1.22E-4		8209.1	13	0.990	20	
Aldrin	A	7356.0	7324.0	8299.0	9258.9	8825.1	8154.0	6467.9		AVRG	R		1.26E-4		7955.0	12	0.990	20	
Heptachlor epoxide	A	7332.0	6247.5	6716.2	7686.4	7805.5	7295.1	6015.9	4266.7	AVRG	R		1.50E-4		6670.7	17	0.990	20	
gamma-Chlordane	A	6976.0	6778.5	6999.0	8335.1	8507.5	7888.4	6710.7	4756.9	AVRG	R		1.40E-4		7119.0	17	0.990	20	
alpha-Chlordane	A	5118.0	5478.0	6226.4	6724.3	7903.9	7503.3	6453.5	4599.3	AVRG	R		1.60E-4		6250.8	18	0.990	20	
4,4'-DDE	A	6103.0	6118.0	7047.0	7793.0	6922.8	6233.8	4681.8		AVRG	R		1.56E-4		6414.2	15	0.990	20	
Endosulfan I	A	6017.0	5833.0	6334.2	7681.8	8177.4	7666.6	6630.0	4690.1	AVRG	R		1.51E-4		6628.8	18	0.990	20	
Dieldrin	A	5400.5	6053.8	6927.3	7022.1	6851.8	6161.3	4601.2		AVRG	R		1.63E-4		6145.4	15	0.990	20	
Endrin	A	5284.0	5341.0	5982.1	6998.6	6239.1	5735.3	4339.2		AVRG	R		1.75E-4		5702.7	15	0.990	20	
4,4'-DDD	A	4719.0	4736.8	5379.4	6749.9	6225.0	5767.1	4503.6		AVRG	R		1.84E-4		5440.1	16	0.990	20	
Endosulfan II	A	5098.0	5103.5	5646.4	6906.1	6329.8	5814.0	4540.9		AVRG	R		1.77E-4		5634.1	14	0.990	20	
4,4'-DDT	A	6045.0	5257.3	5810.7	7421.5	6715.6	6170.6	4757.4		AVRG	R		1.66E-4		6025.4	15	0.990	20	
Endrin aldehyde	A	3781.0	3743.5	4169.8	4902.6	5241.2	4864.2	4021.3	2817.7	AVRG	R		2.39E-4		4192.7	19	0.990	20	
Methoxychlor	A	2346.9	2436.3	2581.0	2540.1	1957.6	1766.8	1210.1		QUAD	A	9985.94	2401.65	-2.43566	2119.8	0.996	0.990	20	
Endosulfan sulfate	A	3882.5	4155.0	4327.7	5227.4	6080.4	5768.6	5035.4	3533.7	AVRG	R		2.10E-4		4751.3	19	0.990	20	
TCMX	A	4136.5	4611.0	5430.9	5199.1	4606.8	4144.3	3121.4		AVRG	R		2.24E-4		4464.3	17	0.990	20	
Decachlorobiphenyl	A	3747.5	3275.3	3874.2	4797.8	5557.6	5560.3	4585.9		AVRG	R		2.23E-4		4485.5	20	0.990	20	
alpha-BHC	B	3931.0	2626.0	3919.2	4191.9	4692.6	4729.2	4129.3	2892.1	AVRG	R		2.57E-4		3888.9	20	0.990	20	
gamma-BHC	B	3544.0	2458.5	3629.6	3904.8	4479.5	4505.4	3936.4		AVRG	R		2.65E-4		3779.7	18	0.990	20	
beta-BHC	B	1349.0	1011.0	1338.0	1366.1	1438.8	1505.7	1707.4	1565.4	AVRG	R		7.09E-4		1410.2	14	0.990	20	
delta-BHC	B	3412.0	2371.5	3489.0	3605.0	4375.4	4307.3	3561.0		AVRG	R		2.79E-4		3588.7	19	0.990	20	

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	X	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Heptachlor	B	3730.0	2370.5	3686.0	4029.7	4331.3	4468.0	3965.3		AVRG	R		2.63E-4		3797.3	18	0.990	20	
Aldrin	B	3497.0	2429.5	3510.0	3660.4	4216.2	4260.8	3811.4	2732.2	AVRG	R		2.85E-4		3514.7	18	0.990	20	
Heptachlor epoxide	B	3075.0	2272.0	3036.0	3124.4	3508.4	3580.4	3406.2	2575.9	AVRG	R		3.25E-4		3072.3	15	0.990	20	
gamma-Chlordane	B	3067.0	2165.0	3036.8	3125.1	3596.4	3755.6	3637.1	2774.3	AVRG	R		3.18E-4		3144.7	17	0.990	20	
alpha-Chlordane	B	2892.0	2102.5	2827.0	2898.9	3368.9	3588.0	3466.4	2725.1	AVRG	R		3.35E-4		2983.6	16	0.990	20	
4,4'-DDE	B	2414.0	1834.5	2592.0	2810.8	3287.0	3172.4	2640.6		AVRG	R		3.73E-4		2678.8	18	0.990	20	
Endosulfan I	B	2886.0	2001.5	2835.4	2883.3	3250.8	3295.7	3360.7	2537.4	AVRG	R		3.47E-4		2881.3	16	0.990	20	
Dieldrin	B	2960.0	2114.0	3137.2	3542.9	3647.6	3527.3	2761.4		AVRG	R		3.23E-4		3098.6	18	0.990	20	
Endrin	B	2715.0	1761.8	2626.5	2909.4	3137.3	3097.7	2525.3		AVRG	R		3.73E-4		2681.8	17	0.990	20	
4,4'-DDD	B	2009.0	1523.3	2107.1	2265.0	2641.0	2656.5	2402.8	1719.9	AVRG	R		4.62E-4		2165.6	19	0.990	20	
Endosulfan II	B	2148.5	1738.3	2272.2	2414.1	2912.9	2894.5	2433.9	1682.7	AVRG	R		4.33E-4		2312.1	20	0.990	20	
4,4'-DDT	B	2185.5	1668.8	2356.6	2587.3	2982.9	3098.0	2661.2		AVRG	R		3.99E-4		2505.7	20	0.990	20	
Endrin aldehyde	B	1710.0	1326.8	1905.7	1898.6	2310.1	2379.6	2174.7	1637.8	AVRG	R		5.21E-4		1917.9	19	0.990	20	
Methoxychlor	B	988.90	780.15	1073.8	1181.7	1078.2	1025.1	725.16		AVRG	R		0.00102		979.00	17	0.990	20	
Endosulfan sulfate	B	2005.5	1499.3	1915.4	2016.7	2287.8	2363.7	2309.0	1765.5	AVRG	R		4.95E-4		2020.4	15	0.990	20	
TCMX	B	2373.5	1681.5	2350.9	2575.5	2794.4	2787.9	2586.6	1856.0	AVRG	R		4.21E-4		2375.8	17	0.990	20	
Decachlorobiphenyl	B	2024.0	1700.0	1984.5	2031.4	2240.1	2330.6	2497.4	2046.9	AVRG	R		4.75E-4		2106.9	12	0.990	20	
Average EPA 8081A	A														(n=23)	16		20	
Average EPA 8081A	B														(n=23)	17		20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
alpha-BHC	A	1.0000	-2	2.0000	-1	5.0000	17	10.000	17	20.000	4	25.000	-5	50.000	**-29**		
gamma-BHC	A	1.0000	-4	2.0000	-5	5.0000	13	10.000	17	20.000	6	25.000	-2	50.000	**-26**		
beta-BHC	A	1.0000	-11	2.0000	-17	5.0000	-6	10.000	5	20.000	19	25.000	16	50.000	8	100.00	-15
delta-BHC	A	1.0000	-2	2.0000	-5	5.0000	7	10.000	17	20.000	7	25.000	-1	50.000	**-23**		
Heptachlor	A	1.0000	-5	2.0000	-6	5.0000	7	10.000	17	20.000	9	25.000	0	50.000	**-22**		
Aldrin	A	1.0000	-8	2.0000	-8	5.0000	4	10.000	16	20.000	11	25.000	3	50.000	-19		
Heptachlor epoxide	A	1.0000	10	2.0000	-6	5.0000	1	10.000	15	20.000	17	25.000	9	50.000	-10	100.00	**-36**
gamma-Chlordane	A	1.0000	-2	2.0000	-5	5.0000	-2	10.000	17	20.000	20	25.000	11	50.000	-6	100.00	**-33**
alpha-Chlordane	A	1.0000	-18	2.0000	-12	5.0000	0	10.000	8	20.000	**26**	25.000	20	50.000	3	100.00	**-26**
4,4'-DDE	A	2.0000	-5	4.0000	-5	10.000	10	20.000	**21**	40.000	8	50.000	-3	100.00	**-27**		
Endosulfan I	A	1.0000	-9	2.0000	-12	5.0000	-4	10.000	16	20.000	**23**	25.000	16	50.000	0	100.00	**-29**
Dieldrin	A	2.0000	-12	4.0000	-1	10.000	13	20.000	14	40.000	11	50.000	0	100.00	**-25**		
Endrin	A	2.0000	-7	4.0000	-6	10.000	5	20.000	**23**	40.000	9	50.000	1	100.00	**-24**		
4,4'-DDD	A	2.0000	-13	4.0000	-13	10.000	-1	20.000	**24**	40.000	14	50.000	6	100.00	-17		
Endosulfan II	A	2.0000	-10	4.0000	-9	10.000	0	20.000	**23**	40.000	12	50.000	3	100.00	-19		
4,4'-DDT	A	2.0000	0	4.0000	-13	10.000	-4	20.000	**23**	40.000	11	50.000	2	100.00	**-21**		
Endrin aldehyde	A	2.0000	-10	4.0000	-11	10.000	-1	20.000	17	40.000	**25**	50.000	16	100.00	-4	200.00	**-33**
Methoxychlor	A	10.000	**-44**	20.000	-18	50.000	5	100.00	15	200.00	0	250.00	-5	500.00	**-100**		
Endosulfan sulfate	A	2.0000	-18	4.0000	-13	10.000	-9	20.000	10	40.000	**28**	50.000	**21**	100.00	6	200.00	**-26**
TCMX	A	2.0000	-7	4.0000	3	10.000	**22**	20.000	16	40.000	3	50.000	-7	100.00	**-30**		
Decachlorobiphenyl	A	2.0000	-16	4.0000	**-27**	10.000	-14	20.000	7	40.000	**24**	50.000	**24**	100.00	2		
alpha-BHC	B	1.0000	1	2.0000	**-32**	5.0000	1	10.000	8	20.000	**21**	25.000	**22**	50.000	6	100.00	**-26**
gamma-BHC	B	1.0000	-6	2.0000	**-35**	5.0000	-4	10.000	3	20.000	19	25.000	19	50.000	4		
beta-BHC	B	1.0000	-4	2.0000	**-28**	5.0000	-5	10.000	-3	20.000	2	25.000	7	50.000	**21**	100.00	11
delta-BHC	B	1.0000	-5	2.0000	**-34**	5.0000	-3	10.000	0	20.000	**22**	25.000	20	50.000	-1		
Heptachlor	B	1.0000	-2	2.0000	**-38**	5.0000	-3	10.000	6	20.000	14	25.000	18	50.000	4		
Aldrin	B	1.0000	-1	2.0000	**-31**	5.0000	0	10.000	4	20.000	20	25.000	**21**	50.000	8	100.00	**-22**
Heptachlor epoxide	B	1.0000	0	2.0000	**-26**	5.0000	-1	10.000	2	20.000	14	25.000	17	50.000	11	100.00	-16
gamma-Chlordane	B	1.0000	-2	2.0000	**-31**	5.0000	-3	10.000	-1	20.000	14	25.000	19	50.000	16	100.00	-12
alpha-Chlordane	B	1.0000	-3	2.0000	**-30**	5.0000	-5	10.000	-3	20.000	13	25.000	20	50.000	16	100.00	-9
4,4'-DDE	B	2.0000	-10	4.0000	**-32**	10.000	-3	20.000	5	40.000	**23**	50.000	18	100.00	-1		
Endosulfan I	B	1.0000	0	2.0000	**-31**	5.0000	-2	10.000	0	20.000	13	25.000	14	50.000	17	100.00	-12
Dieldrin	B	2.0000	-4	4.0000	**-32**	10.000	1	20.000	14	40.000	18	50.000	14	100.00	-11		
Endrin	B	2.0000	1	4.0000	**-34**	10.000	-2	20.000	8	40.000	17	50.000	16	100.00	-6		
4,4'-DDD	B	2.0000	-7	4.0000	**-30**	10.000	-3	20.000	5	40.000	**22**	50.000	**23**	100.00	11	200.00	**-21**
Endosulfan II	B	2.0000	-7	4.0000	**-25**	10.000	-2	20.000	4	40.000	**26**	50.000	**25**	100.00	5	200.00	**-27**
4,4'-DDT	B	2.0000	-13	4.0000	**-33**	10.000	-6	20.000	3	40.000	19	50.000	**24**	100.00	6		
Endrin aldehyde	B	2.0000	-11	4.0000	**-31**	10.000	-1	20.000	-1	40.000	20	50.000	**24**	100.00	13	200.00	-15
Methoxychlor	B	10.000	1	20.000	-20	50.000	10	100.00	**21**	200.00	10	250.00	5	500.00	**-26**		
Endosulfan sulfate	B	2.0000	-1	4.0000	**-26**	10.000	-5	20.000	0	40.000	13	50.000	17	100.00	14	200.00	-13
TCMX	B	2.0000	0	4.0000	**-29**	10.000	-1	20.000	8	40.000	18	50.000	17	100.00	9	200.00	**-22**
Decachlorobiphenyl	B	2.0000	-4	4.0000	-19	10.000	-6	20.000	-4	40.000	6	50.000	11	100.00	19	200.00	-3

RFC 09/14/16 : Corrected automatically drawn baseline for all channels in all levels.

RFC 09/14/16 : Separated from coeluting peak for all channels in all levels.

Analyst: RFC Date: 09/15/16 Reviewer: EAH Date: 09/15/16

X=A: Instrument response = a0 + amount * a1 + amount^2 * a2 (invert equation before quantitating); X=R: Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281460 PEST Soil
EPA 8081A

Inst : GC30 Name : gc30_256_ICAL
Calnum : 356369195001 Cal Date : 12-SEP-2016

ICV 356369195016 (256_016 12-SEP-2016) stds: S29465

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
alpha-BHC	A	20.00	20.00	pg/uL	0	15	
gamma-BHC	A	20.00	20.14	pg/uL	1	15	
beta-BHC	A	20.00	22.66	pg/uL	13	15	
delta-BHC	A	20.00	19.99	pg/uL	0	15	
Heptachlor	A	20.00	20.56	pg/uL	3	15	
Aldrin	A	20.00	20.94	pg/uL	5	15	
Heptachlor epoxide	A	20.00	22.40	pg/uL	12	15	
gamma-Chlordane	A	20.00	22.40	pg/uL	12	15	
alpha-Chlordane	A	20.00	23.32	pg/uL	**17**	15	v+
4,4'-DDE	A	20.00	24.10	pg/uL	**20**	15	v+
Endosulfan I	A	20.00	22.18	pg/uL	11	15	
Dieldrin	A	20.00	23.90	pg/uL	**20**	15	v+
Endrin	A	20.00	23.03	pg/uL	15	15	
4,4'-DDD	A	20.00	22.95	pg/uL	15	15	
Endosulfan II	A	20.00	23.08	pg/uL	15	15	
4,4'-DDT	A	20.00	22.14	pg/uL	11	15	
Endrin aldehyde	A	20.00	24.09	pg/uL	**20**	15	v+
Methoxychlor	A	200.0	184.8	pg/uL	-8	15	
Endosulfan sulfate	A	20.00	20.12	pg/uL	1	15	
alpha-BHC	B	20.00	23.47	pg/uL	**17**	15	v+
gamma-BHC	B	20.00	22.58	pg/uL	13	15	
beta-BHC	B	20.00	19.69	pg/uL	-2	15	
delta-BHC	B	20.00	23.46	pg/uL	**17**	15	v+
Heptachlor	B	20.00	22.23	pg/uL	11	15	
Aldrin	B	20.00	23.17	pg/uL	**16**	15	v+
Heptachlor epoxide	B	20.00	22.55	pg/uL	13	15	
gamma-Chlordane	B	20.00	22.35	pg/uL	12	15	
alpha-Chlordane	B	20.00	22.06	pg/uL	10	15	
4,4'-DDE	B	20.00	21.50	pg/uL	7	15	
Endosulfan I	B	20.00	21.86	pg/uL	9	15	
Dieldrin	B	20.00	22.10	pg/uL	10	15	
Endrin	B	20.00	21.67	pg/uL	8	15	
4,4'-DDD	B	20.00	20.35	pg/uL	2	15	
Endosulfan II	B	20.00	21.62	pg/uL	8	15	
4,4'-DDT	B	20.00	20.02	pg/uL	0	15	
Endrin aldehyde	B	20.00	21.07	pg/uL	5	15	
Methoxychlor	B	200.0	222.5	pg/uL	11	15	
Endosulfan sulfate	B	20.00	18.67	pg/uL	-7	15	
Average EPA 8081A	A	n=21			11	15	
Average EPA 8081A	B	n=21			10	15	

Analyst: RFC Date: 09/14/16 Reviewer: EAH Date: 09/15/16

+=high bias v=ICV

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC21 Run Name : PEM IDF : 1.0
Seqnum : 246290041006 File : 201_006 Time : 19-JUL-2016 18:07

Standards: S29649

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	1136470	4	15	
4,4'-DDE	A	5455			
4,4'-DDD	A	36748			
Endrin	A	718734	11	15	
Endrin aldehyde	A	34222			
Endrin ketone	A	55823			
4,4'-DDT	B	185968	6	15	
4,4'-DDE	B	887			
4,4'-DDD	B	11319			
Endrin	B	140213	10	15	
Endrin aldehyde	B	4336			
Endrin ketone	B	10824			

Analyst: RFC Date: 07/20/16 Reviewer: EAH Date: 07/21/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC21 Run Name : PEM IDF : 1.0
Seqnum : 246390747015 File : 271_015 Time : 27-SEP-2016 15:34

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	1331159	1	15	
4,4'-DDE	A	2645			
4,4'-DDD	A	14760			
Endrin	A	934629	7	15	
Endrin aldehyde	A	25902			
Endrin ketone	A	44570			
4,4'-DDT	B	211072	2	15	
4,4'-DDE	B	843			
4,4'-DDD	B	2871			
Endrin	B	173267	3	15	
Endrin aldehyde	B	615			
Endrin ketone	B	4368			

Analyst: JCD Date: 09/28/16 Reviewer: EAH Date: 09/28/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC21 Run Name : PEM IDF : 1.0
Seqnum : 246390747026 File : 271_026 Time : 27-SEP-2016 19:35

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	1119222	2	15	
4,4'-DDE	A	3048			
4,4'-DDD	A	16950			
Endrin	A	708434	11	15	
Endrin aldehyde	A	32089			
Endrin ketone	A	51128			
4,4'-DDT	B	184015	2	15	
4,4'-DDE	B	791			
4,4'-DDD	B	3219			
Endrin	B	137468	4	15	
Endrin aldehyde	B	2148			
Endrin ketone	B	4310			

Analyst: JCD Date: 09/28/16 Reviewer: EAH Date: 09/28/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC21 Run Name : PEM IDF : 1.0
Seqnum : 246393697006 File : 273_006 Time : 29-SEP-2016 11:26

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	1134024	3	15	
4,4'-DDE	A	5852			
4,4'-DDD	A	24430			
Endrin	A	627723	**21**	15	
Endrin aldehyde	A	67907			
Endrin ketone	A	100312			
4,4'-DDT	B	184887	2	15	
4,4'-DDE	B	1005			
4,4'-DDD	B	2305			
Endrin	B	134435	8	15	
Endrin aldehyde	B	3812			
Endrin ketone	B	7657			

Analyst: JCD Date: 09/29/16 Reviewer: EAH Date: 09/29/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC21 Run Name : PEM IDF : 1.0
Seqnum : 246393697016 File : 273_016 Time : 29-SEP-2016 15:19

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	1127357	3	15	
4,4'-DDE	A	5745			
4,4'-DDD	A	26094			
Endrin	A	607810	**22**	15	
Endrin aldehyde	A	67374			
Endrin ketone	A	100324			
4,4'-DDT	B	182088	2	15	
4,4'-DDE	B	739			
4,4'-DDD	B	2337			
Endrin	B	136927	6	15	
Endrin aldehyde	B	2588			
Endrin ketone	B	6868			

Analyst: JCD Date: 09/29/16 Reviewer: EAH Date: 09/29/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC23 Run Name : PEM IDF : 1.0
Seqnum : 806350313003 File : 243_003 Time : 30-AUG-2016 12:18

Standards: S29649

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	357385	1	15	
4,4'-DDE	A	1312			
4,4'-DDD	A	2631			
Endrin	A	251919	14	15	
Endrin aldehyde	A	15779			
Endrin ketone	A	26633			
4,4'-DDT	B	128484	3	15	
4,4'-DDE	B	1472			
4,4'-DDD	B	2195			
Endrin	B	71670	6	15	
Endrin aldehyde	B	2517			
Endrin ketone	B	2276			

Analyst: JCD Date: 08/31/16 Reviewer: EAH Date: 09/09/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC23 Run Name : PEM IDF : 1.0
Seqnum : 806390748002 File : 271_002 Time : 27-SEP-2016 08:46

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	354993	2	15	
4,4'-DDE	A	1124			
4,4'-DDD	A	7849			
Endrin	A	276546	7	15	
Endrin aldehyde	A	5068			
Endrin ketone	A	14807			
4,4'-DDT	B	130854	1	15	
4,4'-DDE	B	401			
4,4'-DDD	B	1092			
Endrin	B	75789	4	15	
Endrin aldehyde	B	1123			
Endrin ketone	B	1645			

Analyst: JCD Date: 09/28/16 Reviewer: EAH Date: 09/29/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC23 Run Name : PEM IDF : 1.0
Seqnum : 806390748013 File : 271_013 Time : 27-SEP-2016 18:55

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	429959	3	15	
4,4'-DDE	A	1882			
4,4'-DDD	A	11775			
Endrin	A	339690	12	15	
Endrin aldehyde	A	13132			
Endrin ketone	A	34302			
4,4'-DDT	B	141779	1	15	
4,4'-DDE	B	456			
4,4'-DDD	B	1529			
Endrin	B	85481	4	15	
Endrin aldehyde	B	1301			
Endrin ketone	B	1894			

Analyst: JCD Date: 09/28/16 Reviewer: EAH Date: 09/29/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC23 Run Name : PEM IDF : 1.0
Seqnum : 806390748025 File : 271_025 Time : 27-SEP-2016 22:34

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	368875	2	15	
4,4'-DDE	A	1532			
4,4'-DDD	A	4534			
Endrin	A	279211	8	15	
Endrin aldehyde	A	6468			
Endrin ketone	A	18080			
4,4'-DDT	B	120773	2	15	
4,4'-DDE	B	397			
4,4'-DDD	B	1471			
Endrin	B	72064	5	15	
Endrin aldehyde	B	1546			
Endrin ketone	B	2057			

Analyst: JCD Date: 09/28/16 Reviewer: EAH Date: 10/05/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC30 Run Name : PEM IDF : 1.0
Seqnum : 356369195003 File : 256_003 Time : 12-SEP-2016 09:46

Standards: S29649

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	436062	3	15	
4,4'-DDE	A	891			
4,4'-DDD	A	11713			
Endrin	A	261183	3	15	
Endrin aldehyde	A	1861			
Endrin ketone	A	7157			
4,4'-DDT	B	270132	2	15	
4,4'-DDE	B	201			
4,4'-DDD	B	4537			
Endrin	B	156377	5	15	
Endrin aldehyde	B	3084			
Endrin ketone	B	4620			

Analyst: RFC Date: 09/15/16 Reviewer: EAH Date: 09/15/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC30 Run Name : PEM IDF : 1.0
Seqnum : 356393697006 File : 273_006 Time : 29-SEP-2016 11:14

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	399169	4	15	
4,4'-DDE	A	1605			
4,4'-DDD	A	15510			
Endrin	A	238709	7	15	
Endrin aldehyde	A	6071			
Endrin ketone	A	12770			
4,4'-DDT	B	248325	2	15	
4,4'-DDE	B	0			
4,4'-DDD	B	4870			
Endrin	B	137481	5	15	
Endrin aldehyde	B	1539			
Endrin ketone	B	6081			

Analyst: JCD Date: 09/30/16 Reviewer: EAH Date: 10/04/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC30 Run Name : PEM IDF : 1.0
Seqnum : 356393697020 File : 273_020 Time : 29-SEP-2016 18:21

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	419594	8	15	
4,4'-DDE	A	2492			
4,4'-DDD	A	33061			
Endrin	A	286024	5	15	
Endrin aldehyde	A	4862			
Endrin ketone	A	11768			
4,4'-DDT	B	190862	4	15	
4,4'-DDE	B	1159			
4,4'-DDD	B	7512			
Endrin	B	104503	5	15	
Endrin aldehyde	B	1823			
Endrin ketone	B	3992			

Analyst: JCD Date: 09/30/16 Reviewer: EAH Date: 10/04/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC21 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 246390747016 File : 271_016 Time : 27-SEP-2016 15:56
Cal : 246290041001 Caldate : 19-JUL-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	28434	29937	10.00	10.53	pg/uL	5	15	
gamma-BHC	A	26410	27819	10.00	10.53	pg/uL	5	15	
beta-BHC	A	11093	10869	10.00	9.799	pg/uL	-2	15	
delta-BHC	A	23972	25770	10.00	10.75	pg/uL	8	15	
Heptachlor	A	24407	25906	10.00	10.61	pg/uL	6	15	
Aldrin	A	24263	25112	10.00	10.35	pg/uL	3	15	
Heptachlor epoxide	A	21464	21888	10.00	10.20	pg/uL	2	15	
gamma-Chlordane	A	22150	22214	10.00	10.03	pg/uL	0	15	
alpha-Chlordane	A	21129	21626	10.00	10.23	pg/uL	2	15	
4,4'-DDE	A	20244	21179	20.00	20.92	pg/uL	5	15	
Endosulfan I	A	20339	20127	10.00	9.896	pg/uL	-1	15	
Dieldrin	A	21338	22447	20.00	21.04	pg/uL	5	15	
Endrin	A	17490	18473	20.00	21.12	pg/uL	6	15	
4,4'-DDD	A	17044	17375	20.00	20.39	pg/uL	2	15	
Endosulfan II	A	17974	18319	20.00	20.38	pg/uL	2	15	
4,4'-DDT	A	17685	18629	20.00	21.07	pg/uL	5	15	
Endrin aldehyde	A	14130	13764	20.00	19.48	pg/uL	-3	15	
Methoxychlor	A	6459.2	6970.9	100.0	110.5	pg/uL	10	15	
Endosulfan sulfate	A	15910	15653	20.00	19.68	pg/uL	-2	15	
TCMX	A	15610	17527	20.00	22.46	pg/uL	12	15	
Decachlorobiphenyl	A	13001	12741	20.00	19.60	pg/uL	-2	15	
alpha-BHC	B	6502.8	7451.1	10.00	10.74	pg/uL	7	15	
gamma-BHC	B	6081.4	6817.3	10.00	10.63	pg/uL	6	15	
beta-BHC	B	2550.6	2541.7	10.00	9.965	pg/uL	0	15	
delta-BHC	B	6017.6	6380.4	10.00	10.10	pg/uL	1	15	
Heptachlor	B	5880.8	6420.4	10.00	10.52	pg/uL	5	15	
Aldrin	B	5870.6	6482.4	10.00	10.37	pg/uL	4	15	
Heptachlor epoxide	B	5234.8	5431.3	10.00	9.911	pg/uL	-1	15	
gamma-Chlordane	B	5351.0	5570.5	10.00	9.889	pg/uL	-1	15	
alpha-Chlordane	B	4910.0	4862.1	10.00	9.392	pg/uL	-6	15	
4,4'-DDE	B	4304.5	4303.4	20.00	20.71	pg/uL	4	15	
Endosulfan I	B	4921.7	5105.0	10.00	9.857	pg/uL	-1	15	
Dieldrin	B	4525.0	4613.5	20.00	21.76	pg/uL	9	15	
Endrin	B	3785.3	4187.6	20.00	23.39	pg/uL	**17**	15	c+ ***
4,4'-DDD	B	3686.8	3599.5	20.00	19.75	pg/uL	-1	15	
Endosulfan II	B	3843.7	3805.6	20.00	20.19	pg/uL	1	15	
4,4'-DDT	B	3655.4	3782.3	20.00	20.58	pg/uL	3	15	
Endrin aldehyde	B	3081.4	2894.8	20.00	17.84	pg/uL	-11	15	
Methoxychlor	B	1405.8	1175.7	100.0	95.00	pg/uL	-5	15	
Endosulfan sulfate	B	3637.5	3577.4	20.00	19.20	pg/uL	-4	15	
TCMX	B	3939.4	3918.6	20.00	19.89	pg/uL	-1	15	
Decachlorobiphenyl	B	3411.0	3237.5	20.00	18.15	pg/uL	-9	15	
Average EPA 8081A	A	(n=23)					4	15	
Average EPA 8081A	B	(n=23)					5	15	

JCD 09/28/16 : Corrected automatically drawn baseline for all channels.

JCD 09/28/16 : Separated from coeluting peak for all channels.

average ICAL %RSD out (B)

Analyst: JCD Date: 09/28/16 Reviewer: EAH Date: 09/28/16

+=high bias c=CCV

246390747016

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC21 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 246390747027 File : 271_027 Time : 27-SEP-2016 19:57
Cal : 246290041001 Caldate : 19-JUL-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	28434	30175	10.00	10.61	pg/uL	6	15	
gamma-BHC	A	26410	27939	10.00	10.58	pg/uL	6	15	
beta-BHC	A	11093	11026	10.00	9.940	pg/uL	-1	15	
delta-BHC	A	23972	25514	10.00	10.64	pg/uL	6	15	
Heptachlor	A	24407	26239	10.00	10.75	pg/uL	8	15	
Aldrin	A	24263	25394	10.00	10.47	pg/uL	5	15	
Heptachlor epoxide	A	21464	22258	10.00	10.37	pg/uL	4	15	
gamma-Chlordane	A	22150	23238	10.00	10.49	pg/uL	5	15	
alpha-Chlordane	A	21129	21921	10.00	10.37	pg/uL	4	15	
4,4'-DDE	A	20244	21611	20.00	21.35	pg/uL	7	15	
Endosulfan I	A	20339	20576	10.00	10.12	pg/uL	1	15	
Dieldrin	A	21338	22679	20.00	21.26	pg/uL	6	15	
Endrin	A	17490	18073	20.00	20.67	pg/uL	3	15	
4,4'-DDD	A	17044	17733	20.00	20.81	pg/uL	4	15	
Endosulfan II	A	17974	18699	20.00	20.81	pg/uL	4	15	
4,4'-DDT	A	17685	18961	20.00	21.44	pg/uL	7	15	
Endrin aldehyde	A	14130	14370	20.00	20.34	pg/uL	2	15	
Methoxychlor	A	6459.2	7113.6	100.0	113.3	pg/uL	13	15	
Endosulfan sulfate	A	15910	16054	20.00	20.18	pg/uL	1	15	
TCMX	A	15610	18309	20.00	23.46	pg/uL	**17**	15	c+
Decachlorobiphenyl	A	13001	13244	20.00	20.37	pg/uL	2	15	
alpha-BHC	B	6502.8	7924.1	10.00	11.52	pg/uL	15	15	
gamma-BHC	B	6081.4	7276.1	10.00	11.46	pg/uL	15	15	
beta-BHC	B	2550.6	2782.3	10.00	10.91	pg/uL	9	15	
delta-BHC	B	6017.6	6891.5	10.00	11.04	pg/uL	10	15	
Heptachlor	B	5880.8	6990.3	10.00	11.61	pg/uL	**16**	15	c+ ***
Aldrin	B	5870.6	6898.4	10.00	11.15	pg/uL	11	15	
Heptachlor epoxide	B	5234.8	5877.1	10.00	10.85	pg/uL	9	15	
gamma-Chlordane	B	5351.0	5906.5	10.00	10.57	pg/uL	6	15	
alpha-Chlordane	B	4910.0	5269.4	10.00	10.29	pg/uL	3	15	
4,4'-DDE	B	4304.5	4557.8	20.00	22.29	pg/uL	11	15	
Endosulfan I	B	4921.7	5417.2	10.00	10.55	pg/uL	5	15	
Dieldrin	B	4525.0	4886.9	20.00	23.47	pg/uL	**17**	15	c+ ***
Endrin	B	3785.3	4274.7	20.00	24.01	pg/uL	**20**	15	c+ ***
4,4'-DDD	B	3686.8	3891.9	20.00	21.78	pg/uL	9	15	
Endosulfan II	B	3843.7	4094.6	20.00	22.13	pg/uL	11	15	
4,4'-DDT	B	3655.4	4015.4	20.00	22.16	pg/uL	11	15	
Endrin aldehyde	B	3081.4	3265.6	20.00	20.54	pg/uL	3	15	
Methoxychlor	B	1405.8	1251.6	100.0	104.6	pg/uL	5	15	
Endosulfan sulfate	B	3637.5	3848.0	20.00	20.98	pg/uL	5	15	
TCMX	B	3939.4	4275.6	20.00	21.71	pg/uL	9	15	
Decachlorobiphenyl	B	3411.0	3598.8	20.00	20.59	pg/uL	3	15	
Average EPA 8081A	A	(n=23)					5	15	
Average EPA 8081A	B	(n=23)					10	15	

JCD 09/28/16 : Corrected automatically drawn baseline for all channels.

JCD 09/28/16 : Separated from coeluting peak for all channels.

average ICAL %RSD out (B)

Analyst: JCD Date: 09/28/16 Reviewer: EAH Date: 09/28/16

+=high bias c=CCV

246390747027

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC21 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 246393697007 File : 273_007 Time : 29-SEP-2016 11:48
Cal : 246290041001 Caldate : 19-JUL-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	28434	30545	10.00	10.74	pg/uL	7	15	
gamma-BHC	A	26410	28221	10.00	10.69	pg/uL	7	15	
beta-BHC	A	11093	11144	10.00	10.05	pg/uL	0	15	
delta-BHC	A	23972	25388	10.00	10.59	pg/uL	6	15	
Heptachlor	A	24407	25237	10.00	10.34	pg/uL	3	15	
Aldrin	A	24263	25427	10.00	10.48	pg/uL	5	15	
Heptachlor epoxide	A	21464	22316	10.00	10.40	pg/uL	4	15	
gamma-Chlordane	A	22150	23189	10.00	10.47	pg/uL	5	15	
alpha-Chlordane	A	21129	22058	10.00	10.44	pg/uL	4	15	
4,4'-DDE	A	20244	21497	20.00	21.24	pg/uL	6	15	
Endosulfan I	A	20339	20611	10.00	10.13	pg/uL	1	15	
Dieldrin	A	21338	22428	20.00	21.02	pg/uL	5	15	
Endrin	A	17490	14724	20.00	16.84	pg/uL	**-16**	15	c- ***
4,4'-DDD	A	17044	17476	20.00	20.51	pg/uL	3	15	
Endosulfan II	A	17974	18664	20.00	20.77	pg/uL	4	15	
4,4'-DDT	A	17685	18091	20.00	20.46	pg/uL	2	15	
Endrin aldehyde	A	14130	14433	20.00	20.43	pg/uL	2	15	
Methoxychlor	A	6459.2	6762.1	100.0	106.3	pg/uL	6	15	
Endosulfan sulfate	A	15910	15852	20.00	19.93	pg/uL	0	15	
TCMX	A	15610	17575	20.00	22.52	pg/uL	13	15	
Decachlorobiphenyl	A	13001	13042	20.00	20.06	pg/uL	0	15	
alpha-BHC	B	6502.8	7178.6	10.00	10.29	pg/uL	3	15	
gamma-BHC	B	6081.4	6698.0	10.00	10.42	pg/uL	4	15	
beta-BHC	B	2550.6	2768.4	10.00	10.85	pg/uL	9	15	
delta-BHC	B	6017.6	6653.3	10.00	10.60	pg/uL	6	15	
Heptachlor	B	5880.8	6272.2	10.00	10.24	pg/uL	2	15	
Aldrin	B	5870.6	6396.5	10.00	10.22	pg/uL	2	15	
Heptachlor epoxide	B	5234.8	5605.1	10.00	10.28	pg/uL	3	15	
gamma-Chlordane	B	5351.0	5718.3	10.00	10.19	pg/uL	2	15	
alpha-Chlordane	B	4910.0	4897.4	10.00	9.469	pg/uL	-5	15	
4,4'-DDE	B	4304.5	4527.7	20.00	22.10	pg/uL	10	15	
Endosulfan I	B	4921.7	5225.3	10.00	10.12	pg/uL	1	15	
Dieldrin	B	4525.0	4728.6	20.00	22.47	pg/uL	12	15	
Endrin	B	3785.3	4124.2	20.00	22.93	pg/uL	15	15	
4,4'-DDD	B	3686.8	3867.1	20.00	21.61	pg/uL	8	15	
Endosulfan II	B	3843.7	4051.6	20.00	21.84	pg/uL	9	15	
4,4'-DDT	B	3655.4	4012.8	20.00	22.15	pg/uL	11	15	
Endrin aldehyde	B	3081.4	3359.1	20.00	21.24	pg/uL	6	15	
Methoxychlor	B	1405.8	1237.7	100.0	102.8	pg/uL	3	15	
Endosulfan sulfate	B	3637.5	3965.8	20.00	21.77	pg/uL	9	15	
TCMX	B	3939.4	3974.6	20.00	20.18	pg/uL	1	15	
Decachlorobiphenyl	B	3411.0	3646.6	20.00	20.92	pg/uL	5	15	
Average EPA 8081A	A	(n=23)					5	15	
Average EPA 8081A	B	(n=23)					6	15	

JCD 09/29/16 : Corrected automatically drawn baseline for all channels.

JCD 09/29/16 : Separated from coeluting peak for all channels.

average ICAL %RSD out (B)

Analyst: JCD Date: 09/29/16 Reviewer: EAH Date: 09/29/16

-=low bias c=CCV

246393697007

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC21 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 246393697017 File : 273_017 Time : 29-SEP-2016 15:41
Cal : 246290041001 Caldate : 19-JUL-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	28434	29659	10.00	10.43	pg/uL	4	15	
gamma-BHC	A	26410	27530	10.00	10.42	pg/uL	4	15	
beta-BHC	A	11093	10503	10.00	9.468	pg/uL	-5	15	
delta-BHC	A	23972	24472	10.00	10.21	pg/uL	2	15	
Heptachlor	A	24407	24694	10.00	10.12	pg/uL	1	15	
Aldrin	A	24263	24567	10.00	10.13	pg/uL	1	15	
Heptachlor epoxide	A	21464	21586	10.00	10.06	pg/uL	1	15	
gamma-Chlordane	A	22150	22707	10.00	10.25	pg/uL	3	15	
alpha-Chlordane	A	21129	20509	10.00	9.706	pg/uL	-3	15	
4,4'-DDE	A	20244	20892	20.00	20.64	pg/uL	3	15	
Endosulfan I	A	20339	20677	10.00	10.17	pg/uL	2	15	
Dieldrin	A	21338	22104	20.00	20.72	pg/uL	4	15	
Endrin	A	17490	14595	20.00	16.69	pg/uL	**-17**	15	c- ***
4,4'-DDD	A	17044	17094	20.00	20.06	pg/uL	0	15	
Endosulfan II	A	17974	18105	20.00	20.15	pg/uL	1	15	
4,4'-DDT	A	17685	17725	20.00	20.04	pg/uL	0	15	
Endrin aldehyde	A	14130	13738	20.00	19.45	pg/uL	-3	15	
Methoxychlor	A	6459.2	6635.7	100.0	103.8	pg/uL	4	15	
Endosulfan sulfate	A	15910	15251	20.00	19.17	pg/uL	-4	15	
TCMX	A	15610	16871	20.00	21.62	pg/uL	8	15	
Decachlorobiphenyl	A	13001	12255	20.00	18.85	pg/uL	-6	15	
alpha-BHC	B	6502.8	7393.4	10.00	10.64	pg/uL	6	15	
gamma-BHC	B	6081.4	6878.3	10.00	10.74	pg/uL	7	15	
beta-BHC	B	2550.6	2710.4	10.00	10.63	pg/uL	6	15	
delta-BHC	B	6017.6	6898.6	10.00	11.06	pg/uL	11	15	
Heptachlor	B	5880.8	6483.9	10.00	10.64	pg/uL	6	15	
Aldrin	B	5870.6	6629.2	10.00	10.64	pg/uL	6	15	
Heptachlor epoxide	B	5234.8	5841.0	10.00	10.78	pg/uL	8	15	
gamma-Chlordane	B	5351.0	5971.2	10.00	10.71	pg/uL	7	15	
alpha-Chlordane	B	4910.0	5175.5	10.00	10.08	pg/uL	1	15	
4,4'-DDE	B	4304.5	4647.8	20.00	22.86	pg/uL	14	15	
Endosulfan I	B	4921.7	5504.7	10.00	10.74	pg/uL	7	15	
Dieldrin	B	4525.0	4860.3	20.00	23.30	pg/uL	**16**	15	c+ ***
Endrin	B	3785.3	4271.9	20.00	23.99	pg/uL	**20**	15	c+ ***
4,4'-DDD	B	3686.8	4009.3	20.00	22.61	pg/uL	13	15	
Endosulfan II	B	3843.7	4203.4	20.00	22.88	pg/uL	14	15	
4,4'-DDT	B	3655.4	4218.3	20.00	23.57	pg/uL	**18**	15	c+ ***
Endrin aldehyde	B	3081.4	3463.9	20.00	22.02	pg/uL	10	15	
Methoxychlor	B	1405.8	1246.2	100.0	103.9	pg/uL	4	15	
Endosulfan sulfate	B	3637.5	4091.3	20.00	22.62	pg/uL	13	15	
TCMX	B	3939.4	3992.7	20.00	20.27	pg/uL	1	15	
Decachlorobiphenyl	B	3411.0	3737.2	20.00	21.54	pg/uL	8	15	
Average EPA 8081A	A	(n=23)					4	15	
Average EPA 8081A	B	(n=23)					10	15	

JCD 09/29/16 : Corrected automatically drawn baseline for all channels.

JCD 09/29/16 : Separated from coeluting peak for all channels.

average ICAL %RSD out (B)

Analyst: JCD Date: 09/29/16 Reviewer: EAH Date: 09/29/16

+=high bias -=low bias c=CCV

246393697017

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC23 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 806390748003 File : 271_003 Time : 27-SEP-2016 09:04
Cal : 806350313001 Caldate : 30-AUG-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	14443	17646	10.00	12.22	pg/uL	**22**	15	c+ ***
gamma-BHC	A	12730	15516	10.00	12.19	pg/uL	**22**	15	c+ ***
beta-BHC	A	5087.8	5270.4	10.00	10.36	pg/uL	4	15	v+
delta-BHC	A	12324	13959	10.00	11.33	pg/uL	13	15	
Heptachlor	A	9956.5	11167	10.00	11.22	pg/uL	12	15	
Aldrin	A	10972	12382	10.00	11.28	pg/uL	13	15	
Heptachlor epoxide	A	9247.0	11034	10.00	11.93	pg/uL	**19**	15	c+ ***
gamma-Chlordane	A	9152.4	10621	10.00	11.60	pg/uL	**16**	15	c+ ***
alpha-Chlordane	A	8743.6	9976.6	10.00	11.41	pg/uL	14	15	
4,4'-DDE	A	8105.1	8719.9	20.00	21.52	pg/uL	8	15	v+
Endosulfan I	A	8782.1	10163	10.00	11.57	pg/uL	**16**	15	c+ ***
Dieldrin	A	7750.0	8839.5	20.00	21.12	pg/uL	6	15	v+
Endrin	A	6378.9	7772.7	20.00	24.37	pg/uL	**22**	15	c+ v+ ***
4,4'-DDD	A	6108.0	6548.1	20.00	21.44	pg/uL	7	15	v+
Endosulfan II	A	6743.4	7356.3	20.00	21.82	pg/uL	9	15	v+
4,4'-DDT	A	6427.5	7588.7	20.00	23.61	pg/uL	**18**	15	c+ v+ ***
Endrin aldehyde	A	5541.3	5154.4	20.00	18.60	pg/uL	-7	15	v+
Methoxychlor	A	2353.4	2322.3	100.0	92.28	pg/uL	-8	15	v-
Endosulfan sulfate	A	5486.5	5670.2	20.00	20.67	pg/uL	3	15	v+
TCMX	A	7835.1	9360.0	20.00	23.89	pg/uL	**19**	15	c+
Decachlorobiphenyl	A	3461.7	3020.5	20.00	17.45	pg/uL	-13	15	
alpha-BHC	B	2040.5	2119.5	10.00	10.39	pg/uL	4	15	
gamma-BHC	B	1881.9	1975.2	10.00	10.50	pg/uL	5	15	
beta-BHC	B	842.43	869.40	10.00	10.32	pg/uL	3	15	
delta-BHC	B	1588.5	1689.7	10.00	10.64	pg/uL	6	15	
Heptachlor	B	1811.0	1896.8	10.00	10.47	pg/uL	5	15	
Aldrin	B	2190.8	2445.6	10.00	11.16	pg/uL	12	15	
Heptachlor epoxide	B	1668.9	1855.6	10.00	11.12	pg/uL	11	15	
gamma-Chlordane	B	1819.7	2026.8	10.00	11.14	pg/uL	11	15	
alpha-Chlordane	B	1690.5	1886.5	10.00	11.16	pg/uL	12	15	
4,4'-DDE	B	1621.4	1909.5	20.00	23.55	pg/uL	**18**	15	c+ ***
Endosulfan I	B	1474.5	1602.6	10.00	10.87	pg/uL	9	15	
Dieldrin	B	1640.4	1865.9	20.00	22.75	pg/uL	14	15	
Endrin	B	1279.2	1402.8	20.00	21.93	pg/uL	10	15	
4,4'-DDD	B	1099.9	1208.7	20.00	21.98	pg/uL	10	15	
Endosulfan II	B	989.97	1083.7	20.00	21.89	pg/uL	9	15	
4,4'-DDT	B	1373.2	1585.3	20.00	23.09	pg/uL	15	15	
Endrin aldehyde	B	843.11	855.55	20.00	20.30	pg/uL	1	15	
Methoxychlor	B	488.27	500.16	100.0	102.4	pg/uL	2	15	
Endosulfan sulfate	B	988.69	1148.6	20.00	23.23	pg/uL	**16**	15	c+ ***
TCMX	B	1539.6	1718.0	20.00	22.32	pg/uL	12	15	
Decachlorobiphenyl	B	1042.7	1036.6	20.00	19.88	pg/uL	-1	15	
Average EPA 8081A	A	(n=23)					13	15	
Average EPA 8081A	B	(n=23)					9	15	

JCD 09/28/16 : Corrected automatically drawn baseline for all channels.

JCD 09/28/16 : Separated from coeluting peak for all channels.

Analyst: JCD Date: 09/28/16 Reviewer: EAH Date: 09/29/16

+=high bias -=low bias c=CCV v=ICV

806390748003

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC23 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 806390748014 File : 271_014 Time : 27-SEP-2016 19:14
Cal : 806350313001 Caldate : 30-AUG-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	14443	21802	10.00	15.10	pg/uL	**51**	15	c+ ***
gamma-BHC	A	12730	19430	10.00	15.26	pg/uL	**53**	15	c+ ***
beta-BHC	A	5087.8	7558.6	10.00	14.86	pg/uL	**49**	15	c+ v+ ***
delta-BHC	A	12324	17262	10.00	14.01	pg/uL	**40**	15	c+ ***
Heptachlor	A	9956.5	15216	10.00	15.28	pg/uL	**53**	15	c+ ***
Aldrin	A	10972	15484	10.00	14.11	pg/uL	**41**	15	c+ ***
Heptachlor epoxide	A	9247.0	14015	10.00	15.16	pg/uL	**52**	15	c+ ***
gamma-Chlordane	A	9152.4	13528	10.00	14.78	pg/uL	**48**	15	c+ ***
alpha-Chlordane	A	8743.6	12973	10.00	14.84	pg/uL	**48**	15	c+ ***
4,4'-DDE	A	8105.1	10653	20.00	26.29	pg/uL	**31**	15	c+ v+ ***
Endosulfan I	A	8782.1	13271	10.00	15.11	pg/uL	**51**	15	c+ ***
Dieldrin	A	7750.0	10853	20.00	27.24	pg/uL	**36**	15	c+ v+ ***
Endrin	A	6378.9	9642.3	20.00	30.23	pg/uL	**51**	15	c+ v+ ***
4,4'-DDD	A	6108.0	8519.0	20.00	27.89	pg/uL	**39**	15	c+ v+ ***
Endosulfan II	A	6743.4	9273.2	20.00	27.50	pg/uL	**38**	15	c+ v+ ***
4,4'-DDT	A	6427.5	10445	20.00	32.50	pg/uL	**63**	15	c+ v+ ***
Endrin aldehyde	A	5541.3	6983.6	20.00	25.21	pg/uL	**26**	15	c+ v+ ***
Methoxychlor	A	2353.4	2921.1	100.0	126.8	pg/uL	**27**	15	c+ v- ***
Endosulfan sulfate	A	5486.5	7545.7	20.00	27.51	pg/uL	**38**	15	c+ v+ ***
TCMX	A	7835.1	12463	20.00	31.81	pg/uL	**59**	15	c+
Decachlorobiphenyl	A	3461.7	4038.3	20.00	23.33	pg/uL	**17**	15	c+
alpha-BHC	B	2040.5	2182.2	10.00	10.69	pg/uL	7	15	
gamma-BHC	B	1881.9	2047.8	10.00	10.88	pg/uL	9	15	
beta-BHC	B	842.43	878.30	10.00	10.43	pg/uL	4	15	
delta-BHC	B	1588.5	1722.0	10.00	10.84	pg/uL	8	15	
Heptachlor	B	1811.0	2117.3	10.00	11.69	pg/uL	**17**	15	c+ ***
Aldrin	B	2190.8	2443.4	10.00	11.15	pg/uL	12	15	
Heptachlor epoxide	B	1668.9	1873.1	10.00	11.22	pg/uL	12	15	
gamma-Chlordane	B	1819.7	2042.8	10.00	11.23	pg/uL	12	15	
alpha-Chlordane	B	1690.5	1873.2	10.00	11.08	pg/uL	11	15	
4,4'-DDE	B	1621.4	1929.8	20.00	23.80	pg/uL	**19**	15	c+ ***
Endosulfan I	B	1474.5	1665.7	10.00	11.30	pg/uL	13	15	
Dieldrin	B	1640.4	1897.1	20.00	23.13	pg/uL	**16**	15	c+ ***
Endrin	B	1279.2	1495.2	20.00	23.38	pg/uL	**17**	15	c+ ***
4,4'-DDD	B	1099.9	1277.8	20.00	23.23	pg/uL	**16**	15	c+ ***
Endosulfan II	B	989.97	1153.0	20.00	23.29	pg/uL	**16**	15	c+ ***
4,4'-DDT	B	1373.2	1602.4	20.00	23.34	pg/uL	**17**	15	c+ ***
Endrin aldehyde	B	843.11	895.45	20.00	21.24	pg/uL	6	15	
Methoxychlor	B	488.27	543.16	100.0	111.2	pg/uL	11	15	
Endosulfan sulfate	B	988.69	1149.9	20.00	23.26	pg/uL	**16**	15	c+ ***
TCMX	B	1539.6	1737.3	20.00	22.57	pg/uL	13	15	
Decachlorobiphenyl	B	1042.7	1188.2	20.00	22.79	pg/uL	14	15	
Average EPA 8081A	A	(n=23)					**43**	15	ac ***
Average EPA 8081A	B	(n=23)					13	15	

JCD 09/28/16 : Corrected automatically drawn baseline for all channels.

JCD 09/28/16 : Separated from coeluting peak for all channels.

Analyst: JCD Date: 09/28/16 Reviewer: EAH Date: 09/29/16

+=high bias -=low bias ac=average CCV drift out c=CCV v=ICV

806390748014

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC23 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 806390748026 File : 271_026 Time : 27-SEP-2016 22:53
Cal : 806350313001 Caldate : 30-AUG-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	14443	19058	10.00	13.19	pg/uL	**32**	15	c+ ***
gamma-BHC	A	12730	16551	10.00	13.00	pg/uL	**30**	15	c+ ***
beta-BHC	A	5087.8	5632.6	10.00	11.07	pg/uL	11	15	v+
delta-BHC	A	12324	14654	10.00	11.89	pg/uL	**19**	15	c+ ***
Heptachlor	A	9956.5	13656	10.00	13.72	pg/uL	**37**	15	c+ ***
Aldrin	A	10972	13251	10.00	12.08	pg/uL	**21**	15	c+ ***
Heptachlor epoxide	A	9247.0	11477	10.00	12.41	pg/uL	**24**	15	c+ ***
gamma-Chlordane	A	9152.4	10975	10.00	11.99	pg/uL	**20**	15	c+ ***
alpha-Chlordane	A	8743.6	10584	10.00	12.10	pg/uL	**21**	15	c+ ***
4,4'-DDE	A	8105.1	9118.4	20.00	22.50	pg/uL	13	15	v+
Endosulfan I	A	8782.1	10674	10.00	12.15	pg/uL	**22**	15	c+ ***
Dieldrin	A	7750.0	9286.5	20.00	22.43	pg/uL	12	15	v+
Endrin	A	6378.9	7884.3	20.00	24.72	pg/uL	**24**	15	c+ v+ ***
4,4'-DDD	A	6108.0	7097.5	20.00	23.24	pg/uL	**16**	15	c+ v+ ***
Endosulfan II	A	6743.4	7802.8	20.00	23.14	pg/uL	**16**	15	c+ v+ ***
4,4'-DDT	A	6427.5	7820.9	20.00	24.34	pg/uL	**22**	15	c+ v+ ***
Endrin aldehyde	A	5541.3	5670.0	20.00	20.46	pg/uL	2	15	v+
Methoxychlor	A	2353.4	2492.0	100.0	101.3	pg/uL	1	15	v-
Endosulfan sulfate	A	5486.5	6464.6	20.00	23.57	pg/uL	**18**	15	c+ v+ ***
TCMX	A	7835.1	10482	20.00	26.76	pg/uL	**34**	15	c+
Decachlorobiphenyl	A	3461.7	4076.1	20.00	23.55	pg/uL	**18**	15	c+
alpha-BHC	B	2040.5	2168.3	10.00	10.63	pg/uL	6	15	
gamma-BHC	B	1881.9	1996.0	10.00	10.61	pg/uL	6	15	
beta-BHC	B	842.43	860.40	10.00	10.21	pg/uL	2	15	
delta-BHC	B	1588.5	1673.3	10.00	10.53	pg/uL	5	15	
Heptachlor	B	1811.0	1939.8	10.00	10.71	pg/uL	7	15	
Aldrin	B	2190.8	2346.0	10.00	10.71	pg/uL	7	15	
Heptachlor epoxide	B	1668.9	1854.6	10.00	11.11	pg/uL	11	15	
gamma-Chlordane	B	1819.7	1958.9	10.00	10.76	pg/uL	8	15	
alpha-Chlordane	B	1690.5	1817.8	10.00	10.75	pg/uL	8	15	
4,4'-DDE	B	1621.4	1845.4	20.00	22.76	pg/uL	14	15	
Endosulfan I	B	1474.5	1622.7	10.00	11.01	pg/uL	10	15	
Dieldrin	B	1640.4	1824.1	20.00	22.24	pg/uL	11	15	
Endrin	B	1279.2	1406.1	20.00	21.98	pg/uL	10	15	
4,4'-DDD	B	1099.9	1212.7	20.00	22.05	pg/uL	10	15	
Endosulfan II	B	989.97	1116.6	20.00	22.56	pg/uL	13	15	
4,4'-DDT	B	1373.2	1495.8	20.00	21.79	pg/uL	9	15	
Endrin aldehyde	B	843.11	874.60	20.00	20.75	pg/uL	4	15	
Methoxychlor	B	488.27	500.51	100.0	102.5	pg/uL	3	15	
Endosulfan sulfate	B	988.69	1088.4	20.00	22.02	pg/uL	10	15	
TCMX	B	1539.6	1657.4	20.00	21.53	pg/uL	8	15	
Decachlorobiphenyl	B	1042.7	1064.4	20.00	20.42	pg/uL	2	15	
Average EPA 8081A	A	(n=23)					**20**	15	ac ***
Average EPA 8081A	B	(n=23)					8	15	

JCD 09/28/16 : Corrected automatically drawn baseline for all channels.

JCD 09/28/16 : Separated from coeluting peak for all channels.

Analyst: JCD Date: 09/28/16 Reviewer: EAH Date: 10/05/16

+=high bias -=low bias ac=average CCV drift out c=CCV v=ICV

806390748026

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC30 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 356393697007 File : 273_007 Time : 29-SEP-2016 11:30
Cal : 356369195001 Caldate : 12-SEP-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	8852.0	10322	10.00	11.66	pg/uL	**17**	15	c+ ***
gamma-BHC	A	8292.2	9447.1	10.00	11.39	pg/uL	14	15	
beta-BHC	A	3132.6	2981.4	10.00	9.517	pg/uL	-5	15	
delta-BHC	A	8266.7	8858.4	10.00	10.72	pg/uL	7	15	
Heptachlor	A	8209.1	9241.1	10.00	11.26	pg/uL	13	15	
Aldrin	A	7955.0	8636.9	10.00	10.86	pg/uL	9	15	
Heptachlor epoxide	A	6670.7	7249.5	10.00	10.87	pg/uL	9	15	
gamma-Chlordane	A	7119.0	7367.7	10.00	10.35	pg/uL	3	15	
alpha-Chlordane	A	6250.8	6512.4	10.00	10.42	pg/uL	4	15	v+
4,4'-DDE	A	6414.2	6964.4	20.00	21.72	pg/uL	9	15	v+
Endosulfan I	A	6628.8	6876.0	10.00	10.37	pg/uL	4	15	
Dieldrin	A	6145.4	6856.4	20.00	22.31	pg/uL	12	15	v+
Endrin	A	5702.7	6225.0	20.00	21.83	pg/uL	9	15	
4,4'-DDD	A	5440.1	5895.7	20.00	21.67	pg/uL	8	15	
Endosulfan II	A	5634.1	6171.1	20.00	21.91	pg/uL	10	15	
4,4'-DDT	A	6025.4	6648.4	20.00	22.07	pg/uL	10	15	
Endrin aldehyde	A	4192.7	4465.9	20.00	21.30	pg/uL	7	15	v+
Methoxychlor	A	2119.8	2406.6	100.0	107.8	pg/uL	8	15	
Endosulfan sulfate	A	4751.3	4835.6	20.00	20.35	pg/uL	2	15	
TCMX	A	4464.3	5255.4	20.00	23.54	pg/uL	**18**	15	c+
Decachlorobiphenyl	A	4485.5	4522.4	20.00	20.16	pg/uL	1	15	
alpha-BHC	B	3888.9	4440.1	10.00	11.42	pg/uL	14	15	v+
gamma-BHC	B	3779.7	4024.6	10.00	10.65	pg/uL	6	15	
beta-BHC	B	1410.2	1300.1	10.00	9.219	pg/uL	-8	15	
delta-BHC	B	3588.7	3881.8	10.00	10.82	pg/uL	8	15	v+
Heptachlor	B	3797.3	4073.0	10.00	10.73	pg/uL	7	15	
Aldrin	B	3514.7	3689.6	10.00	10.50	pg/uL	5	15	v+
Heptachlor epoxide	B	3072.3	3094.4	10.00	10.07	pg/uL	1	15	
gamma-Chlordane	B	3144.7	3041.2	10.00	9.671	pg/uL	-3	15	
alpha-Chlordane	B	2983.6	2820.8	10.00	9.454	pg/uL	-5	15	
4,4'-DDE	B	2678.8	2672.7	20.00	19.95	pg/uL	0	15	
Endosulfan I	B	2881.3	2791.4	10.00	9.688	pg/uL	-3	15	
Dieldrin	B	3098.6	3381.6	20.00	21.83	pg/uL	9	15	
Endrin	B	2681.8	2735.1	20.00	20.40	pg/uL	2	15	
4,4'-DDD	B	2165.6	2178.0	20.00	20.11	pg/uL	1	15	
Endosulfan II	B	2312.1	2441.4	20.00	21.12	pg/uL	6	15	
4,4'-DDT	B	2505.7	2419.4	20.00	19.31	pg/uL	-3	15	
Endrin aldehyde	B	1917.9	1762.5	20.00	18.38	pg/uL	-8	15	
Methoxychlor	B	979.00	1183.2	100.0	120.9	pg/uL	**21**	15	c+ ***
Endosulfan sulfate	B	2020.4	2013.1	20.00	19.93	pg/uL	0	15	
TCMX	B	2375.8	2599.1	20.00	21.88	pg/uL	9	15	
Decachlorobiphenyl	B	2106.9	2055.8	20.00	19.52	pg/uL	-2	15	
Average EPA 8081A	A	(n=23)					9	15	
Average EPA 8081A	B	(n=23)					6	15	

JCD 09/30/16 : Corrected automatically drawn baseline for all channels.

JCD 09/30/16 : Separated from coeluting peak for all channels.

Analyst: JCD Date: 09/30/16 Reviewer: EAH Date: 10/04/16

+=high bias c=CCV v=ICV

356393697007

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 PEST Soil
EPA 8081A

Inst : GC30 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 356393697021 File : 273_021 Time : 29-SEP-2016 18:37
Cal : 356369195001 Caldate : 12-SEP-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	8852.0	12972	10.00	14.65	pg/uL	**47**	15	c+ ***
gamma-BHC	A	8292.2	12057	10.00	14.54	pg/uL	**45**	15	c+ ***
beta-BHC	A	3132.6	3915.3	10.00	12.50	pg/uL	**25**	15	c+ ***
delta-BHC	A	8266.7	11273	10.00	13.64	pg/uL	**36**	15	c+ ***
Heptachlor	A	8209.1	11910	10.00	14.51	pg/uL	**45**	15	c+ ***
Aldrin	A	7955.0	11293	10.00	14.20	pg/uL	**42**	15	c+ ***
Heptachlor epoxide	A	6670.7	9549.0	10.00	14.31	pg/uL	**43**	15	c+ ***
gamma-Chlordane	A	7119.0	9770.1	10.00	13.72	pg/uL	**37**	15	c+ ***
alpha-Chlordane	A	6250.8	8375.6	10.00	13.40	pg/uL	**34**	15	c+ v+ ***
4,4'-DDE	A	6414.2	8873.3	20.00	27.67	pg/uL	**38**	15	c+ v+ ***
Endosulfan I	A	6628.8	9483.7	10.00	14.31	pg/uL	**43**	15	c+ ***
Dieldrin	A	6145.4	8674.1	20.00	28.23	pg/uL	**41**	15	c+ v+ ***
Endrin	A	5702.7	8471.1	20.00	29.71	pg/uL	**49**	15	c+ ***
4,4'-DDD	A	5440.1	7887.6	20.00	29.00	pg/uL	**45**	15	c+ ***
Endosulfan II	A	5634.1	7968.5	20.00	28.29	pg/uL	**41**	15	c+ ***
4,4'-DDT	A	6025.4	8051.5	20.00	26.72	pg/uL	**34**	15	c+ ***
Endrin aldehyde	A	4192.7	5655.7	20.00	26.98	pg/uL	**35**	15	c+ v+ ***
Methoxychlor	A	2119.8	2890.5	100.0	134.6	pg/uL	**35**	15	c+ ***
Endosulfan sulfate	A	4751.3	5928.7	20.00	24.96	pg/uL	**25**	15	c+ ***
TCMX	A	4464.3	6551.0	20.00	29.35	pg/uL	**47**	15	c+
Decachlorobiphenyl	A	4485.5	5513.8	20.00	24.59	pg/uL	**23**	15	c+
alpha-BHC	B	3888.9	4494.7	10.00	11.56	pg/uL	**16**	15	c+ v+ ***
gamma-BHC	B	3779.7	4129.7	10.00	10.93	pg/uL	9	15	
beta-BHC	B	1410.2	1370.7	10.00	9.720	pg/uL	-3	15	
delta-BHC	B	3588.7	4028.7	10.00	11.23	pg/uL	12	15	v+
Heptachlor	B	3797.3	4189.6	10.00	11.03	pg/uL	10	15	
Aldrin	B	3514.7	3791.3	10.00	10.79	pg/uL	8	15	v+
Heptachlor epoxide	B	3072.3	3244.1	10.00	10.56	pg/uL	6	15	
gamma-Chlordane	B	3144.7	3205.3	10.00	10.19	pg/uL	2	15	
alpha-Chlordane	B	2983.6	3037.7	10.00	10.18	pg/uL	2	15	
4,4'-DDE	B	2678.8	2983.5	20.00	22.28	pg/uL	11	15	
Endosulfan I	B	2881.3	2930.1	10.00	10.17	pg/uL	2	15	
Dieldrin	B	3098.6	3640.0	20.00	23.49	pg/uL	**17**	15	c+ ***
Endrin	B	2681.8	3178.2	20.00	23.70	pg/uL	**19**	15	c+ ***
4,4'-DDD	B	2165.6	2347.2	20.00	21.68	pg/uL	8	15	
Endosulfan II	B	2312.1	2637.5	20.00	22.81	pg/uL	14	15	
4,4'-DDT	B	2505.7	2437.2	20.00	19.45	pg/uL	-3	15	
Endrin aldehyde	B	1917.9	1804.9	20.00	18.82	pg/uL	-6	15	
Methoxychlor	B	979.00	1207.8	100.0	123.4	pg/uL	**23**	15	c+ ***
Endosulfan sulfate	B	2020.4	2040.6	20.00	20.20	pg/uL	1	15	
TCMX	B	2375.8	2620.1	20.00	22.06	pg/uL	10	15	
Decachlorobiphenyl	B	2106.9	1947.4	20.00	18.49	pg/uL	-8	15	
Average EPA 8081A	A	(n=23)					**39**	15	ac ***
Average EPA 8081A	B	(n=23)					9	15	

JCD 09/30/16 : Corrected automatically drawn baseline for all channels.

JCD 09/30/16 : Separated from coeluting peak for Ch. B.

Analyst: JCD Date: 09/30/16 Reviewer: EAH Date: 10/04/16

+=high bias ac=average CCV drift out c=CCV v=ICV

356393697021

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 246290041

Instrument : GC21 Begun : 07/19/16 10:01
Method : EPA 8081A SOP Version : pesticides_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	201_001	X	HEX			07/19/16 10:01	1.0		
002	201_002	X	HEX			07/19/16 10:23	1.0		
003	201_003	PEM	PEM			07/19/16 10:44	1.0	1	
004	201_004	CCV	ISOPEST_3			07/19/16 11:06	1.0	2	ac arsd
005	201_005	CCV	ISOPEST_3			07/19/16 11:42	1.0	2	ac arsd
006	201_006	PEM	PEM			07/19/16 18:07	1.0	1	
007	201_007	X	IB			07/19/16 18:29	1.0		
008	201_008	IB	CALIB			07/19/16 18:51	1.0		
009	201_009	ICAL	ISOPEST_1/2			07/19/16 19:13	1.0	3	
010	201_010	ICAL	ISOPEST_1			07/19/16 19:34	1.0	3	
011	201_011	ICAL	ISOPEST_2			07/19/16 19:56	1.0	4	
012	201_012	ICAL	ISOPEST_3			07/19/16 20:18	1.0	5	
013	201_013	ICAL	ISOPEST_4			07/19/16 20:40	1.0	6	
014	201_014	ICAL	ISOPEST_5			07/19/16 21:02	1.0	7	
015	201_015	ICAL	ISOPEST_6			07/19/16 21:24	1.0	8	
016	201_016	ICAL	ISOPEST_7			07/19/16 21:45	1.0	9	
017	201_017	X	HEX			07/19/16 22:07	1.0		
018	201_018	ICV	PEST_ICV			07/19/16 22:29	1.0	10	
019	201_019	X	HEX			07/19/16 22:51	1.0		
020	201_020	ICV	PEST_ICV			07/19/16 23:13	1.0	10	No Quant

RFC 07/20/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 20.

Standards used: 1=S29649 2=S29898 3=S29540 4=S29541 5=S29542 6=S29543 7=S29544 8=S29545 9=S29546 10=S29465

Flags used: No Quant=Methoxychlor not quantifiable ac=average CCV drift out arsd=average ICAL %RSD out

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 246390747

Instrument : GC21 Begun : 09/27/16 08:27
Method : EPA 8081A SOP Version : pesticides_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	271_001	X	HEX			09/27/16 08:27	1.0		
002	271_002	PEM	PEM			09/27/16 08:49	1.0	1	
003	271_003	CCV	ISOPEST_3			09/27/16 09:11	1.0	2	arsd
004	271_004	BLANK	QC853153	Water	239515	09/27/16 11:30	1.0		arsd
005	271_005	BS	QC853154	Water	239515	09/27/16 11:52	1.0		arsd
006	271_006	BSD	QC853155	Water	239515	09/27/16 12:14	1.0		No Quant arsd
007	271_007	SAMPLE	281304-001	Water	239515	09/27/16 12:35	2.0		
008	271_008	SAMPLE	281304-003	Water	239515	09/27/16 12:57	2.0		
009	271_009	PEM	PEM			09/27/16 13:19	1.0	1	
010	271_010	CCV	ISOPEST_3			09/27/16 13:41	1.0	2	arsd
011	271_011	BLANK	QC853153	Water	239515	09/27/16 14:07	1.0		arsd
012	271_012	BS	QC853154	Water	239515	09/27/16 14:29	1.0		arsd
013	271_013	BSD	QC853155	Water	239515	09/27/16 14:51	1.0	1	arsd
014	271_014	SAMPLE	281304-001	Water	239515	09/27/16 15:13	2.0		
015	271_015	PEM	PEM			09/27/16 15:34	1.0	1	
016	271_016	CCV	ISOPEST_3			09/27/16 15:56	1.0	2	arsd
017	271_017	BLANK	QC852677	Miscell.	239392	09/27/16 16:19	1.0		arsd
018	271_018	BS	QC852678	Miscell.	239392	09/27/16 16:40	1.0		arsd
019	271_019	BSD	QC852679	Miscell.	239392	09/27/16 17:02	1.0		arsd
020	271_020	SAMPLE	281142-001	Miscell.	239392	09/27/16 17:24	2.0		arsd
021	271_021	BLANK	QC853224	Soil	239533	09/27/16 17:46	1.0		arsd
022	271_022	LCS	QC853225	Soil	239533	09/27/16 18:08	1.0		arsd
023	271_023	MSS	281460-011	Soil	239533	09/27/16 18:30	1.0		No Quant arsd
024	271_024	MS	QC853226	Soil	239533	09/27/16 18:52	1.0		arsd
025	271_025	MSD	QC853227	Soil	239533	09/27/16 19:13	1.0		No Quant arsd
026	271_026	PEM	PEM			09/27/16 19:35	1.0	1	
027	271_027	CCV	ISOPEST_3			09/27/16 19:57	1.0	2	arsd
028	271_028	CCV	ISOPEST_3			09/27/16 20:19	1.0	2	arsd ac
029	271_029	PEM	PEM			09/27/16 20:41	1.0	1	

JCD 09/27/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 14.

JS1 09/27/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 15 through 18.

JCD 09/28/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 19 through 29.

Standards used: 1=S30902 2=S30771

Flags used: No Quant=gamma-Chlordane not quantifiable ac=average CCV drift out arsd=average ICAL %RSD out

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 246393697

Instrument : GC21 Begun : 09/29/16 09:37
Method : EPA 8081A SOP Version : pesticides_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	273_001	X	HEX			09/29/16 09:37	1.0		
002	273_002	PEM	PEM			09/29/16 09:59	1.0	1	
003	273_003	CCV	ISOPEST_3			09/29/16 10:21	1.0	2	No Quant ac arsd , 22:CL10BZ2=220
004	273_004	X	HEX			09/29/16 10:43	1.0		
005	273_005	X	HEX			09/29/16 11:04	1.0		
006	273_006	PEM	PEM			09/29/16 11:26	1.0	1	
007	273_007	CCV	ISOPEST_3			09/29/16 11:48	1.0	2	arsd
008	273_008	CCV	CHLOR_150			09/29/16 12:24	1.0	3	arsd
009	273_009	BLANK	QC853452	Soil	239589	09/29/16 12:46	1.0		arsd
010	273_010	LCS	QC853456	Soil	239589	09/29/16 13:08	1.0		arsd
011	273_011	SAMPLE	281494-001	Soil	239589	09/29/16 13:30	1.0		arsd
012	273_012	SAMPLE	281494-002	Soil	239589	09/29/16 13:52	5.0		arsd
013	273_013	BLANK	QC853494	Water	239600	09/29/16 14:13	1.0		arsd
014	273_014	BS	QC853495	Water	239600	09/29/16 14:35	1.0		arsd
015	273_015	BSD	QC853496	Water	239600	09/29/16 14:57	1.0		arsd
016	273_016	PEM	PEM			09/29/16 15:19	1.0	1	
017	273_017	CCV	ISOPEST_3			09/29/16 15:41	1.0	2	arsd
018	273_018	CCV	CHLOR_150			09/29/16 16:02	1.0	3	arsd
019	273_019	BLANK	QC853604	Soil	239624	09/29/16 17:14	1.0		arsd
020	273_020	LCS	QC853699	Soil	239624	09/29/16 17:36	1.0		arsd
021	273_021	MSS	281512-017	Soil	239624	09/29/16 17:58	1.0		arsd
022	273_022	MS	QC853700	Soil	239624	09/29/16 18:20	1.0		arsd
023	273_023	MSD	QC853701	Soil	239624	09/29/16 18:42	1.0		arsd
024	273_024	SAMPLE	281536-001	Soil	239624	09/29/16 19:03	20.0		arsd
025	273_025	MSS	281551-002	Soil	239624	09/29/16 19:25	20.0		arsd
026	273_026	SAMPLE	281551-003	Soil	239624	09/29/16 19:47	20.0		arsd
027	273_027	SAMPLE	281480-001	Water	239600	09/29/16 20:09	1.0		
028	273_028	PEM	PEM			09/29/16 20:31	1.0	1	
029	273_029	CCV	ISOPEST_3			09/29/16 20:53	1.0	2	arsd
030	273_030	CCV	CHLOR_150			09/29/16 21:15	1.0	3	
031	273_031	XCCV	ISOPEST_3			09/29/16 21:36	1.0	2	arsd ac
032	273_032	XPEM	PEM			09/29/16 21:58	1.0	1	
033	273_033	SAMPLE	281304-001	Water	239600	09/29/16 22:20	2.0		
034	273_034	SAMPLE	281304-003	Water	239600	09/29/16 22:42	2.0		
035	273_035	SAMPLE	281500-001	Water	239600	09/29/16 23:04	1.0		
036	273_036	SAMPLE	281512-006	Water	239600	09/29/16 23:26	1.0		arsd >ac
037	273_037	PEM	PEM			09/29/16 23:48	1.0	1	
038	273_038	CCV	ISOPEST_3			09/30/16 00:09	1.0	2	arsd ac
039	273_039	CCV	ISOPEST_3			09/30/16 00:31	1.0	2	arsd ac
040	273_040	PEM	PEM			09/30/16 00:53	1.0	1	

JCD 09/30/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 40.

Standards used: 1=S30902 2=S30771 3=S30274

Flags used: >=closing No Quant=Endosulfan II not quantifiable ac=average CCV drift out arsd=average ICAL %RSD out

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 356369195

Instrument : GC30 Begun : 09/12/16 09:15
Method : EPA 8081A SOP Version : pesticides_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	256_001	X	HEX			09/12/16 09:15	1.0		
002	256_002	X	HEX			09/12/16 09:30	1.0		
003	256_003	PEM	PEM			09/12/16 09:46	1.0	1	
004	256_004	CCV	ISOPEST_3			09/12/16 10:02	1.0	2	ac
005	256_005	X	IB			09/12/16 18:34	1.0		
006	256_006	IB	CALIB			09/12/16 18:50	1.0		
007	256_007	ICAL	ISOPEST_1/2			09/12/16 19:06	1.0	3	
008	256_008	ICAL	ISOPEST_1			09/12/16 19:22	1.0	4	
009	256_009	ICAL	ISOPEST_2			09/12/16 19:38	1.0	5	
010	256_010	ICAL	ISOPEST_3			09/12/16 19:54	1.0	6	
011	256_011	ICAL	ISOPEST_4			09/12/16 20:10	1.0	7	
012	256_012	ICAL	ISOPEST_5			09/12/16 20:26	1.0	8	
013	256_013	ICAL	ISOPEST_6			09/12/16 20:42	1.0	9	
014	256_014	ICAL	ISOPEST_7			09/12/16 20:58	1.0	10	
015	256_015	X	HEX			09/12/16 21:14	1.0		
016	256_016	ICV	PEST_ICV			09/12/16 21:30	1.0	11	
017	256_017	X	HEX			09/12/16 21:46	1.0		
018	256_018	ICV	PEST_ICV			09/12/16 22:01	1.0	12	

RFC 09/14/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

Standards used: 1=S29649 2=S30444 3=S30768 4=S30769 5=S30770 6=S30771 7=S30772 8=S30773 9=S30774 10=S30775 11=S29465 12=S30776

Flags used: ac=average CCV drift out

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 356393697

Instrument : GC30 Begun : 09/29/16 09:37
Method : EPA 8081A SOP Version : pesticides_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	273_001	X	HEX			09/29/16 09:37	1.0		
002	273_002	PEM	PEM			09/29/16 09:52	1.0	1	
003	273_003	CCV	ISOPEST_3			09/29/16 10:08	1.0	2	No Quant ac , 22:MTXYCL=900
004	273_004	X	HEX			09/29/16 10:42	1.0		
005	273_005	X	HEX			09/29/16 10:58	1.0		
006	273_006	PEM	PEM			09/29/16 11:14	1.0	1	
007	273_007	CCV	ISOPEST_3			09/29/16 11:30	1.0	2	
008	273_008	SAMPLE	281359-001	Water	239515	09/29/16 14:14	1.0		
009	273_009	SAMPLE	281360-001	Water	239515	09/29/16 14:29	1.0		
010	273_010	SAMPLE	281361-001	Water	239515	09/29/16 14:45	1.0		
011	273_011	SAMPLE	281367-001	Water	239515	09/29/16 15:01	10.0		
012	273_012	X	HEX			09/29/16 15:17	1.0		
013	273_013	MSS	281442-001	Soil	239589	09/29/16 16:30	20.0		>ac
014	273_014	SAMPLE	281459-008	Soil	239589	09/29/16 16:46	10.0		>ac
015	273_015	SAMPLE	281460-003	Soil	239589	09/29/16 17:01	5.0		>ac
016	273_016	SAMPLE	281460-008	Soil	239589	09/29/16 17:17	1.0		>ac
017	273_017	SAMPLE	281460-013	Soil	239589	09/29/16 17:33	5.0		>ac
018	273_018	SAMPLE	281460-020	Soil	239589	09/29/16 17:49	20.0		>ac
019	273_019	X	HEX			09/29/16 18:05	1.0		
020	273_020	PEM	PEM			09/29/16 18:21	1.0	1	
021	273_021	CCV	ISOPEST_3			09/29/16 18:37	1.0	2	ac
022	273_022	SAMPLE	281512-001	Soil	239589	09/29/16 18:55	5.0		>ac <ac
023	273_023	SAMPLE	281512-002	Soil	239589	09/29/16 19:11	20.0		>ac <ac
024	273_024	SAMPLE	281512-003	Soil	239589	09/29/16 19:27	50.0		>ac <ac
025	273_025	SAMPLE	281512-004	Soil	239589	09/29/16 19:43	50.0		>ac <ac
026	273_026	SAMPLE	281512-005	Soil	239589	09/29/16 19:59	50.0		>ac <ac
027	273_027	SAMPLE	281512-007	Soil	239589	09/29/16 20:15	5.0		>ac <ac
028	273_028	SAMPLE	281512-008	Soil	239589	09/29/16 20:31	5.0		>ac <ac
029	273_029	PEM	PEM			09/29/16 20:47	1.0	1	
030	273_030	CCV	ISOPEST_3			09/29/16 21:03	1.0	2	ac
031	273_031	X	ISOPEST_3			09/29/16 21:19	1.0	2	ac
032	273_032	X	PEM			09/29/16 21:35	1.0	1	

JCD 09/30/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S30902 2=S30771

Flags used: <=opening >=closing No Quant=Methoxychlor not quantifiable ac=average CCV drift out

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 806350313

Instrument : GC23 Begun : 08/30/16 06:33
Method : EPA 8081A SOP Version : pesticides_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	243_001	X	HEX			08/30/16 06:33	1.0		
002	243_002	PEM	PEM			08/30/16 06:51	1.0	1	
003	243_003	PEM	PEM			08/30/16 12:18	1.0	1	
004	243_004	X	IB			08/30/16 12:53	1.0		
005	243_005	IB	CALIB			08/30/16 13:11	1.0		
006	243_006	ICAL	ISOPEST_1/2			08/30/16 13:29	1.0	2	
007	243_007	ICAL	ISOPEST_1			08/30/16 13:47	1.0	3	
008	243_008	ICAL	ISOPEST_2			08/30/16 14:05	1.0	4	
009	243_009	ICAL	ISOPEST_3			08/30/16 14:24	1.0	5	
010	243_010	ICAL	ISOPEST_4			08/30/16 14:42	1.0	6	
011	243_011	ICAL	ISOPEST_5			08/30/16 15:00	1.0	7	
012	243_012	ICAL	ISOPEST_6			08/30/16 15:18	1.0	8	
013	243_013	ICAL	ISOPEST_7			08/30/16 15:36	1.0	9	
014	243_014	X	HEX			08/30/16 15:54	1.0		
015	243_015	ICV	PEST_ICV			08/30/16 16:13	1.0	10	
016	243_016	X	HEX			08/30/16 16:31	1.0		
017	243_017	ICV	PEST_ICV			08/30/16 16:49	1.0	10	
018	243_018	X	HEX			08/30/16 17:58	1.0		
019	243_019	PEM	PEM			08/30/16 18:16	1.0	1	
020	243_020	CCV	ISOPEST_3			08/30/16 18:34	1.0	11	ac
021	243_021	CCV	TOX_150			08/30/16 18:52	1.0	12	arsd av
022	243_022	CCV	CHLOR_150			08/30/16 19:11	1.0	13	arsd av
023	243_023	SAMPLE	279376-002	Soil	237850	08/30/16 19:29	5.0		
024	243_024	SAMPLE	279376-009	Soil	237850	08/30/16 19:47	5.0		
025	243_025	SAMPLE	279376-010	Soil	237850	08/30/16 20:05	5.0		
026	243_026	SAMPLE	278812-022	Water	237447	08/30/16 20:24	5.0		No Quant , 9:BHCBETA=270
027	243_027	SAMPLE	278812-026	Water	237447	08/30/16 20:42	5.0		
028	243_028	SAMPLE	278812-027	Water	237447	08/30/16 21:00	5.0		
029	243_029	PEM	PEM			08/30/16 21:18	1.0	1	
030	243_030	CCV	ISOPEST_3			08/30/16 21:36	1.0	11	ac
031	243_031	CCV	TOX_150			08/30/16 21:55	1.0	12	arsd av
032	243_032	CCV	CHLOR_150			08/30/16 22:13	1.0	13	arsd av

JCD 09/01/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S29649 2=S30768 3=S30769 4=S30770 5=S30771 6=S30772 7=S30773 8=S30774 9=S30775 10=S29465 11=S30444 12=S30674 13=S30274

Flags used: No Quant=Endosulfan I not quantifiable ac=average CCV drift out arsd=average ICAL %RSD out av=average ICV drift out

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 806390748

Instrument : GC23 Begun : 09/27/16 08:28
Method : EPA 8081A SOP Version : pesticides_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	271_001	X	HEX			09/27/16 08:28	1.0		
002	271_002	PEM	PEM			09/27/16 08:46	1.0	1	
003	271_003	CCV	ISOPEST_3			09/27/16 09:04	1.0	2	
004	271_004	X	HEX			09/27/16 16:12	1.0		
005	271_005	SAMPLE	281400-005	Soil	239533	09/27/16 16:30	50.0		>ac
006	271_006	SAMPLE	281460-001	Soil	239533	09/27/16 16:48	5.0		>ac
007	271_007	SAMPLE	281460-002	Soil	239533	09/27/16 17:06	5.0		>ac
008	271_008	SAMPLE	281460-004	Soil	239533	09/27/16 17:24	5.0		>ac
009	271_009	SAMPLE	281460-005	Soil	239533	09/27/16 17:43	5.0		>ac
010	271_010	SAMPLE	281460-006	Soil	239533	09/27/16 18:01	2.0		>ac
011	271_011	SAMPLE	281460-007	Soil	239533	09/27/16 18:19	5.0		>ac
012	271_012	SAMPLE	281460-009	Soil	239533	09/27/16 18:37	1.0		>ac
013	271_013	PEM	PEM			09/27/16 18:55	1.0	1	
014	271_014	CCV	ISOPEST_3			09/27/16 19:14	1.0	2	ac
015	271_015	XCCV	ISOPEST_3			09/27/16 19:32	1.0	2	ac
016	271_016	XPEM	PEM			09/27/16 19:50	1.0	1	
017	271_017	SAMPLE	281460-010	Soil	239533	09/27/16 20:08	1.0		>ac <ac
018	271_018	SAMPLE	281460-012	Soil	239533	09/27/16 20:27	1.0		>ac <ac
019	271_019	SAMPLE	281460-014	Soil	239533	09/27/16 20:45	1.0		>ac <ac
020	271_020	SAMPLE	281460-015	Soil	239533	09/27/16 21:03	1.0		>ac <ac
021	271_021	SAMPLE	281460-016	Soil	239533	09/27/16 21:21	1.0		>ac <ac
022	271_022	SAMPLE	281460-017	Soil	239533	09/27/16 21:40	2.0		>ac <ac
023	271_023	SAMPLE	281460-018	Soil	239533	09/27/16 21:58	20.0		>ac <ac
024	271_024	SAMPLE	281460-019	Soil	239533	09/27/16 22:16	20.0		>ac <ac
025	271_025	PEM	PEM			09/27/16 22:34	1.0	1	
026	271_026	CCV	ISOPEST_3			09/27/16 22:53	1.0	2	ac
027	271_027	XCCV	ISOPEST_3			09/27/16 23:11	1.0	2	ac
028	271_028	XPEM	PEM			09/27/16 23:29	1.0	1	

JCD 09/28/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 28.

Standards used: 1=S30902 2=S30771

Flags used: <=opening >=closing ac=average CCV drift out

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SAMPLE PREPARATION SUMMARY

Batch # : 239533 Analysis : 8081
Started By : BJH Prep Date : 27-SEP-2016 08:45 Finished By : BJH
Method : 3550B SOP Version : 8081_3550_rv16 Units : g
Spike #1 ID : S30591 Spike #2 ID : S30784

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
281400-005		Soil	30.17	20	1	0.6629		.8			3620B	8081	
281460-001		Soil	30.21	20	1	0.662		.8			3620B	8081	
281460-002		Soil	30.18	20	1	0.6627		.8			3620B	8081	
281460-004		Soil	29.88	20	1	0.6693		.8			3620B	8081	
281460-005		Soil	30.11	20	1	0.6642		.8			3620B	8081	
281460-006		Soil	30	20	1	0.6667		.8			3620B	8081	
281460-007		Soil	29.9	20	1	0.6689		.8			3620B	8081	
281460-009		Soil	29.96	20	1	0.6676		.8			3620B	8081	
281460-010		Soil	29.85	20	1	0.67		.8			3620B	8081	
281460-011		Soil	29.9	20	1	0.6689		.8			3620B	8081	
281460-012		Soil	30.3	20	1	0.6601		.8			3620B	8081	
281460-014		Soil	29.95	20	1	0.6678		.8			3620B	8081	
281460-015		Soil	30.03	20	1	0.666		.8			3620B	8081	
281460-016		Soil	29.88	20	1	0.6693		.8			3620B	8081	
281460-017		Soil	29.76	20	1	0.672		.8			3620B	8081	
281460-018		Soil	30.08	20	1	0.6649		.8			3620B	8081	
281460-019		Soil	30.13	20	1	0.6638		.8			3620B	8081	
QC853224	BLANK	Soil	30	20	1	0.6667		.8			3620B	8081	
QC853225	LCS	Soil	29.94	20	1	0.668		.8	.4		3620B	8081	
QC853226	MS	Soil	30.9	20	1	0.6472		.8	.4		3620B	8081	
QC853227	MSD	Soil	30.18	20	1	0.6627		.8	.4		3620B	8081	

Analyst: JCD Date: 09/28/16 Reviewer: EAH Date: 09/28/16

8081 Soil Prep Log Curtis & Tompkins, Ltd.

e 65 BK 3852

Extraction Method:
☒ EPA 3550b Sonication
☐ _____

Cleanup Method:
☒ EPA 3620b Florisil

S Batch No: 239533
te Extracted: 9/27/16

Sample #	Container ID	Sample Wt (g)	Final Vol (mL)	Comments
281400-005	comp	30.17	☑ 20.0 ☐ ____	comp of 1-4 @ 50g ea.
281400-001	A	30.21	☑ 20.0 ☐ ____	rocks organic material
2		30.18	☑ 20.0 ☐ ____	
4		29.88	☑ 20.0 ☐ ____	
5		30.11	☑ 20.0 ☐ ____	
6		30.00	☑ 20.0 ☐ ____	
7		29.90	☑ 20.0 ☐ ____	
9		29.96	☑ 20.0 ☐ ____	
10		29.85	☑ 20.0 ☐ ____	
11		29.90	☑ 20.0 ☐ ____	MSS
12		30.30	☑ 20.0 ☐ ____	
14		29.95	☑ 20.0 ☐ ____	
15		30.03	☑ 20.0 ☐ ____	
16		29.88	☑ 20.0 ☐ ____	
17		29.76	☑ 20.0 ☐ ____	
18		30.08	☑ 20.0 ☐ ____	
19		30.13	☑ 20.0 ☐ ____	
MB QC853224	N/A	30.00	☑ 20.0 ☐ ____	
LCS 5		29.94	☑ 20.0 ☐ ____	
MS 6	A	30.30	☑ 20.0 ☐ ____	rocks organic material
MSD 7		30.18	☑ 20.0 ☐ ____	
			☐ 20.0 ☐ ____	
			☐ 20.0 ☐ ____	
			☐ 20.0 ☐ ____	
			☐ 20.0 ☐ ____	FZ 9/27

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason)_____

☒ Balance ID: Pish1 Has been calibrated? ☒ Yes ☐ No

	Mfg & Lot # / LIMS # / Time	Initials / Date
Solvent-rinsed granular Na_2SO_4 weighed out for QC samples	EM1816M	BT 9/27/16
dried with CH_2Cl_2-rinsed ☐ granular Na_2SO_4 ☑ powder	EM0835C506	
0.8 mL of surrogate solution was added to all samples	530591A	
0.4 mL of spike solution was added to all spikes	530784C	
1:1 CH_2Cl_2 (lot# EM5616176):Acetone(lot# FC166543) was added to all	✓	
Solvent added at (time)	0845	
☑ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:	N/A	BT 9/27/16
soxhlets off at:	N/A	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM0835C506	
Exchanged 2x with Hexane	✓ FC166873	
Concentrated to final volume in boiling H2O bath	100°	
☒ Florisil Cleanup Performed	✓	
Extracts relinquished to Pesticide Group	✓	

BT 9/27/16
Extraction Chemist / Date

Continued from page ____
Continued on page ____

09/27/16
Reviewed by / Date

Curtis & Tompkins, Ltd. **Florisil Cleanup** **EPA 3620B**

Prep Chemist: BTH

Cleanup Date: 9/27/16

Benchbook # **BK 3894**

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Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
281400-005	239533	☑ 1.0 ☐	☑ 1.0 ☐	
281460-001		☑ 1.0 ☐	☑ 1.0 ☐	
2		☑ 1.0 ☐	☑ 1.0 ☐	
4		☑ 1.0 ☐	☑ 1.0 ☐	
5		☑ 1.0 ☐	☑ 1.0 ☐	
6		☑ 1.0 ☐	☑ 1.0 ☐	
7		☑ 1.0 ☐	☑ 1.0 ☐	
9		☑ 1.0 ☐	☑ 1.0 ☐	
10		☑ 1.0 ☐	☑ 1.0 ☐	
11		☑ 1.0 ☐	☑ 1.0 ☐	
12		☑ 1.0 ☐	☑ 1.0 ☐	
14		☑ 1.0 ☐	☑ 1.0 ☐	
15		☑ 1.0 ☐	☑ 1.0 ☐	
16		☑ 1.0 ☐	☑ 1.0 ☐	
17		☑ 1.0 ☐	☑ 1.0 ☐	
18		☑ 1.0 ☐	☑ 1.0 ☐	
19		☑ 1.0 ☐	☑ 1.0 ☐	
MB QC853724	239533	☑ 1.0 ☐	☑ 1.0 ☐	
LCS 5		☑ 1.0 ☐	☑ 1.0 ☐	
MS 6		☑ 1.0 ☐	☑ 1.0 ☐	
MSD 7		☑ 1.0 ☐	☑ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	
		☐ 1.0 ☐	☐ 1.0 ☐	JCD 9/28/16

	Mfg & Lot # / Time / Program	Initials / Date
☑ Extracts were cleaned up using Florisil cartridges	RES357106	BTH 9/27/16
Florisil cartridges/ columns rinsed 3x with Hexane	FC161873	
Extracts were eluted with 9:0 ~~mL 9:1~~ mL 8:2 Hexane/Acetone — Hexane		
Acetone	FC162163	
Concentrated to volumes as noted above	—	

BTH 9/27/16

Extraction Chemist / Date

Continued from page _____

Continued on page _____

9/28/16

Reviewed by / Date

SAMPLE PREPARATION SUMMARY

Batch # : 239589 Analysis : 8081
Started By : FZY Prep Date : 28-SEP-2016 13:00 Finished By : FZY
Method : 3550B SOP Version : 8081_3550_rv16 Units : g
Spike #1 ID : S30591 Spike #2 ID : S30701 Spike #3 ID : S30784

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
281442-001		Soil	30.06	20	1	0.6653		.8				8081	
281459-008		Soil	29.99	20	1	0.6669		.8				8081, PCB	
281460-003		Soil	29.83	20	1	0.6705		.8				8081, PCB	
281460-008		Soil	29.86	20	1	0.6698		.8				8081, PCB	
281460-013		Soil	30.45	20	1	0.6568		.8				8081, PCB	
281460-020		Soil	30.13	20	1	0.6638		.8				8081, PCB	
281494-001		Soil	29.81	10	1	0.3355		.4				8081-LL, PCB-LL	
281494-002		Soil	29.94	10	1	0.334		.4				8081-LL, PCB-LL	
281501-001		Soil	30.43	10	1	0.3286		.4				PCB-LL	
281501-002		Soil	29.62	10	1	0.3376		.4				PCB-LL	
281501-003		Soil	29.79	10	1	0.3357		.4				PCB-LL	
281501-004		Soil	29.72	10	1	0.3365		.4				PCB-LL	
281501-005		Soil	30.42	10	1	0.3287		.4				PCB-LL	
281512-001		Soil	30.2	10	1	0.3311		.4				8081-LL	
281512-002		Soil	29.66	10	1	0.3372		.4				8081-LL	
281512-003		Soil	29.91	10	1	0.3343		.4				8081-LL	
281512-004		Soil	29.62	10	1	0.3376		.4				8081-LL	
281512-005		Soil	29.96	10	1	0.3338		.4				8081-LL	
281512-007		Soil	30.22	10	1	0.3309		.4				8081-LL	
281512-008		Soil	30.18	10	1	0.3313		.4				8081-LL	
QC853452	BLANK	Soil	29.54	10	1	0.3385		.4				PCB-LL	
QC853453	LCS	Soil	29.89	20	1	0.6691		.8	1			PCB	
QC853454	MS	Soil	30.08	20	1	0.6649		.8	1			PCB	
QC853455	MSD	Soil	29.62	20	1	0.6752		.8	1			PCB	
QC853456	LCS	Soil	29.5	20	1	0.678		.8		.4		8081	
QC853457	MS	Soil	30.34	20	1	0.6592		.8		.4		8081	
QC853458	MSD	Soil	29.78	20	1	0.6716		.8		.4		8081	

JS1 09/29/16 : PCB ready for review

JCD 09/29/16 : Matrix spikes QC853457,QC853458 (batch 239589) were not reported because the parent sample required a dilution that would have diluted out the spikes.

EAH 09/29/16 : Reviewed PCB and checked batch documents for pest.

JCD 09/29/16 : Pest ready for review

JS1: 09/29/16 JCD: 09/29/16 EAH: 09/29/16

Curtis & Tompkins, Ltd. **Florisil Cleanup** **EPA 3620B**

Prep Chemist: FZ
Cleanup Date: 09/28/16

Benchbook # **BK 3894**
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Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
281442 - 001	239589	☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
281459 - 008		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
281460 - 003		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
~~8~~ 8 FZ 9/28		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
13		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
20		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
281494 - 001		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
2		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
281512 - 001		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
2		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
3		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
4		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
5		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
7		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
8		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MB QC853452		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
LCS 6		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MS 7		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MSD 8		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	MC 9-28-16

	Mfg & Lot # / Time / Program	Initials / Date
☑ Extracts were cleaned up using Florisil cartridges	RES3571106	FZ 09/28
Florisil cartridges/ columns rinsed 3x with Hexane	FC164512	
Extracts were eluted with 9.0 mL ~~9.1~~ 8.2 Hexane/Acetone — Hexane	FC161873	
Acetone	FC162163	
Concentrated to volumes as noted above		

09/28/16
Extraction Chemist / Date

Continued from page ____
Continued on page 1

9-28-16
Reviewed by / Date

PCB (8082) Soil Prep Log

Curtis & Tompkins, Ltd.

LIMS Batch No: 239589

LIMS Analysis PCB (P1P)

Date Extracted: 09/28/16

☑ EPA 3550b Sonication

☐ Other _____

BK 3907

Sample #	Container ID	Sample Wt (g)	Final Vol (mL)	Comments
281459-008	A	29.99	☐ 25.0 ☑ 20	MS/MSD
281460-003		29.83	☐ 25.0 ☑ 20	
8		29.86	☐ 25.0 ☑ 20	
13		30.45	☐ 25.0 ☑ 20	
20		30.13	☐ 25.0 ☑ 20	
281494-001	F	29.81	☐ 25.0 ☑ 10	2.L *
2		29.94	☐ 25.0 ☑ 10	*
281501-001	A	30.43	☐ 25.0 ☑ 10	2.L *
2		29.62	☐ 25.0 ☑ 10	
3		29.79	☐ 25.0 ☑ 10	
4		29.72	☐ 25.0 ☑ 10	
5		30.42	☐ 25.0 ☑ 10	
MB QC853452	NA	29.54	☐ 25.0 ☑ 10	
LCS 3		29.89	☐ 25.0 ☑ 20	
MS 4		30.08	☐ 25.0 ☑ 20	
MSD 5		29.62	☐ 25.0 ☑ 20	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	MCI 9-28-16

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

☑ Balance ID: Dish 1 Has been calibrated? ☑ Yes ☐ No

	Mfg & Lot # / LIMS # / Time	Initials / Date
Solvent-rinsed granular Na_2SO_4 weighed out for QC samples	EMYB16M	FZ 09/28
dried with CH_2Cl_2-rinsed ☑ granular Na_2SO_4 ☐ powder		
* 0.4/0.8 mL of surrogate solution was added to all samples	S30591D	
1.0 mL of matrix spiking solution was added to all spikes	S30701E	
1:1 CH_2Cl_2 (lot# EM5617 6):Acetone(lot# FC163343) was added to all		
Solvent added at (time)	13:00	
☑ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:		
Soxhlets off at:	NA	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM0835C506	
Solvent exchanged with Hexane, Lot#	FC164512	
Concentrated to final volume in boiling H2O bath	100°C	
EPA 3665A Clean-up: vortexed w/ H_2SO_4 Lot#	FC152524	
Centrifuged for 1 min; 5mL transferred to labelled vial		
Relinquished to PCB group		

09/28/16

Extraction Chemist / Date

Continued from page _____

Continued on page 1

9-28-16

Reviewed by / Date

8081 Soil Prep Log Curtis & Tompkins, Ltd.

Page 68 BK 3852 (P IP)

LIMS Batch No: 239589

Date Extracted: 09/28/16

Extraction Method: ☑ EPA 3550b Sonication ☐ _____

Cleanup Method: ☒ EPA 3620b Florisil

Sample #	Container ID	Sample Wt (g)	Final Vol (mL)	Comments
281442-001	C	30.06	☑ 20.0 ☐	MS/MSD
281459-008	A	29.99	☑ 20.0 ☐	
281460-003		29.83	☑ 20.0 ☐	
8		29.86	☑ 20.0 ☐	
13		30.45	☑ 20.0 ☐	
20		30.13	☑ 20.0 ☐	
281494-001	F	29.81	☐ 20.0 ☑ 10	L.L *
2		29.94	☐ 20.0 ☑ 10	
281512-001	A	30.20	☐ 20.0 ☑ 10	
2		29.66	☐ 20.0 ☑ 10	
3		29.91	☐ 20.0 ☑ 10	
4		29.62	☐ 20.0 ☑ 10	
5		29.96	☐ 20.0 ☑ 10	
7		30.22	☐ 20.0 ☑ 10	
8		30.18	☐ 20.0 ☑ 10	
MB QC853452	NA	29.54	☐ 20.0 ☑ 10	
LCS 6		29.50	☑ 20.0 ☐	
MS 7		30.34	☑ 20.0 ☐	
MSD 8		29.78	☑ 20.0 ☐	
			~~☐ 20.0~~ ☐	
			☐ 20.0 ☐	
			~~☐ 20.0~~ ☐	
			☐ 20.0 ☐	
			☐ 20.0 ☐	
			☐ 20.0 ☐	MCI 9-28-16

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

☑ Balance ID: Dish 1 Has been calibrated? ☑ Yes ☐ No

	Mfg & Lot # / LIMS # / Time	Initials / Date
Solvent-rinsed granular Na_2SO_4 weighed out for QC samples	EMYB16M	FZ 09/28
* dried with CH_2Cl_2-rinsed ☑ granular Na_2SO_4 ☐ powder		
0.41 0.8 mL of surrogate solution was added to all samples	S 30591D	
0.4 mL of spike solution was added to all spikes	S 30784C	
1:1 CH_2Cl_2 (lot# EM56176):Acetone(lot# FC163343) was added to all		
Solvent added at (time)	13:00	
☑ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:		
soxhlets off at:	NA	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM0835C506	
Exchanged 2x with Hexane	FC164512	
Concentrated to final volume in boiling H2O bath	100°C	
☒ Florisil Cleanup Performed		
Extracts relinquished to Pesticide Group		

09/28/16

Extraction Chemist / Date

Continued from page _____

Continued on page _____

9-28-16

Reviewed by / Date

REPORTING SUMMARY FOR 281460 PEST Soil

Sample ID	Analyte	Inst ID	Ch	Date & Time
281460-001	alpha-BHC	GC23	B	09/27/16 16:48
281460-001	beta-BHC	GC23	B	09/27/16 16:48
281460-001	gamma-BHC	GC23	B	09/27/16 16:48
281460-001	delta-BHC	GC23	B	09/27/16 16:48
281460-001	Heptachlor	GC23	B	09/27/16 16:48
281460-001	Aldrin	GC23	B	09/27/16 16:48
281460-001	Heptachlor epoxide	GC23	B	09/27/16 16:48
281460-001	Endosulfan I	GC23	B	09/27/16 16:48
281460-001	Dieldrin	GC23	B	09/27/16 16:48
281460-001	4,4'-DDE	GC23	B	09/27/16 16:48
281460-001	Endrin	GC23	B	09/27/16 16:48
281460-001	Endosulfan II	GC23	B	09/27/16 16:48
281460-001	Endosulfan sulfate	GC23	B	09/27/16 16:48
281460-001	4,4'-DDD	GC23	B	09/27/16 16:48
281460-001	Endrin aldehyde	GC23	B	09/27/16 16:48
281460-001	4,4'-DDT	GC23	B	09/27/16 16:48
281460-001	alpha-Chlordane	GC23	B	09/27/16 16:48
281460-001	gamma-Chlordane	GC23	B	09/27/16 16:48
281460-001	Methoxychlor	GC23	B	09/27/16 16:48
281460-001	Toxaphene	GC23	B	09/27/16 16:48
281460-001	TCMX	GC23	B	09/27/16 16:48
281460-001	Decachlorobiphenyl	GC23	B	09/27/16 16:48
281460-002	alpha-BHC	GC23	B	09/27/16 17:06
281460-002	beta-BHC	GC23	B	09/27/16 17:06
281460-002	gamma-BHC	GC23	B	09/27/16 17:06
281460-002	delta-BHC	GC23	B	09/27/16 17:06
281460-002	Heptachlor	GC23	B	09/27/16 17:06
281460-002	Aldrin	GC23	B	09/27/16 17:06
281460-002	Heptachlor epoxide	GC23	B	09/27/16 17:06
281460-002	Endosulfan I	GC23	B	09/27/16 17:06
281460-002	Dieldrin	GC23	B	09/27/16 17:06
281460-002	4,4'-DDE	GC23	B	09/27/16 17:06
281460-002	Endrin	GC23	B	09/27/16 17:06
281460-002	Endosulfan II	GC23	B	09/27/16 17:06
281460-002	Endosulfan sulfate	GC23	B	09/27/16 17:06
281460-002	4,4'-DDD	GC23	B	09/27/16 17:06
281460-002	Endrin aldehyde	GC23	B	09/27/16 17:06
281460-002	4,4'-DDT	GC23	B	09/27/16 17:06
281460-002	alpha-Chlordane	GC23	B	09/27/16 17:06
281460-002	gamma-Chlordane	GC23	B	09/27/16 17:06
281460-002	Methoxychlor	GC23	B	09/27/16 17:06
281460-002	Toxaphene	GC23	B	09/27/16 17:06
281460-002	TCMX	GC23	B	09/27/16 17:06
281460-002	Decachlorobiphenyl	GC23	B	09/27/16 17:06
281460-003	alpha-BHC	GC30	B	09/29/16 17:01
281460-003	beta-BHC	GC30	B	09/29/16 17:01
281460-003	gamma-BHC	GC30	B	09/29/16 17:01
281460-003	delta-BHC	GC30	B	09/29/16 17:01
281460-003	Heptachlor	GC30	B	09/29/16 17:01
281460-003	Aldrin	GC30	B	09/29/16 17:01
281460-003	Heptachlor epoxide	GC30	B	09/29/16 17:01
281460-003	Endosulfan I	GC30	B	09/29/16 17:01

Sample ID	Analyte	Inst ID	Ch	Date & Time
281460-003	Dieldrin	GC30	B	09/29/16 17:01
281460-003	4,4'-DDE	GC30	B	09/29/16 17:01
281460-003	Endrin	GC30	B	09/29/16 17:01
281460-003	Endosulfan II	GC30	B	09/29/16 17:01
281460-003	Endosulfan sulfate	GC30	B	09/29/16 17:01
281460-003	4,4'-DDD	GC30	B	09/29/16 17:01
281460-003	Endrin aldehyde	GC30	B	09/29/16 17:01
281460-003	4,4'-DDT	GC30	B	09/29/16 17:01
281460-003	alpha-Chlordane	GC30	B	09/29/16 17:01
281460-003	gamma-Chlordane	GC30	B	09/29/16 17:01
281460-003	Methoxychlor	GC30	B	09/29/16 17:01
281460-003	Toxaphene	GC30	B	09/29/16 17:01
281460-003	TCMX	GC30	B	09/29/16 17:01
281460-003	Decachlorobiphenyl	GC30	B	09/29/16 17:01
281460-004	alpha-BHC	GC23	B	09/27/16 17:24
281460-004	beta-BHC	GC23	B	09/27/16 17:24
281460-004	gamma-BHC	GC23	B	09/27/16 17:24
281460-004	delta-BHC	GC23	B	09/27/16 17:24
281460-004	Heptachlor	GC23	B	09/27/16 17:24
281460-004	Aldrin	GC23	B	09/27/16 17:24
281460-004	Heptachlor epoxide	GC23	B	09/27/16 17:24
281460-004	Endosulfan I	GC23	B	09/27/16 17:24
281460-004	Dieldrin	GC23	B	09/27/16 17:24
281460-004	4,4'-DDE	GC23	B	09/27/16 17:24
281460-004	Endrin	GC23	B	09/27/16 17:24
281460-004	Endosulfan II	GC23	B	09/27/16 17:24
281460-004	Endosulfan sulfate	GC23	B	09/27/16 17:24
281460-004	4,4'-DDD	GC23	B	09/27/16 17:24
281460-004	Endrin aldehyde	GC23	B	09/27/16 17:24
281460-004	4,4'-DDT	GC23	B	09/27/16 17:24
281460-004	alpha-Chlordane	GC23	B	09/27/16 17:24
281460-004	gamma-Chlordane	GC23	B	09/27/16 17:24
281460-004	Methoxychlor	GC23	B	09/27/16 17:24
281460-004	Toxaphene	GC23	B	09/27/16 17:24
281460-004	TCMX	GC23	B	09/27/16 17:24
281460-004	Decachlorobiphenyl	GC23	B	09/27/16 17:24
281460-005	alpha-BHC	GC23	B	09/27/16 17:43
281460-005	beta-BHC	GC23	B	09/27/16 17:43
281460-005	gamma-BHC	GC23	B	09/27/16 17:43
281460-005	delta-BHC	GC23	B	09/27/16 17:43
281460-005	Heptachlor	GC23	B	09/27/16 17:43
281460-005	Aldrin	GC23	B	09/27/16 17:43
281460-005	Heptachlor epoxide	GC23	B	09/27/16 17:43
281460-005	Endosulfan I	GC23	B	09/27/16 17:43
281460-005	Dieldrin	GC23	B	09/27/16 17:43
281460-005	4,4'-DDE	GC23	B	09/27/16 17:43
281460-005	Endrin	GC23	B	09/27/16 17:43
281460-005	Endosulfan II	GC23	B	09/27/16 17:43
281460-005	Endosulfan sulfate	GC23	B	09/27/16 17:43
281460-005	4,4'-DDD	GC23	B	09/27/16 17:43
281460-005	Endrin aldehyde	GC23	B	09/27/16 17:43
281460-005	4,4'-DDT	GC23	B	09/27/16 17:43

Sample ID	Analyte	Inst ID	Ch	Date & Time
281460-005	alpha-Chlordane	GC23	B	09/27/16 17:43
281460-005	gamma-Chlordane	GC23	B	09/27/16 17:43
281460-005	Methoxychlor	GC23	B	09/27/16 17:43
281460-005	Toxaphene	GC23	B	09/27/16 17:43
281460-005	TCMX	GC23	B	09/27/16 17:43
281460-005	Decachlorobiphenyl	GC23	B	09/27/16 17:43
281460-006	alpha-BHC	GC23	B	09/27/16 18:01
281460-006	beta-BHC	GC23	B	09/27/16 18:01
281460-006	gamma-BHC	GC23	B	09/27/16 18:01
281460-006	delta-BHC	GC23	B	09/27/16 18:01
281460-006	Heptachlor	GC23	B	09/27/16 18:01
281460-006	Aldrin	GC23	B	09/27/16 18:01
281460-006	Heptachlor epoxide	GC23	B	09/27/16 18:01
281460-006	Endosulfan I	GC23	B	09/27/16 18:01
281460-006	Dieldrin	GC23	B	09/27/16 18:01
281460-006	4,4'-DDE	GC23	B	09/27/16 18:01
281460-006	Endrin	GC23	B	09/27/16 18:01
281460-006	Endosulfan II	GC23	B	09/27/16 18:01
281460-006	Endosulfan sulfate	GC23	B	09/27/16 18:01
281460-006	4,4'-DDD	GC23	B	09/27/16 18:01
281460-006	Endrin aldehyde	GC23	B	09/27/16 18:01
281460-006	4,4'-DDT	GC23	B	09/27/16 18:01
281460-006	alpha-Chlordane	GC23	B	09/27/16 18:01
281460-006	gamma-Chlordane	GC23	B	09/27/16 18:01
281460-006	Methoxychlor	GC23	B	09/27/16 18:01
281460-006	Toxaphene	GC23	B	09/27/16 18:01
281460-006	TCMX	GC23	B	09/27/16 18:01
281460-006	Decachlorobiphenyl	GC23	B	09/27/16 18:01
281460-007	alpha-BHC	GC23	B	09/27/16 18:19
281460-007	beta-BHC	GC23	B	09/27/16 18:19
281460-007	gamma-BHC	GC23	B	09/27/16 18:19
281460-007	delta-BHC	GC23	B	09/27/16 18:19
281460-007	Heptachlor	GC23	B	09/27/16 18:19
281460-007	Aldrin	GC23	B	09/27/16 18:19
281460-007	Heptachlor epoxide	GC23	B	09/27/16 18:19
281460-007	Endosulfan I	GC23	B	09/27/16 18:19
281460-007	Dieldrin	GC23	B	09/27/16 18:19
281460-007	4,4'-DDE	GC23	B	09/27/16 18:19
281460-007	Endrin	GC23	B	09/27/16 18:19
281460-007	Endosulfan II	GC23	B	09/27/16 18:19
281460-007	Endosulfan sulfate	GC23	B	09/27/16 18:19
281460-007	4,4'-DDD	GC23	B	09/27/16 18:19
281460-007	Endrin aldehyde	GC23	B	09/27/16 18:19
281460-007	4,4'-DDT	GC23	B	09/27/16 18:19
281460-007	alpha-Chlordane	GC23	B	09/27/16 18:19
281460-007	gamma-Chlordane	GC23	B	09/27/16 18:19
281460-007	Methoxychlor	GC23	B	09/27/16 18:19
281460-007	Toxaphene	GC23	B	09/27/16 18:19
281460-007	TCMX	GC23	B	09/27/16 18:19
281460-007	Decachlorobiphenyl	GC23	B	09/27/16 18:19
281460-008	alpha-BHC	GC30	B	09/29/16 17:17

Sample ID	Analyte	Inst ID	Ch	Date & Time
281460-008	beta-BHC	GC30	B	09/29/16 17:17
281460-008	gamma-BHC	GC30	B	09/29/16 17:17
281460-008	delta-BHC	GC30	B	09/29/16 17:17
281460-008	Heptachlor	GC30	B	09/29/16 17:17
281460-008	Aldrin	GC30	B	09/29/16 17:17
281460-008	Heptachlor epoxide	GC30	B	09/29/16 17:17
281460-008	Endosulfan I	GC30	B	09/29/16 17:17
281460-008	Dieldrin	GC30	B	09/29/16 17:17
281460-008	4,4'-DDE	GC30	B	09/29/16 17:17
281460-008	Endrin	GC30	B	09/29/16 17:17
281460-008	Endosulfan II	GC30	B	09/29/16 17:17
281460-008	Endosulfan sulfate	GC30	B	09/29/16 17:17
281460-008	4,4'-DDD	GC30	B	09/29/16 17:17
281460-008	Endrin aldehyde	GC30	B	09/29/16 17:17
281460-008	4,4'-DDT	GC30	B	09/29/16 17:17
281460-008	alpha-Chlordane	GC30	B	09/29/16 17:17
281460-008	gamma-Chlordane	GC30	B	09/29/16 17:17
281460-008	Methoxychlor	GC30	B	09/29/16 17:17
281460-008	Toxaphene	GC30	B	09/29/16 17:17
281460-008	TCMX	GC30	B	09/29/16 17:17
281460-008	Decachlorobiphenyl	GC30	B	09/29/16 17:17
281460-009	alpha-BHC	GC23	B	09/27/16 18:37
281460-009	beta-BHC	GC23	B	09/27/16 18:37
281460-009	gamma-BHC	GC23	B	09/27/16 18:37
281460-009	delta-BHC	GC23	B	09/27/16 18:37
281460-009	Heptachlor	GC23	B	09/27/16 18:37
281460-009	Aldrin	GC23	B	09/27/16 18:37
281460-009	Heptachlor epoxide	GC23	B	09/27/16 18:37
281460-009	Endosulfan I	GC23	B	09/27/16 18:37
281460-009	Dieldrin	GC23	B	09/27/16 18:37
281460-009	4,4'-DDE	GC23	B	09/27/16 18:37
281460-009	Endrin	GC23	B	09/27/16 18:37
281460-009	Endosulfan II	GC23	B	09/27/16 18:37
281460-009	Endosulfan sulfate	GC23	B	09/27/16 18:37
281460-009	4,4'-DDD	GC23	B	09/27/16 18:37
281460-009	Endrin aldehyde	GC23	B	09/27/16 18:37
281460-009	4,4'-DDT	GC23	B	09/27/16 18:37
281460-009	alpha-Chlordane	GC23	B	09/27/16 18:37
281460-009	gamma-Chlordane	GC23	B	09/27/16 18:37
281460-009	Methoxychlor	GC23	B	09/27/16 18:37
281460-009	Toxaphene	GC23	B	09/27/16 18:37
281460-009	TCMX	GC23	B	09/27/16 18:37
281460-009	Decachlorobiphenyl	GC23	B	09/27/16 18:37
281460-010	alpha-BHC	GC23	B	09/27/16 20:08
281460-010	beta-BHC	GC23	B	09/27/16 20:08
281460-010	gamma-BHC	GC23	B	09/27/16 20:08
281460-010	delta-BHC	GC23	B	09/27/16 20:08
281460-010	Heptachlor	GC23	B	09/27/16 20:08
281460-010	Aldrin	GC23	B	09/27/16 20:08
281460-010	Heptachlor epoxide	GC23	B	09/27/16 20:08
281460-010	Endosulfan I	GC23	B	09/27/16 20:08
281460-010	Dieldrin	GC23	B	09/27/16 20:08

Sample ID	Analyte	Inst ID	Ch	Date & Time
281460-010	4,4'-DDE	GC23	B	09/27/16 20:08
281460-010	Endrin	GC23	B	09/27/16 20:08
281460-010	Endosulfan II	GC23	B	09/27/16 20:08
281460-010	Endosulfan sulfate	GC23	B	09/27/16 20:08
281460-010	4,4'-DDD	GC23	B	09/27/16 20:08
281460-010	Endrin aldehyde	GC23	B	09/27/16 20:08
281460-010	4,4'-DDT	GC23	B	09/27/16 20:08
281460-010	alpha-Chlordane	GC23	B	09/27/16 20:08
281460-010	gamma-Chlordane	GC23	B	09/27/16 20:08
281460-010	Methoxychlor	GC23	B	09/27/16 20:08
281460-010	Toxaphene	GC23	B	09/27/16 20:08
281460-010	TCMX	GC23	B	09/27/16 20:08
281460-010	Decachlorobiphenyl	GC23	B	09/27/16 20:08
281460-011	alpha-BHC	GC21	A	09/27/16 18:30
281460-011	beta-BHC	GC21	A	09/27/16 18:30
281460-011	gamma-BHC	GC21	A	09/27/16 18:30
281460-011	delta-BHC	GC21	A	09/27/16 18:30
281460-011	Heptachlor	GC21	A	09/27/16 18:30
281460-011	Aldrin	GC21	A	09/27/16 18:30
281460-011	Heptachlor epoxide	GC21	A	09/27/16 18:30
281460-011	Endosulfan I	GC21	A	09/27/16 18:30
281460-011	Dieldrin	GC21	A	09/27/16 18:30
281460-011	4,4'-DDE	GC21	A	09/27/16 18:30
281460-011	Endrin	GC21	A	09/27/16 18:30
281460-011	Endosulfan II	GC21	A	09/27/16 18:30
281460-011	Endosulfan sulfate	GC21	A	09/27/16 18:30
281460-011	4,4'-DDD	GC21	A	09/27/16 18:30
281460-011	Endrin aldehyde	GC21	A	09/27/16 18:30
281460-011	4,4'-DDT	GC21	A	09/27/16 18:30
281460-011	alpha-Chlordane	GC21	A	09/27/16 18:30
281460-011	gamma-Chlordane	GC21	A	09/27/16 18:30
281460-011	Methoxychlor	GC21	A	09/27/16 18:30
281460-011	Toxaphene	GC21	A	09/27/16 18:30
281460-011	TCMX	GC21	A	09/27/16 18:30
281460-011	Decachlorobiphenyl	GC21	A	09/27/16 18:30
281460-012	alpha-BHC	GC23	B	09/27/16 20:27
281460-012	beta-BHC	GC23	B	09/27/16 20:27
281460-012	gamma-BHC	GC23	B	09/27/16 20:27
281460-012	delta-BHC	GC23	B	09/27/16 20:27
281460-012	Heptachlor	GC23	B	09/27/16 20:27
281460-012	Aldrin	GC23	B	09/27/16 20:27
281460-012	Heptachlor epoxide	GC23	B	09/27/16 20:27
281460-012	Endosulfan I	GC23	B	09/27/16 20:27
281460-012	Dieldrin	GC23	B	09/27/16 20:27
281460-012	4,4'-DDE	GC23	B	09/27/16 20:27
281460-012	Endrin	GC23	B	09/27/16 20:27
281460-012	Endosulfan II	GC23	B	09/27/16 20:27
281460-012	Endosulfan sulfate	GC23	B	09/27/16 20:27
281460-012	4,4'-DDD	GC23	B	09/27/16 20:27
281460-012	Endrin aldehyde	GC23	B	09/27/16 20:27
281460-012	4,4'-DDT	GC23	B	09/27/16 20:27
281460-012	alpha-Chlordane	GC23	B	09/27/16 20:27

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281460-012	gamma-Chlordane	GC23	B	09/27/16 20:27
281460-012	Methoxychlor	GC23	B	09/27/16 20:27
281460-012	Toxaphene	GC23	B	09/27/16 20:27
281460-012	TCMX	GC23	B	09/27/16 20:27
281460-012	Decachlorobiphenyl	GC23	B	09/27/16 20:27
281460-013	alpha-BHC	GC30	B	09/29/16 17:33
281460-013	beta-BHC	GC30	B	09/29/16 17:33
281460-013	gamma-BHC	GC30	B	09/29/16 17:33
281460-013	delta-BHC	GC30	B	09/29/16 17:33
281460-013	Heptachlor	GC30	B	09/29/16 17:33
281460-013	Aldrin	GC30	B	09/29/16 17:33
281460-013	Heptachlor epoxide	GC30	B	09/29/16 17:33
281460-013	Endosulfan I	GC30	B	09/29/16 17:33
281460-013	Dieldrin	GC30	B	09/29/16 17:33
281460-013	4,4'-DDE	GC30	B	09/29/16 17:33
281460-013	Endrin	GC30	B	09/29/16 17:33
281460-013	Endosulfan II	GC30	B	09/29/16 17:33
281460-013	Endosulfan sulfate	GC30	B	09/29/16 17:33
281460-013	4,4'-DDD	GC30	B	09/29/16 17:33
281460-013	Endrin aldehyde	GC30	B	09/29/16 17:33
281460-013	4,4'-DDT	GC30	B	09/29/16 17:33
281460-013	alpha-Chlordane	GC30	B	09/29/16 17:33
281460-013	gamma-Chlordane	GC30	B	09/29/16 17:33
281460-013	Methoxychlor	GC30	B	09/29/16 17:33
281460-013	Toxaphene	GC30	B	09/29/16 17:33
281460-013	TCMX	GC30	B	09/29/16 17:33
281460-013	Decachlorobiphenyl	GC30	B	09/29/16 17:33
281460-014	alpha-BHC	GC23	B	09/27/16 20:45
281460-014	beta-BHC	GC23	B	09/27/16 20:45
281460-014	gamma-BHC	GC23	B	09/27/16 20:45
281460-014	delta-BHC	GC23	B	09/27/16 20:45
281460-014	Heptachlor	GC23	B	09/27/16 20:45
281460-014	Aldrin	GC23	B	09/27/16 20:45
281460-014	Heptachlor epoxide	GC23	B	09/27/16 20:45
281460-014	Endosulfan I	GC23	B	09/27/16 20:45
281460-014	Dieldrin	GC23	B	09/27/16 20:45
281460-014	4,4'-DDE	GC23	B	09/27/16 20:45
281460-014	Endrin	GC23	B	09/27/16 20:45
281460-014	Endosulfan II	GC23	B	09/27/16 20:45
281460-014	Endosulfan sulfate	GC23	B	09/27/16 20:45
281460-014	4,4'-DDD	GC23	B	09/27/16 20:45
281460-014	Endrin aldehyde	GC23	B	09/27/16 20:45
281460-014	4,4'-DDT	GC23	B	09/27/16 20:45
281460-014	alpha-Chlordane	GC23	B	09/27/16 20:45
281460-014	gamma-Chlordane	GC23	B	09/27/16 20:45
281460-014	Methoxychlor	GC23	B	09/27/16 20:45
281460-014	Toxaphene	GC23	B	09/27/16 20:45
281460-014	TCMX	GC23	B	09/27/16 20:45
281460-014	Decachlorobiphenyl	GC23	B	09/27/16 20:45
281460-015	alpha-BHC	GC23	B	09/27/16 21:03
281460-015	beta-BHC	GC23	B	09/27/16 21:03

Sample ID	Analyte	Inst ID	Ch	Date & Time
281460-015	gamma-BHC	GC23	B	09/27/16 21:03
281460-015	delta-BHC	GC23	B	09/27/16 21:03
281460-015	Heptachlor	GC23	B	09/27/16 21:03
281460-015	Aldrin	GC23	B	09/27/16 21:03
281460-015	Heptachlor epoxide	GC23	B	09/27/16 21:03
281460-015	Endosulfan I	GC23	B	09/27/16 21:03
281460-015	Dieldrin	GC23	B	09/27/16 21:03
281460-015	4,4'-DDE	GC23	B	09/27/16 21:03
281460-015	Endrin	GC23	B	09/27/16 21:03
281460-015	Endosulfan II	GC23	B	09/27/16 21:03
281460-015	Endosulfan sulfate	GC23	B	09/27/16 21:03
281460-015	4,4'-DDD	GC23	B	09/27/16 21:03
281460-015	Endrin aldehyde	GC23	B	09/27/16 21:03
281460-015	4,4'-DDT	GC23	B	09/27/16 21:03
281460-015	alpha-Chlordane	GC23	B	09/27/16 21:03
281460-015	gamma-Chlordane	GC23	B	09/27/16 21:03
281460-015	Methoxychlor	GC23	B	09/27/16 21:03
281460-015	Toxaphene	GC23	B	09/27/16 21:03
281460-015	TCMX	GC23	B	09/27/16 21:03
281460-015	Decachlorobiphenyl	GC23	B	09/27/16 21:03
281460-016	alpha-BHC	GC23	B	09/27/16 21:21
281460-016	beta-BHC	GC23	B	09/27/16 21:21
281460-016	gamma-BHC	GC23	B	09/27/16 21:21
281460-016	delta-BHC	GC23	B	09/27/16 21:21
281460-016	Heptachlor	GC23	B	09/27/16 21:21
281460-016	Aldrin	GC23	B	09/27/16 21:21
281460-016	Heptachlor epoxide	GC23	B	09/27/16 21:21
281460-016	Endosulfan I	GC23	B	09/27/16 21:21
281460-016	Dieldrin	GC23	B	09/27/16 21:21
281460-016	4,4'-DDE	GC23	B	09/27/16 21:21
281460-016	Endrin	GC23	B	09/27/16 21:21
281460-016	Endosulfan II	GC23	B	09/27/16 21:21
281460-016	Endosulfan sulfate	GC23	B	09/27/16 21:21
281460-016	4,4'-DDD	GC23	B	09/27/16 21:21
281460-016	Endrin aldehyde	GC23	B	09/27/16 21:21
281460-016	4,4'-DDT	GC23	B	09/27/16 21:21
281460-016	alpha-Chlordane	GC23	B	09/27/16 21:21
281460-016	gamma-Chlordane	GC23	B	09/27/16 21:21
281460-016	Methoxychlor	GC23	B	09/27/16 21:21
281460-016	Toxaphene	GC23	B	09/27/16 21:21
281460-016	TCMX	GC23	B	09/27/16 21:21
281460-016	Decachlorobiphenyl	GC23	B	09/27/16 21:21
281460-017	alpha-BHC	GC23	B	09/27/16 21:40
281460-017	beta-BHC	GC23	B	09/27/16 21:40
281460-017	gamma-BHC	GC23	B	09/27/16 21:40
281460-017	delta-BHC	GC23	B	09/27/16 21:40
281460-017	Heptachlor	GC23	B	09/27/16 21:40
281460-017	Aldrin	GC23	B	09/27/16 21:40
281460-017	Heptachlor epoxide	GC23	B	09/27/16 21:40
281460-017	Endosulfan I	GC23	B	09/27/16 21:40
281460-017	Dieldrin	GC23	B	09/27/16 21:40
281460-017	4,4'-DDE	GC23	B	09/27/16 21:40

Sample ID	Analyte	Inst ID	Ch	Date & Time
281460-017	Endrin	GC23	B	09/27/16 21:40
281460-017	Endosulfan II	GC23	B	09/27/16 21:40
281460-017	Endosulfan sulfate	GC23	B	09/27/16 21:40
281460-017	4,4'-DDD	GC23	B	09/27/16 21:40
281460-017	Endrin aldehyde	GC23	B	09/27/16 21:40
281460-017	4,4'-DDT	GC23	B	09/27/16 21:40
281460-017	alpha-Chlordane	GC23	B	09/27/16 21:40
281460-017	gamma-Chlordane	GC23	B	09/27/16 21:40
281460-017	Methoxychlor	GC23	B	09/27/16 21:40
281460-017	Toxaphene	GC23	B	09/27/16 21:40
281460-017	TCMX	GC23	B	09/27/16 21:40
281460-017	Decachlorobiphenyl	GC23	B	09/27/16 21:40
281460-018	alpha-BHC	GC23	B	09/27/16 21:58
281460-018	beta-BHC	GC23	B	09/27/16 21:58
281460-018	gamma-BHC	GC23	B	09/27/16 21:58
281460-018	delta-BHC	GC23	B	09/27/16 21:58
281460-018	Heptachlor	GC23	B	09/27/16 21:58
281460-018	Aldrin	GC23	B	09/27/16 21:58
281460-018	Heptachlor epoxide	GC23	B	09/27/16 21:58
281460-018	Endosulfan I	GC23	B	09/27/16 21:58
281460-018	Dieldrin	GC23	B	09/27/16 21:58
281460-018	4,4'-DDE	GC23	B	09/27/16 21:58
281460-018	Endrin	GC23	B	09/27/16 21:58
281460-018	Endosulfan II	GC23	B	09/27/16 21:58
281460-018	Endosulfan sulfate	GC23	B	09/27/16 21:58
281460-018	4,4'-DDD	GC23	B	09/27/16 21:58
281460-018	Endrin aldehyde	GC23	B	09/27/16 21:58
281460-018	4,4'-DDT	GC23	B	09/27/16 21:58
281460-018	alpha-Chlordane	GC23	B	09/27/16 21:58
281460-018	gamma-Chlordane	GC23	B	09/27/16 21:58
281460-018	Methoxychlor	GC23	B	09/27/16 21:58
281460-018	Toxaphene	GC23	B	09/27/16 21:58
281460-018	TCMX	GC23	B	09/27/16 21:58
281460-018	Decachlorobiphenyl	GC23	B	09/27/16 21:58
281460-019	alpha-BHC	GC23	B	09/27/16 22:16
281460-019	beta-BHC	GC23	B	09/27/16 22:16
281460-019	gamma-BHC	GC23	B	09/27/16 22:16
281460-019	delta-BHC	GC23	B	09/27/16 22:16
281460-019	Heptachlor	GC23	B	09/27/16 22:16
281460-019	Aldrin	GC23	B	09/27/16 22:16
281460-019	Heptachlor epoxide	GC23	B	09/27/16 22:16
281460-019	Endosulfan I	GC23	B	09/27/16 22:16
281460-019	Dieldrin	GC23	B	09/27/16 22:16
281460-019	4,4'-DDE	GC23	B	09/27/16 22:16
281460-019	Endrin	GC23	B	09/27/16 22:16
281460-019	Endosulfan II	GC23	B	09/27/16 22:16
281460-019	Endosulfan sulfate	GC23	B	09/27/16 22:16
281460-019	4,4'-DDD	GC23	B	09/27/16 22:16
281460-019	Endrin aldehyde	GC23	B	09/27/16 22:16
281460-019	4,4'-DDT	GC23	B	09/27/16 22:16
281460-019	alpha-Chlordane	GC23	B	09/27/16 22:16
281460-019	gamma-Chlordane	GC23	B	09/27/16 22:16

Sample ID	Analyte	Inst ID	Ch	Date & Time
281460-019	Methoxychlor	GC23	B	09/27/16 22:16
281460-019	Toxaphene	GC23	B	09/27/16 22:16
281460-019	TCMX	GC23	B	09/27/16 22:16
281460-019	Decachlorobiphenyl	GC23	B	09/27/16 22:16
281460-020	alpha-BHC	GC30	B	09/29/16 17:49
281460-020	beta-BHC	GC30	B	09/29/16 17:49
281460-020	gamma-BHC	GC30	B	09/29/16 17:49
281460-020	delta-BHC	GC30	B	09/29/16 17:49
281460-020	Heptachlor	GC30	B	09/29/16 17:49
281460-020	Aldrin	GC30	B	09/29/16 17:49
281460-020	Heptachlor epoxide	GC30	B	09/29/16 17:49
281460-020	Endosulfan I	GC30	B	09/29/16 17:49
281460-020	Dieldrin	GC30	B	09/29/16 17:49
281460-020	4,4'-DDE	GC30	B	09/29/16 17:49
281460-020	Endrin	GC30	B	09/29/16 17:49
281460-020	Endosulfan II	GC30	B	09/29/16 17:49
281460-020	Endosulfan sulfate	GC30	B	09/29/16 17:49
281460-020	4,4'-DDD	GC30	B	09/29/16 17:49
281460-020	Endrin aldehyde	GC30	B	09/29/16 17:49
281460-020	4,4'-DDT	GC30	B	09/29/16 17:49
281460-020	alpha-Chlordane	GC30	B	09/29/16 17:49
281460-020	gamma-Chlordane	GC30	B	09/29/16 17:49
281460-020	Methoxychlor	GC30	B	09/29/16 17:49
281460-020	Toxaphene	GC30	B	09/29/16 17:49
281460-020	TCMX	GC30	B	09/29/16 17:49
281460-020	Decachlorobiphenyl	GC30	B	09/29/16 17:49
QC853224	alpha-BHC	GC21	A	09/27/16 17:46
QC853224	beta-BHC	GC21	A	09/27/16 17:46
QC853224	gamma-BHC	GC21	A	09/27/16 17:46
QC853224	delta-BHC	GC21	A	09/27/16 17:46
QC853224	Heptachlor	GC21	A	09/27/16 17:46
QC853224	Aldrin	GC21	A	09/27/16 17:46
QC853224	Heptachlor epoxide	GC21	A	09/27/16 17:46
QC853224	Endosulfan I	GC21	A	09/27/16 17:46
QC853224	Dieldrin	GC21	A	09/27/16 17:46
QC853224	4,4'-DDE	GC21	A	09/27/16 17:46
QC853224	Endrin	GC21	A	09/27/16 17:46
QC853224	Endosulfan II	GC21	A	09/27/16 17:46
QC853224	Endosulfan sulfate	GC21	A	09/27/16 17:46
QC853224	4,4'-DDD	GC21	A	09/27/16 17:46
QC853224	Endrin aldehyde	GC21	A	09/27/16 17:46
QC853224	4,4'-DDT	GC21	A	09/27/16 17:46
QC853224	alpha-Chlordane	GC21	A	09/27/16 17:46
QC853224	gamma-Chlordane	GC21	A	09/27/16 17:46
QC853224	Methoxychlor	GC21	A	09/27/16 17:46
QC853224	Toxaphene	GC21	A	09/27/16 17:46
QC853224	TCMX	GC21	A	09/27/16 17:46
QC853224	Decachlorobiphenyl	GC21	A	09/27/16 17:46
QC853225	gamma-BHC	GC21	B	09/27/16 18:08
QC853225	Heptachlor	GC21	B	09/27/16 18:08
QC853225	Aldrin	GC21	B	09/27/16 18:08

Sample ID	Analyte	Inst ID	Ch	Date & Time
QC853225	Dieldrin	GC21	B	09/27/16 18:08
QC853225	Endrin	GC21	B	09/27/16 18:08
QC853225	4,4'-DDT	GC21	B	09/27/16 18:08
QC853225	TCMX	GC21	B	09/27/16 18:08
QC853225	Decachlorobiphenyl	GC21	B	09/27/16 18:08
QC853226	gamma-BHC	GC21	A	09/27/16 18:52
QC853226	Heptachlor	GC21	A	09/27/16 18:52
QC853226	Aldrin	GC21	A	09/27/16 18:52
QC853226	Dieldrin	GC21	A	09/27/16 18:52
QC853226	Endrin	GC21	A	09/27/16 18:52
QC853226	4,4'-DDT	GC21	A	09/27/16 18:52
QC853226	TCMX	GC21	A	09/27/16 18:52
QC853226	Decachlorobiphenyl	GC21	A	09/27/16 18:52
QC853227	gamma-BHC	GC21	A	09/27/16 19:13
QC853227	Heptachlor	GC21	A	09/27/16 19:13
QC853227	Aldrin	GC21	A	09/27/16 19:13
QC853227	Dieldrin	GC21	A	09/27/16 19:13
QC853227	Endrin	GC21	A	09/27/16 19:13
QC853227	4,4'-DDT	GC21	A	09/27/16 19:13
QC853227	TCMX	GC21	A	09/27/16 19:13
QC853227	Decachlorobiphenyl	GC21	A	09/27/16 19:13
QC853452	alpha-BHC	GC21	A	09/29/16 12:46
QC853452	beta-BHC	GC21	A	09/29/16 12:46
QC853452	gamma-BHC	GC21	A	09/29/16 12:46
QC853452	delta-BHC	GC21	A	09/29/16 12:46
QC853452	Heptachlor	GC21	A	09/29/16 12:46
QC853452	Aldrin	GC21	A	09/29/16 12:46
QC853452	Heptachlor epoxide	GC21	A	09/29/16 12:46
QC853452	Endosulfan I	GC21	A	09/29/16 12:46
QC853452	Dieldrin	GC21	A	09/29/16 12:46
QC853452	4,4'-DDE	GC21	A	09/29/16 12:46
QC853452	Endrin	GC21	B	09/29/16 12:46
QC853452	Endosulfan II	GC21	A	09/29/16 12:46
QC853452	Endosulfan sulfate	GC21	A	09/29/16 12:46
QC853452	4,4'-DDD	GC21	A	09/29/16 12:46
QC853452	Endrin aldehyde	GC21	B	09/29/16 12:46
QC853452	4,4'-DDT	GC21	A	09/29/16 12:46
QC853452	alpha-Chlordane	GC21	A	09/29/16 12:46
QC853452	gamma-Chlordane	GC21	A	09/29/16 12:46
QC853452	Methoxychlor	GC21	A	09/29/16 12:46
QC853452	Toxaphene	GC21	A	09/29/16 12:46
QC853452	TCMX	GC21	A	09/29/16 12:46
QC853452	Decachlorobiphenyl	GC21	A	09/29/16 12:46
QC853456	gamma-BHC	GC21	A	09/29/16 13:08
QC853456	Heptachlor	GC21	A	09/29/16 13:08
QC853456	Aldrin	GC21	A	09/29/16 13:08
QC853456	Dieldrin	GC21	A	09/29/16 13:08
QC853456	Endrin	GC21	B	09/29/16 13:08
QC853456	4,4'-DDT	GC21	A	09/29/16 13:08
QC853456	TCMX	GC21	A	09/29/16 13:08

REPORTING SUMMARY FOR 281460 PEST Soil

Sample ID	Analyte	Inst ID	Ch	Date & Time
QC853456	Decachlorobiphenyl	GC21	A	09/29/16 13:08

Laboratory Job Number 281460

ANALYTICAL REPORT

PCBs

Matrix: Soil

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	09/26/16
Units:	ug/Kg	Received:	09/26/16
Basis:	dry	Prepared:	09/28/16
Diln Fac:	1.000	Analyzed:	09/28/16
Batch#:	239589		

Field ID: HA-3 Lab ID: 281460-003
Type: SAMPLE Moisture: 9%

Analyte	Result	RL	MDL
Aroclor-1016	ND	11	2.6
Aroclor-1221	ND	21	7.0
Aroclor-1232	ND	11	3.4
Aroclor-1242	ND	11	3.2
Aroclor-1248	ND	11	3.4
Aroclor-1254	ND	11	2.7
Aroclor-1260	ND	11	1.7
Aroclor-1262	ND	11	3.1

Surrogate	%REC	Limits
TCMX	105	46-141
Decachlorobiphenyl	96	25-135

Field ID: HA-8 Lab ID: 281460-008
Type: SAMPLE Moisture: 9%

Analyte	Result	RL	MDL
Aroclor-1016	ND	11	2.6
Aroclor-1221	ND	21	7.0
Aroclor-1232	ND	11	3.4
Aroclor-1242	ND	11	3.2
Aroclor-1248	ND	11	3.4
Aroclor-1254	ND	11	2.7
Aroclor-1260	ND	11	1.7
Aroclor-1262	ND	11	3.1

Surrogate	%REC	Limits
TCMX	105	46-141
Decachlorobiphenyl	92	25-135

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	09/26/16
Units:	ug/Kg	Received:	09/26/16
Basis:	dry	Prepared:	09/28/16
Diln Fac:	1.000	Analyzed:	09/28/16
Batch#:	239589		

Field ID: HA-13 Lab ID: 281460-013
Type: SAMPLE Moisture: 10%

Analyte	Result	RL	MDL
Aroclor-1016	ND	11	2.6
Aroclor-1221	ND	21	7.0
Aroclor-1232	ND	11	3.4
Aroclor-1242	ND	11	3.1
Aroclor-1248	ND	11	3.3
Aroclor-1254	ND	11	2.7
Aroclor-1260	ND	11	1.7
Aroclor-1262	ND	11	3.1

Surrogate	%REC	Limits
TCMX	99	46-141
Decachlorobiphenyl	88	25-135

Field ID: HA-20 Lab ID: 281460-020
Type: SAMPLE Moisture: 11%

Analyte	Result	RL	MDL
Aroclor-1016	ND	11	2.6
Aroclor-1221	ND	21	7.1
Aroclor-1232	ND	11	3.5
Aroclor-1242	ND	11	3.2
Aroclor-1248	ND	11	3.4
Aroclor-1254	ND	11	2.7
Aroclor-1260	ND	11	1.7
Aroclor-1262	ND	11	3.1

Surrogate	%REC	Limits
TCMX	100	46-141
Decachlorobiphenyl	83	25-135

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8082
Matrix:	Soil	Sampled:	09/26/16
Units:	ug/Kg	Received:	09/26/16
Basis:	dry	Prepared:	09/28/16
Diln Fac:	1.000	Analyzed:	09/28/16
Batch#:	239589		

Type: BLANK Lab ID: QC853452

Analyte	Result	RL	MDL
Aroclor-1016	ND	4.9	1.2
Aroclor-1221	ND	9.7	3.2
Aroclor-1232	ND	4.9	1.6
Aroclor-1242	ND	4.9	1.5
Aroclor-1248	ND	4.9	1.5
Aroclor-1254	ND	4.9	1.2
Aroclor-1260	ND	4.9	0.79
Aroclor-1262	ND	4.9	1.4

Surrogate	%REC	Limits
TCMX	106	46-141
Decachlorobiphenyl	97	25-135

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC853453	Batch#:	239589
Matrix:	Soil	Prepared:	09/28/16
Units:	ug/Kg	Analyzed:	09/28/16

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	167.3	167.8	100	64-140
Aroclor-1260	167.3	156.8	94	65-146

Surrogate	%REC	Limits
TCMX	95	46-141
Decachlorobiphenyl	89	25-135

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8082
Field ID:	ZZZZZZZZZZ	Batch#:	239589
MSS Lab ID:	281459-008	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	as received	Analyzed:	09/28/16
Diln Fac:	1.000		

Type: MS Lab ID: QC853454

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<2.367	166.2	262.1	158	60-161
Aroclor-1260	<1.548	166.2	192.7	116	42-166

Surrogate	%REC	Limits
TCMX	94	46-141
Decachlorobiphenyl	281 *	25-135

Type: MSD Lab ID: QC853455

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	168.8	238.5	141	60-161	11	43
Aroclor-1260	168.8	183.2	109	42-166	7	51

Surrogate	%REC	Limits
TCMX	99	46-141
Decachlorobiphenyl	112	25-135

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281460 PCBS Soil: EPA 8082

Inst : GC25
Calnum : 826379141001
Units : pg/uL

Name : 1660_263
Date : 19-SEP-2016 08:23
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	263_004	826379141004	PCB10_2	19-SEP-2016 08:23	S30525
L2	263_005	826379141005	PCB25_5	19-SEP-2016 08:50	S30526
L3	263_006	826379141006	PCB100_20	19-SEP-2016 09:17	S30527
L4	263_007	826379141007	PCB250_50	19-SEP-2016 09:45	S30528
L5	263_008	826379141008	PCB500_100	19-SEP-2016 10:12	S30529
L6	263_009	826379141009	PCB750_150	19-SEP-2016 10:39	S30530
L7	263_010	826379141010	PCB1000_200	19-SEP-2016 11:07	S30531

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Aroclor-1016 Peak # 1	A	39.200	42.280	44.680	43.660	42.200	41.220	40.224	AVRG		0.02385		41.923	5	.99	20	
Aroclor-1016 Peak # 2	A	41.200	50.040	55.630	58.192	54.578	60.172	60.524	AVRG		0.01840		54.334	13	.99	20	
Aroclor-1016 Peak # 3	A	13.900	16.400	17.700	18.216	16.634	20.169	21.693	AVRG		0.05613		17.816	14	.99	20	
Aroclor-1016 Peak # 4	A	44.500	59.920	37.060	33.620	33.146	32.909	33.051	LINR	-11.275	0.03071		39.172	1.000	.99	20	
Aroclor-1016 Peak # 5	A	9.1000	3.2800	13.290	16.796	17.422	16.559	17.223	LINR	13.3936	0.05768		13.381	0.999	.99	20	
Aroclor-1260 Peak # 1	A	66.900	65.600	67.840	77.092	76.058	73.520	81.314	AVRG		0.01377		72.618	8	.99	20	
Aroclor-1260 Peak # 2	A	65.800	71.520	72.070	63.932	67.834	77.789	83.406	AVRG		0.01393		71.764	10	.99	20	
Aroclor-1260 Peak # 3	A	36.800	45.080	50.780	51.592	49.188	47.508	49.274	AVRG		0.02120		47.175	11	.99	20	
Aroclor-1260 Peak # 4	A	131.30	131.00	126.33	123.58	128.76	133.83	148.51	AVRG		0.00758		131.90	6	.99	20	
Aroclor-1260 Peak # 5	A	76.100	65.480	61.360	60.348	57.874	58.848	61.456	AVRG		0.01586		63.067	10	.99	20	
TCMX	A	1621.0	1668.0	1590.7	1636.4	1838.1	1971.6	2122.1	AVRG		5.62E-4		1778.3	12	.99	20	
Decachlorobiphenyl	A	1828.0	1751.8	1615.6	1641.4	1787.8	1927.9	2106.0	AVRG		5.53E-4		1808.3	9	.99	20	
Aroclor-1016 Peak # 1	B	39.000	24.600	12.820	1.2160	0.2860	2.0320	1.1770	AVRG		0.08628		11.590	**130**	.99	20	rsd ***
Aroclor-1016 Peak # 2	B	4.5000	43.800	6.7600	3.4000	0.2280	3.0133	1.9950	AVRG		0.10990		9.0995	**170**	.99	20	rsd ***
Aroclor-1016 Peak # 3	B	2.8000	11.880	0.2500	0.2040	0.0600	2.9507	1.0670	AVRG		0.36436		2.7445	**153**	.99	20	rsd ***
Aroclor-1016 Peak # 4	B	1.6000	7.6400	0.5000	0.2280	0.6640	11.351	4.5610	AVRG		0.26372		3.7920	**113**	.99	20	rsd ***
Aroclor-1016 Peak # 5	B	6.1000	2.7200	0.5500	0.2120	0.1420	1.1413	0.6980	AVRG		0.60536		1.6519	**130**	.99	20	rsd ***
Aroclor-1260 Peak # 1	B	4.6000	4.0400	2.3100	0.8880	0.7240	15.331	0.3970	AVRG		0.24744		4.0414	**130**	.99	20	rsd ***
Aroclor-1260 Peak # 2	B	3.1000	0.4000	2.1400	0.6600	1.4300	1.1187	0.7180	AVRG		0.73171		1.3667	**70**	.99	20	rsd ***
Aroclor-1260 Peak # 3	B	5.0000	1.0000	2.4800	7.1600	6.8720	8.4733	7.4740	AVRG		0.18201		5.4942	**51**	.99	20	rsd ***
Aroclor-1260 Peak # 4	B	3.4000	0.9200	0.5600	0.2480	0.3100	0.7160	0.1790	AVRG		1.10532		0.9047	**125**	.99	20	rsd ***
Aroclor-1260 Peak # 5	B	1.0000	3.2400	0.5000	0.4480	1.5900	0.2840	1.3080	AVRG		0.83632		1.1957	**85**	.99	20	rsd ***
TCMX	B	402.50	205.60	251.55	275.34	118.40	204.51	191.33	AVRG		0.00424		235.60	**38**	.99	20	rsd ***
Decachlorobiphenyl	B	62.000	34.800	196.90	235.38	187.41	162.90	173.71	AVRG		0.00665		150.44	**49**	.99	20	rsd ***

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D
Aroclor-1016 Peak # 1	A	10.000	-6	25.000	1	100.00	7	250.00	4	500.00	1	750.00	-2	1000.0	-4
Aroclor-1016 Peak # 2	A	10.000	**-24**	25.000	-8	100.00	2	250.00	7	500.00	0	750.00	11	1000.0	11
Aroclor-1016 Peak # 3	A	10.000	**-22**	25.000	-8	100.00	-1	250.00	2	500.00	-7	750.00	13	1000.0	**22**
Aroclor-1016 Peak # 4	A	10.000	**-76**	25.000	**39**	100.00	3	250.00	-1	500.00	0	750.00	0	1000.0	0
Aroclor-1016 Peak # 5	A	10.000	**86**	25.000	**-28**	100.00	-10	250.00	2	500.00	3	750.00	-3	1000.0	1
Aroclor-1260 Peak # 1	A	10.000	-8	25.000	-10	100.00	-7	250.00	6	500.00	5	750.00	1	1000.0	12
Aroclor-1260 Peak # 2	A	10.000	-8	25.000	0	100.00	0	250.00	-11	500.00	-5	750.00	8	1000.0	16
Aroclor-1260 Peak # 3	A	10.000	**-22**	25.000	-4	100.00	8	250.00	9	500.00	4	750.00	1	1000.0	4
Aroclor-1260 Peak # 4	A	10.000	0	25.000	-1	100.00	-4	250.00	-6	500.00	-2	750.00	1	1000.0	13
Aroclor-1260 Peak # 5	A	10.000	**21**	25.000	4	100.00	-3	250.00	-4	500.00	-8	750.00	-7	1000.0	-3
TCMX	A	2.0000	-9	5.0000	-6	20.000	-11	50.000	-8	100.00	3	150.00	11	200.00	19
Decachlorobiphenyl	A	2.0000	1	5.0000	-3	20.000	-11	50.000	-9	100.00	-1	150.00	7	200.00	16
Aroclor-1016 Peak # 1	B	10.000	**236**	25.000	**112**	100.00	11	250.00	**-90**	500.00	**-98**	750.00	**-82**	1000.0	**-90**
Aroclor-1016 Peak # 2	B	10.000	**-51**	25.000	**381**	100.00	**-26**	250.00	**-63**	500.00	**-97**	750.00	**-67**	1000.0	**-78**
Aroclor-1016 Peak # 3	B	10.000	2	25.000	**333**	100.00	**-91**	250.00	**-93**	500.00	**-98**	750.00	8	1000.0	**-61**
Aroclor-1016 Peak # 4	B	10.000	**-58**	25.000	**101**	100.00	**-87**	250.00	**-94**	500.00	**-82**	750.00	**199**	1000.0	20
Aroclor-1016 Peak # 5	B	10.000	**269**	25.000	**65**	100.00	**-67**	250.00	**-87**	500.00	**-91**	750.00	**-31**	1000.0	**-58**
Aroclor-1260 Peak # 1	B	10.000	14	25.000	0	100.00	**-43**	250.00	**-78**	500.00	**-82**	750.00	**279**	1000.0	**-90**
Aroclor-1260 Peak # 2	B	10.000	**127**	25.000	**-71**	100.00	**57**	250.00	**-52**	500.00	5	750.00	-18	1000.0	**-47**
Aroclor-1260 Peak # 3	B	10.000	-9	25.000	**-82**	100.00	**-55**	250.00	**30**	500.00	**25**	750.00	**54**	1000.0	**36**
Aroclor-1260 Peak # 4	B	10.000	**276**	25.000	2	100.00	**-38**	250.00	**-73**	500.00	**-66**	750.00	**-21**	1000.0	**-80**
Aroclor-1260 Peak # 5	B	10.000	-16	25.000	**171**	100.00	**-58**	250.00	**-63**	500.00	**33**	750.00	**-76**	1000.0	9
TCMX	B	2.0000	**71**	5.0000	-13	20.000	7	50.000	17	100.00	**-50**	150.00	-13	200.00	-19
Decachlorobiphenyl	B	2.0000	**-59**	5.0000	**-77**	20.000	**31**	50.000	**56**	100.00	**25**	150.00	8	200.00	15

JS1 09/19/16 : Corrected automatically drawn baseline in all levels.

JS1 09/19/16 : Ch. B not used.

Analyst: JS1 Date: 09/19/16 Reviewer: EAH Date: 09/19/16

rsd=ICAL %RSD failure

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281460 PCBS Soil
EPA 8082

Inst : GC25 Name : 1660_263
Calnum : 826379141001 Cal Date : 19-SEP-2016

ICV 826379141012 (263_012 19-SEP-2016) stds: S30644

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Aroclor-1016	A	250.0	250.0	pg/uL	0	15	
Aroclor-1260	A	250.0	241.8	pg/uL	-3	15	
Aroclor-1016	B	250.0	46.19	pg/uL	**-82**	15	
Aroclor-1260	B	250.0	93.45	pg/uL	**-63**	15	

Analyst: JS1 Date: 09/19/16 Reviewer: EAH Date: 09/19/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 PCBS Soil
EPA 8082

Inst : GC25 Run Name : PCB500_100 IDF : 1.0
Seqnum : 826392114008 File : 272_008 Time : 28-SEP-2016 13:17
Cal : 826379141001 Caldate : 19-SEP-2016
Standards: S30881

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Aroclor-1016	A			500.0	459.2	pg/uL	-8	15	
Aroclor-1260	A			500.0	504.4	pg/uL	1	15	
TCMX	A	1778.3	1847.3	100.0	103.9	pg/uL	4	15	
Decachlorobiphenyl	A	1808.3	1757.7	100.0	97.20	pg/uL	-3	15	
Aroclor-1016	B			500.0	40.38	pg/uL	**-92**	15	c- rsd v- ***
Aroclor-1260	B			500.0	55.78	pg/uL	**-89**	15	c- rsd v- ***
TCMX	B	235.60	0.0000	100.0	0	pg/uL	**-100**	15	c- rsd ***
Decachlorobiphenyl	B	150.44	0.0000	100.0	0	pg/uL	**-100**	15	c- rsd ***

JS1 09/28/16 : Corrected automatically drawn baseline.

Analyst: JS1 Date: 09/28/16 Reviewer: EAH Date: 09/28/16

-=low bias c=CCV rsd=ICAL %RSD failure v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 PCBS Soil
EPA 8082

Inst : GC25 Run Name : PCB500_100 IDF : 1.0
Seqnum : 826392114022 File : 272_022 Time : 28-SEP-2016 23:17
Cal : 826379141001 Caldate : 19-SEP-2016
Standards: S30881

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Aroclor-1016	A			500.0	484.8	pg/uL	-3	15	
Aroclor-1260	A			500.0	485.3	pg/uL	-3	15	
TCMX	A	1778.3	1846.7	100.0	103.9	pg/uL	4	15	
Decachlorobiphenyl	A	1808.3	1760.3	100.0	97.34	pg/uL	-3	15	
Aroclor-1016	B			500.0	59.68	pg/uL	**-88**	15	c- rsd v- ***
Aroclor-1260	B			500.0	24.00	pg/uL	**-95**	15	c- rsd v- ***
TCMX	B	235.60	0.0000	100.0	0	pg/uL	**-100**	15	c- rsd ***
Decachlorobiphenyl	B	150.44	0.0000	100.0	0	pg/uL	**-100**	15	c- rsd ***

JS1 09/29/16 : Corrected automatically drawn baseline.

Analyst: JS1 Date: 09/29/16 Reviewer: EAH Date: 09/29/16

-=low bias c=CCV rsd=ICAL %RSD failure v=ICV

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 826379141

Instrument : GC25 Begun : 09/19/16 07:01
Method : EPA 8082 SOP Version : pcb_rv11

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	263_001	X	HEX			09/19/16 07:01	1.0		
002	263_002	X	HEX			09/19/16 07:28	1.0		
003	263_003	IB	CALIB			09/19/16 07:55	1.0		
004	263_004	ICAL	PCB10_2			09/19/16 08:23	1.0	1	
005	263_005	ICAL	PCB25_5			09/19/16 08:50	1.0	2	
006	263_006	ICAL	PCB100_20			09/19/16 09:17	1.0	3	
007	263_007	ICAL	PCB250_50			09/19/16 09:45	1.0	4	
008	263_008	ICAL	PCB500_100			09/19/16 10:12	1.0	5	
009	263_009	ICAL	PCB750_150			09/19/16 10:39	1.0	6	
010	263_010	ICAL	PCB1000_200			09/19/16 11:07	1.0	7	
011	263_011	X	HEX			09/19/16 11:34	1.0		
012	263_012	ICV	PCB250_50			09/19/16 12:01	1.0	8	
013	263_013	X	HEX			09/19/16 12:29	1.0		
014	263_014	CCV	PCB500_100			09/19/16 12:56	1.0	9	
015	263_015	ICAL	AR2154_500			09/19/16 13:53	1.0	10	
016	263_016	SAMPLE	281046-001	Water	239190	09/19/16 13:54	1.0		
017	263_017	SAMPLE	281051-003	Air	239156	09/19/16 14:21	1.0		
018	263_018	SAMPLE	281051-004	Air	239156	09/19/16 14:49	1.0		
019	263_019	BLANK	QC851887	Water	239190	09/19/16 15:16	1.0		
020	263_020	BS	QC851888	Water	239190	09/19/16 15:43	1.0		
021	263_021	BSD	QC851889	Water	239190	09/19/16 16:11	1.0		
022	263_022	CCV	PCB500_100			09/19/16 16:38	1.0	9	
023	263_023	CCV	AR2154_500			09/19/16 17:05	1.0	10	12:PCB1221#4=10000
024	263_024	ICAL	AR2154_500			09/19/16 18:05	1.0	10	
025	263_025	CCV	AR1268_250			09/19/16 19:21	1.0	11	
026	263_026	CCV	AR1262_250			09/19/16 19:49	1.0	12	
027	263_027	CCV	AR1248_250			09/19/16 20:16	1.0	13	
028	263_028	BLANK	QC851836	Soil	239178	09/19/16 20:43	1.0		
029	263_029	LCS	QC851837	Soil	239178	09/19/16 21:11	1.0		
030	263_030	MSS	280968-003	Soil	239178	09/19/16 21:38	1.0		
031	263_031	MS	QC851838	Soil	239178	09/19/16 22:05	1.0		
032	263_032	MSD	QC851839	Soil	239178	09/19/16 22:33	1.0		
033	263_033	SAMPLE	280951-001	Soil	239178	09/19/16 23:00	1.0		
034	263_034	SAMPLE	280968-002	Miscell.	239178	09/19/16 23:27	1.0		
035	263_035	SAMPLE	280993-001	Soil	239178	09/19/16 23:54	1.0		1:PCB1016#4=7900
036	263_036	SAMPLE	281028-001	Soil	239178	09/20/16 00:22	1.0		
037	263_037	SAMPLE	281061-017	Soil	239178	09/20/16 00:49	1.0		1:PCB1260#5=1100
038	263_038	XCCV	PCB500_100			09/20/16 01:16	1.0	9	
039	263_039	CCV	AR1268_250			09/20/16 01:44	1.0	11	
040	263_040	CCV	AR1262_250			09/20/16 02:11	1.0	12	
041	263_041	CCV	AR2154_500			09/20/16 02:38	1.0	10	
042	263_042	CCV	AR1248_250			09/20/16 03:05	1.0	13	
043	263_043	CCV	PCB500_100			09/20/16 03:32	1.0	9	
044	263_044	SAMPLE	281061-018	Soil	239178	09/20/16 04:00	1.0		
045	263_045	SAMPLE	280837-001	Soil	239107	09/20/16 04:27	1.0		
046	263_046	SAMPLE	280837-002	Soil	239107	09/20/16 04:54	1.0		
047	263_047	SAMPLE	280837-003	Soil	239107	09/20/16 05:21	1.0		
048	263_048	SAMPLE	280837-005	Soil	239107	09/20/16 05:49	1.0		
049	263_049	SAMPLE	280837-006	Soil	239107	09/20/16 06:16	1.0		
050	263_050	SAMPLE	280837-007	Soil	239107	09/20/16 06:43	1.0		
051	263_051	SAMPLE	280837-008	Soil	239107	09/20/16 07:12	1.0		2:PCB1221#2=10000
052	263_052	BLANK	QC852088	Soil	239240	09/20/16 07:40	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 826379141

Instrument : GC25 Begun : 09/19/16 07:01
Method : EPA 8082 SOP Version : pcb_rv11

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	263_053	MSS	281095-011	Soil	239240	09/20/16 08:07	1.0		
054	263_054	CCV	PCB500_100			09/20/16 08:34	1.0	9	
055	263_055	CCV	AR1268_250			09/20/16 09:01	1.0	11	
056	263_056	CCV	AR2154_500			09/20/16 09:29	1.0	10	
057	263_057	CCV	AR1248_250			09/20/16 09:56	1.0	13	
058	263_058	CCV	PCB500_100			09/20/16 10:23	1.0	9	
059	263_059	MS	QC852090	Soil	239240	09/20/16 10:51	1.0		
060	263_060	MSD	QC852091	Soil	239240	09/20/16 11:18	1.0		
061	263_061	LCS	QC852089	Soil	239240	09/20/16 11:45	1.0		
062	263_062	SAMPLE	281072-001	Soil	239240	09/20/16 12:12	1.0		
063	263_063	SAMPLE	281082-001	Soil	239240	09/20/16 12:40	1.0		
064	263_064	CCV	PCB500_100			09/20/16 13:07	1.0	9	
065	263_065	CCV	AR1268_250			09/20/16 13:34	1.0	11	
066	263_066	CCV	AR2154_500			09/20/16 14:02	1.0	10	
067	263_067	CCV	AR1248_250			09/20/16 14:29	1.0	13	
068	263_068	CCV	PCB500_100			09/20/16 14:56	1.0	9	2:PCB1016#3=1200

JS1 09/19/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 12.

JS1 09/19/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 13 through 22.

JS1 09/20/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 23 through 59.

JS1 09/20/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 60 through 64.

JS1 09/20/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 65 through 66.

Standards used: 1=S30525 2=S30526 3=S30527 4=S30528 5=S30529 6=S30530 7=S30531 8=S30644 9=S30881 10=S30792 11=S30001 12=S30521 13=S30578

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 826392114

Instrument : GC25 Begun : 09/28/16 07:14
Method : EPA 8082 SOP Version : pcb_rv11

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	272_001	X	HEX			09/28/16 07:14	1.0		
002	272_002	CCV	PCB500_100			09/28/16 07:41	1.0	1	
003	272_003	CCV	AR2154_500			09/28/16 08:08	1.0	2	
004	272_004	X	HEX			09/28/16 10:59	1.0		
005	272_005	SAMPLE	281452-003	Air	239511	09/28/16 11:26	1.0		2:PCB1254#3=2100
006	272_006	SAMPLE	281452-004	Air	239511	09/28/16 11:54	1.0		2:PCB1254#3=16000
007	272_007	SAMPLE	281465-001	Soil	239554	09/28/16 12:50	5.0		
008	272_008	CCV	PCB500_100			09/28/16 13:17	1.0	1	
009	272_009	CCV	AR2154_500			09/28/16 13:44	1.0	2	
010	272_010	X	HEX			09/28/16 17:49	1.0		
011	272_011	CCV	AR1248_250			09/28/16 18:16	1.0	3	
012	272_012	BLANK	QC853452	Soil	239589	09/28/16 18:43	1.0		
013	272_013	LCS	QC853453	Soil	239589	09/28/16 19:11	1.0		
014	272_014	MS	QC853454	Soil	239589	09/28/16 19:38	1.0		
015	272_015	MSD	QC853455	Soil	239589	09/28/16 20:05	1.0		1:PCB1016#4=1000
016	272_016	MSS	281459-008	Soil	239589	09/28/16 20:33	1.0		2:PCB1016#4=1000
017	272_017	SAMPLE	281460-003	Soil	239589	09/28/16 21:00	1.0		
018	272_018	SAMPLE	281460-008	Soil	239589	09/28/16 21:28	1.0		1:PCB1016#4=1200
019	272_019	SAMPLE	281460-013	Soil	239589	09/28/16 21:55	1.0		
020	272_020	SAMPLE	281460-020	Soil	239589	09/28/16 22:22	1.0		
021	272_021	SAMPLE	281494-001	Soil	239589	09/28/16 22:49	1.0		
022	272_022	CCV	PCB500_100			09/28/16 23:17	1.0	1	
023	272_023	CCV	AR2154_500			09/28/16 23:44	1.0	2	
024	272_024	CCV	AR1248_250			09/29/16 00:11	1.0	3	
025	272_025	CCV	PCB500_100			09/29/16 00:39	1.0	1	
026	272_026	SAMPLE	281494-002	Soil	239589	09/29/16 01:06	1.0		
027	272_027	SAMPLE	281501-001	Soil	239589	09/29/16 01:33	1.0		
028	272_028	SAMPLE	281501-002	Soil	239589	09/29/16 02:00	1.0		
029	272_029	SAMPLE	281501-003	Soil	239589	09/29/16 02:28	1.0		
030	272_030	SAMPLE	281501-004	Soil	239589	09/29/16 02:55	1.0		2:PCB1260#4=2000
031	272_031	SAMPLE	281501-005	Soil	239589	09/29/16 03:22	1.0		
032	272_032	CCV	PCB500_100			09/29/16 03:49	1.0	1	
033	272_033	CCV	AR2154_500			09/29/16 04:17	1.0	2	
034	272_034	CCV	AR1248_250			09/29/16 04:44	1.0	3	
035	272_035	XCCV	PCB500_100			09/29/16 05:11	1.0	1	3:PCB1016#3=1200

JS1 09/29/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 35.

Standards used: 1=S30881 2=S29814 3=S30578

SAMPLE PREPARATION SUMMARY

Batch # : 239589 Analysis : 8081
Started By : FZY Prep Date : 28-SEP-2016 13:00 Finished By : FZY
Method : 3550B SOP Version : 8081_3550_rv16 Units : g
Spike #1 ID : S30591 Spike #2 ID : S30701 Spike #3 ID : S30784

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
281442-001		Soil	30.06	20	1	0.6653		.8				8081	
281459-008		Soil	29.99	20	1	0.6669		.8				8081, PCB	
281460-003		Soil	29.83	20	1	0.6705		.8				8081, PCB	
281460-008		Soil	29.86	20	1	0.6698		.8				8081, PCB	
281460-013		Soil	30.45	20	1	0.6568		.8				8081, PCB	
281460-020		Soil	30.13	20	1	0.6638		.8				8081, PCB	
281494-001		Soil	29.81	10	1	0.3355		.4				8081-LL, PCB-LL	
281494-002		Soil	29.94	10	1	0.334		.4				8081-LL, PCB-LL	
281501-001		Soil	30.43	10	1	0.3286		.4				PCB-LL	
281501-002		Soil	29.62	10	1	0.3376		.4				PCB-LL	
281501-003		Soil	29.79	10	1	0.3357		.4				PCB-LL	
281501-004		Soil	29.72	10	1	0.3365		.4				PCB-LL	
281501-005		Soil	30.42	10	1	0.3287		.4				PCB-LL	
281512-001		Soil	30.2	10	1	0.3311		.4				8081-LL	
281512-002		Soil	29.66	10	1	0.3372		.4				8081-LL	
281512-003		Soil	29.91	10	1	0.3343		.4				8081-LL	
281512-004		Soil	29.62	10	1	0.3376		.4				8081-LL	
281512-005		Soil	29.96	10	1	0.3338		.4				8081-LL	
281512-007		Soil	30.22	10	1	0.3309		.4				8081-LL	
281512-008		Soil	30.18	10	1	0.3313		.4				8081-LL	
QC853452	BLANK	Soil	29.54	10	1	0.3385		.4				PCB-LL	
QC853453	LCS	Soil	29.89	20	1	0.6691		.8	1			PCB	
QC853454	MS	Soil	30.08	20	1	0.6649		.8	1			PCB	
QC853455	MSD	Soil	29.62	20	1	0.6752		.8	1			PCB	
QC853456	LCS	Soil	29.5	20	1	0.678		.8		.4		8081	
QC853457	MS	Soil	30.34	20	1	0.6592		.8		.4		8081	
QC853458	MSD	Soil	29.78	20	1	0.6716		.8		.4		8081	

JS1 09/29/16 : PCB ready for review

JCD 09/29/16 : Matrix spikes QC853457,QC853458 (batch 239589) were not reported because the parent sample required a dilution that would have diluted out the spikes.

EAH 09/29/16 : Reviewed PCB and checked batch documents for pest.

JCD 09/29/16 : Pest ready for review

JS1: 09/29/16 JCD: 09/29/16 EAH: 09/29/16

Curtis & Tompkins, Ltd. **Florisil Cleanup** **EPA 3620B**

Prep Chemist: FZ
Cleanup Date: 09/28/16

Benchbook # **BK 3894**
Page 66

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
281442 - 001	239589	☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
281459 - 008		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
281460 - 003		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
~~8~~ 8 FZ 9/28		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
13		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
20		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
281494 - 001		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
2		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
281512 - 001		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
2		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
3		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
4		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
5		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
7		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
8		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MB QC853452		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
LCS 6		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MS 7		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MSD 8		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	MC 9-28-16

	Mfg & Lot # / Time / Program	Initials / Date
☑ Extracts were cleaned up using Florisil cartridges	RES3571106	FZ 09/28
Florisil cartridges/ columns rinsed 3x with Hexane	FC164512	
Extracts were eluted with 9.0 mL ~~9.1~~ 8.2 Hexane/Acetone — Hexane	FC161873	
Acetone	FC162163	
Concentrated to volumes as noted above		

09/28/16
Extraction Chemist / Date

Continued from page ____
Continued on page 1

9-28-16
Reviewed by / Date

PCB (8082) Soil Prep Log

Curtis & Tompkins, Ltd.

LIMS Batch No: 239589

LIMS Analysis PCB (P1P)

Date Extracted: 09/28/16

☑ EPA 3550b Sonication

☐ Other _____

BK 3907

Sample #	Container ID	Sample Wt (g)	Final Vol (mL)	Comments
281459-008	A	29.99	☐ 25.0 ☑ 20	MS/MSD
281460-003		29.83	☐ 25.0 ☑ 20	
8		29.86	☐ 25.0 ☑ 20	
13		30.45	☐ 25.0 ☑ 20	
20		30.13	☐ 25.0 ☑ 20	
281494-001	F	29.81	☐ 25.0 ☑ 10	2.L *
2		29.94	☐ 25.0 ☑ 10	*
281501-001	A	30.43	☐ 25.0 ☑ 10	2.L *
2		29.62	☐ 25.0 ☑ 10	
3		29.79	☐ 25.0 ☑ 10	
4		29.72	☐ 25.0 ☑ 10	
5		30.42	☐ 25.0 ☑ 10	
MB QC853452	NA	29.54	☐ 25.0 ☑ 10	
LCS 3		29.89	☐ 25.0 ☑ 20	
MS 4		30.08	☐ 25.0 ☑ 20	
MSD 5		29.62	☐ 25.0 ☑ 20	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	MCI 9-28-16

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

☑ Balance ID: Dish 1 Has been calibrated? ☑ Yes ☐ No

	Mfg & Lot # / LIMS # / Time	Initials / Date
Solvent-rinsed granular Na_2SO_4 weighed out for QC samples	EMYB16M	FZ 09/28
dried with CH_2Cl_2-rinsed ☑ granular Na_2SO_4 ☐ powder		
* 0.4/0.8 mL of surrogate solution was added to all samples	S30591D	
1.0 mL of matrix spiking solution was added to all spikes	S30701E	
1:1 CH_2Cl_2 (lot# EM5617 6):Acetone(lot# FC163343) was added to all		
Solvent added at (time)	13:00	
☑ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:		
Soxhlets off at:	NA	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM0835C506	
Solvent exchanged with Hexane, Lot#	FC164512	
Concentrated to final volume in boiling H2O bath	100°C	
EPA 3665A Clean-up: vortexed w/ H_2SO_4 Lot#	FC152524	
Centrifuged for 1 min; 5mL transferred to labelled vial		
Relinquished to PCB group		

09/28/16

Extraction Chemist / Date

Continued from page _____

Continued on page 1

9-28-16

Reviewed by / Date

8081 Soil Prep Log Curtis & Tompkins, Ltd.

Page 68 BK 3852 (P IP)

LIMS Batch No: 239589

Date Extracted: 09/28/16

Extraction Method:
☑ EPA 3550b Sonication
☐ _____

Cleanup Method:
☒ EPA 3620b Florisil

Sample #	Container ID	Sample Wt (g)	Final Vol (mL)	Comments
281442-001	C	30.06	☑ 20.0 ☐	MS/MSD
281459-008	A	29.99	☑ 20.0 ☐	
281460-003		29.83	☑ 20.0 ☐	
8		29.86	☑ 20.0 ☐	
13		30.45	☑ 20.0 ☐	
20		30.13	☑ 20.0 ☐	
281494-001	F	29.81	☐ 20.0 ☑ 10	L.L *
2		29.94	☐ 20.0 ☑ 10	
281512-001	A	30.20	☐ 20.0 ☑ 10	
2		29.66	☐ 20.0 ☑ 10	
3		29.91	☐ 20.0 ☑ 10	
4		29.62	☐ 20.0 ☑ 10	
5		29.96	☐ 20.0 ☑ 10	
7		30.22	☐ 20.0 ☑ 10	
8		30.18	☐ 20.0 ☑ 10	
MB QC853452	NA	29.54	☐ 20.0 ☑ 10	
LCS 6		29.50	☑ 20.0 ☐	
MS 7		30.34	☑ 20.0 ☐	
MSD 8		29.78	☑ 20.0 ☐	
			☐ 20.0 ☐	
			☐ 20.0 ☐	
			☐ 20.0 ☐	
			☐ 20.0 ☐	
			☐ 20.0 ☐	
			☐ 20.0 ☐	MCI 9-28-16

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

☑ Balance ID: Dish 1 Has been calibrated? ☑ Yes ☐ No

	Mfg & Lot # / LIMS # / Time	Initials / Date
Solvent-rinsed granular Na_2SO_4 weighed out for QC samples	EMYB16M	SZ 09/28
* dried with CH_2Cl_2-rinsed ☑ granular Na_2SO_4 ☐ powder		
0.41 0.8 mL of surrogate solution was added to all samples	S 30591D	
0.4 mL of spike solution was added to all spikes	S 30784C	
1:1 CH_2Cl_2 (lot# EM56176):Acetone(lot# FC163343) was added to all		
Solvent added at (time)	13:00	
☑ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:		
soxhlets off at:	NA	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM0835C506	
Exchanged 2x with Hexane	FC164512	
Concentrated to final volume in boiling H2O bath	100°C	
☒ Florisil Cleanup Performed		
Extracts relinquished to Pesticide Group		

09/28/16
Extraction Chemist / Date

Continued from page _____
Continued on page _____

9-28-16
Reviewed by / Date

REPORTING SUMMARY FOR 281460 PCBS Soil

Sample ID	Analyte	Inst ID	Ch	Date & Time
281460-003	Aroclor-1016	GC25	A	09/28/16 21:00
281460-003	Aroclor-1221	GC25	A	09/28/16 21:00
281460-003	Aroclor-1232	GC25	A	09/28/16 21:00
281460-003	Aroclor-1242	GC25	A	09/28/16 21:00
281460-003	Aroclor-1248	GC25	A	09/28/16 21:00
281460-003	Aroclor-1254	GC25	A	09/28/16 21:00
281460-003	Aroclor-1260	GC25	A	09/28/16 21:00
281460-003	Aroclor-1262	GC25	A	09/28/16 21:00
281460-003	TCMX	GC25	A	09/28/16 21:00
281460-003	Decachlorobiphenyl	GC25	A	09/28/16 21:00
281460-008	Aroclor-1016	GC25	A	09/28/16 21:28
281460-008	Aroclor-1221	GC25	A	09/28/16 21:28
281460-008	Aroclor-1232	GC25	A	09/28/16 21:28
281460-008	Aroclor-1242	GC25	A	09/28/16 21:28
281460-008	Aroclor-1248	GC25	A	09/28/16 21:28
281460-008	Aroclor-1254	GC25	A	09/28/16 21:28
281460-008	Aroclor-1260	GC25	A	09/28/16 21:28
281460-008	Aroclor-1262	GC25	A	09/28/16 21:28
281460-008	TCMX	GC25	A	09/28/16 21:28
281460-008	Decachlorobiphenyl	GC25	A	09/28/16 21:28
281460-013	Aroclor-1016	GC25	A	09/28/16 21:55
281460-013	Aroclor-1221	GC25	A	09/28/16 21:55
281460-013	Aroclor-1232	GC25	A	09/28/16 21:55
281460-013	Aroclor-1242	GC25	A	09/28/16 21:55
281460-013	Aroclor-1248	GC25	A	09/28/16 21:55
281460-013	Aroclor-1254	GC25	A	09/28/16 21:55
281460-013	Aroclor-1260	GC25	A	09/28/16 21:55
281460-013	Aroclor-1262	GC25	A	09/28/16 21:55
281460-013	TCMX	GC25	A	09/28/16 21:55
281460-013	Decachlorobiphenyl	GC25	A	09/28/16 21:55
281460-020	Aroclor-1016	GC25	A	09/28/16 22:22
281460-020	Aroclor-1221	GC25	A	09/28/16 22:22
281460-020	Aroclor-1232	GC25	A	09/28/16 22:22
281460-020	Aroclor-1242	GC25	A	09/28/16 22:22
281460-020	Aroclor-1248	GC25	A	09/28/16 22:22
281460-020	Aroclor-1254	GC25	A	09/28/16 22:22
281460-020	Aroclor-1260	GC25	A	09/28/16 22:22
281460-020	Aroclor-1262	GC25	A	09/28/16 22:22
281460-020	TCMX	GC25	A	09/28/16 22:22
281460-020	Decachlorobiphenyl	GC25	A	09/28/16 22:22
QC853452	Aroclor-1016	GC25	A	09/28/16 18:43
QC853452	Aroclor-1221	GC25	A	09/28/16 18:43
QC853452	Aroclor-1232	GC25	A	09/28/16 18:43
QC853452	Aroclor-1242	GC25	A	09/28/16 18:43
QC853452	Aroclor-1248	GC25	A	09/28/16 18:43
QC853452	Aroclor-1254	GC25	A	09/28/16 18:43
QC853452	Aroclor-1260	GC25	A	09/28/16 18:43
QC853452	Aroclor-1262	GC25	A	09/28/16 18:43
QC853452	TCMX	GC25	A	09/28/16 18:43
QC853452	Decachlorobiphenyl	GC25	A	09/28/16 18:43

REPORTING SUMMARY FOR 281460 PCBS Soil

Sample ID	Analyte	Inst ID	Ch	Date & Time
QC853453	Aroclor-1016	GC25	A	09/28/16 19:11
QC853453	Aroclor-1260	GC25	A	09/28/16 19:11
QC853453	TCMX	GC25	A	09/28/16 19:11
QC853453	Decachlorobiphenyl	GC25	A	09/28/16 19:11
QC853454	Aroclor-1016	GC25	A	09/28/16 19:38
QC853454	Aroclor-1260	GC25	A	09/28/16 19:38
QC853454	TCMX	GC25	A	09/28/16 19:38
QC853454	Decachlorobiphenyl	GC25	A	09/28/16 19:38
QC853455	Aroclor-1016	GC25	A	09/28/16 20:05
QC853455	Aroclor-1260	GC25	A	09/28/16 20:05
QC853455	TCMX	GC25	A	09/28/16 20:05
QC853455	Decachlorobiphenyl	GC25	A	09/28/16 20:05

Laboratory Job Number 281460

ANALYTICAL REPORT

Metals

Matrix: Soil

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-1	Basis:	dry
Lab ID:	281460-001	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 7%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	10	2.1	0.15	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	14	0.26	0.075	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Barium	140	0.26	0.056	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	6.2	0.10	0.013	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	6.8	0.26	0.026	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	33	0.26	0.065	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	13	0.26	0.031	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Copper	19	0.26	0.086	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Lead	16	0.26	0.072	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.16	0.018	0.0055	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	6.5	0.26	0.051	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	41	0.26	0.068	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.1	0.17	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Silver	4.7	0.26	0.041	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	0.32 J	0.52	0.15	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	49	0.26	0.059	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	150	1.0	0.21	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-2	Basis:	dry
Lab ID:	281460-002	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 8%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	4.6	2.1	0.15	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	6.9	0.26	0.075	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Barium	180	0.26	0.056	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.53	0.10	0.013	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	1.2	0.26	0.026	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	29	0.26	0.065	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	9.1	0.26	0.031	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Copper	11	0.26	0.086	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Lead	10	0.26	0.072	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.12	0.019	0.0056	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.4	0.26	0.051	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	34	0.26	0.068	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.1	0.17	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.041	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	0.46 J	0.52	0.15	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	38	0.26	0.059	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	83	1.0	0.21	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-3	Basis:	dry
Lab ID:	281460-003	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 9%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.0 J	2.2	0.18	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Arsenic	6.2	0.30	0.088	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Barium	180	0.30	0.065	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Beryllium	0.54	0.12	0.015	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Cadmium	1.2	0.30	0.031	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Chromium	29	0.30	0.076	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Cobalt	6.8	0.30	0.036	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Copper	13	0.30	0.10	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Lead	9.5	0.30	0.084	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Mercury	0.22	0.018	0.0055	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.6	0.30	0.059	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Nickel	33	0.30	0.079	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.19	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Silver	ND	0.30	0.048	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Thallium	0.47 J	0.60	0.17	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Vanadium	37	0.30	0.069	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Zinc	140	1.2	0.24	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-4	Basis:	dry
Lab ID:	281460-004	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 10%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.90 J	2.2	0.16	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Arsenic	7.0	0.27	0.078	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Barium	220	0.27	0.058	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Beryllium	0.58	0.11	0.013	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Cadmium	1.1	0.27	0.028	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Chromium	34	0.27	0.068	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Cobalt	8.2	0.27	0.032	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Copper	13	0.27	0.090	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Lead	9.4	0.27	0.075	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Mercury	0.12	0.017	0.0051	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.3	0.27	0.053	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Nickel	40	0.27	0.071	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.17	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.043	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Thallium	0.37 J	0.54	0.15	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	42	0.27	0.062	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Zinc	120	1.1	0.22	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-5	Basis:	dry
Lab ID:	281460-005	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 9%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	2.3	2.1	0.15	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	8.5	0.26	0.075	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Barium	210	0.26	0.056	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.59	0.10	0.013	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	1.2	0.26	0.026	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	44	0.26	0.065	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	8.3	0.26	0.031	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Copper	13	0.26	0.086	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Lead	11	0.26	0.072	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.11	0.017	0.0052	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.5	0.26	0.051	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	44	0.26	0.068	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.1	0.17	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.041	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	0.38 J	0.52	0.15	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	43	0.26	0.059	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	120	1.0	0.21	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-6	Basis:	dry
Lab ID:	281460-006	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 8%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	4.3	2.0	0.15	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	6.6	0.25	0.074	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Barium	170	0.25	0.055	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.51	0.10	0.013	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	0.95	0.25	0.026	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	30	0.25	0.064	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	7.4	0.25	0.030	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Copper	10	0.25	0.085	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Lead	9.8	0.25	0.071	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.087	0.018	0.0055	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.4	0.25	0.050	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	31	0.25	0.067	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.16	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.25	0.041	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	ND	0.51	0.14	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	36	0.25	0.058	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	72	1.0	0.20	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-7	Basis:	dry
Lab ID:	281460-007	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 8%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	0.98 J	2.2	0.17	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Arsenic	7.6	0.29	0.083	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Barium	190	0.29	0.061	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Beryllium	0.57	0.11	0.014	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Cadmium	1.1	0.29	0.029	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Chromium	37	0.29	0.072	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Cobalt	7.8	0.29	0.034	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Copper	12	0.29	0.095	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Lead	11	0.29	0.080	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Mercury	0.14	0.017	0.0051	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.6	0.29	0.056	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Nickel	41	0.29	0.075	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.18	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Silver	ND	0.29	0.046	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Thallium	0.22 J	0.57	0.16	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Vanadium	43	0.29	0.065	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Zinc	92	1.1	0.23	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-8	Basis:	dry
Lab ID:	281460-008	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 9%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	4.8	2.2	0.17	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	6.9	0.29	0.085	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Barium	210	0.29	0.063	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.56	0.12	0.014	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	1.2	0.29	0.030	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	35	0.29	0.074	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	8.7	0.29	0.035	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Copper	8.8	0.29	0.097	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Lead	6.4	0.29	0.081	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.091	0.018	0.0055	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.6	0.29	0.057	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	38	0.29	0.077	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.19	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.29	0.047	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	0.35 J	0.58	0.16	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	39	0.29	0.067	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	45	1.2	0.23	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-9	Basis:	dry
Lab ID:	281460-009	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 14%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	6.0	2.3	0.18	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	7.5	0.31	0.090	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Barium	200	0.31	0.066	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.86	0.12	0.015	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	0.82	0.31	0.032	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	37	0.31	0.078	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	8.7	0.31	0.037	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Copper	8.0	0.31	0.10	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Lead	7.5	0.31	0.086	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.15	0.021	0.0063	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	0.96	0.31	0.060	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	43	0.31	0.081	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.3	0.20	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.31	0.049	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	ND	0.62	0.17	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	43	0.31	0.071	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	41	1.2	0.25	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-10	Basis:	dry
Lab ID:	281460-010	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 14%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	4.8	2.2	0.16	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	8.4	0.27	0.079	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Barium	200	0.27	0.058	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.70	0.11	0.013	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	0.94	0.27	0.028	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	33	0.27	0.068	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	10	0.27	0.033	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Copper	8.0	0.27	0.091	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Lead	9.6	0.27	0.076	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.13	0.019	0.0058	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.3	0.27	0.053	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	45	0.27	0.072	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.17	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.043	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	0.17 J	0.54	0.15	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	38	0.27	0.062	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	65	1.1	0.22	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-11	Basis:	dry
Lab ID:	281460-011	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 9%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.6 J	2.1	0.15	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Arsenic	7.6	0.26	0.075	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Barium	190	0.26	0.056	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Beryllium	0.56	0.10	0.013	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Cadmium	1.7	0.26	0.026	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Chromium	29	0.26	0.065	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Cobalt	8.1	0.26	0.031	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Copper	11	0.26	0.086	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Lead	8.0	0.26	0.072	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Mercury	0.15	0.018	0.0053	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.7	0.26	0.051	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Nickel	29	0.26	0.068	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Selenium	ND	2.1	0.17	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.041	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Thallium	ND	0.52	0.15	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Vanadium	38	0.26	0.059	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Zinc	82	1.0	0.21	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-12	Basis:	dry
Lab ID:	281460-012	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 8%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	4.8	2.2	0.17	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	7.7	0.28	0.081	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Barium	180	0.28	0.060	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.56	0.11	0.014	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	1.1	0.28	0.028	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	49	0.28	0.070	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	8.2	0.28	0.033	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Copper	11	0.28	0.092	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Lead	7.1	0.28	0.077	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.13	0.018	0.0053	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.5	0.28	0.054	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	39	0.28	0.073	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.18	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.28	0.044	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	0.42 J	0.55	0.16	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	40	0.28	0.063	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	48	1.1	0.22	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-13	Basis:	dry
Lab ID:	281460-013	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 10%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	4.9	2.2	0.18	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	6.4	0.30	0.087	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Barium	210	0.30	0.064	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.54	0.12	0.015	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	1.4	0.30	0.030	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	30	0.30	0.075	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	8.4	0.30	0.036	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Copper	11	0.30	0.10	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Lead	9.2	0.30	0.083	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.098	0.019	0.0056	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.2	0.30	0.058	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	31	0.30	0.079	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.19	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.30	0.048	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	ND	0.60	0.17	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	36	0.30	0.068	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	100	1.2	0.24	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-14	Basis:	dry
Lab ID:	281460-014	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 10%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	5.4	2.2	0.17	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	7.6	0.29	0.085	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Barium	180	0.29	0.063	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.60	0.12	0.014	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	0.90	0.29	0.030	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	32	0.29	0.074	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	7.1	0.29	0.035	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Copper	9.6	0.29	0.097	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Lead	7.0	0.29	0.081	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.13	0.017	0.0051	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.4	0.29	0.057	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	38	0.29	0.077	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.19	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.29	0.047	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	0.18 J	0.58	0.16	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	40	0.29	0.067	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	52	1.2	0.23	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-15	Basis:	dry
Lab ID:	281460-015	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 11%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	2.0 J	2.2	0.17	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Arsenic	8.1	0.29	0.083	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Barium	240	0.29	0.062	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Beryllium	0.64	0.11	0.014	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Cadmium	2.7	0.29	0.029	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Chromium	40	0.29	0.072	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Cobalt	11	0.29	0.034	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Copper	17	0.29	0.096	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Lead	7.7	0.29	0.080	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Mercury	0.38	0.018	0.0054	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.8	0.29	0.056	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Nickel	55	0.29	0.075	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.18	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Silver	ND	0.29	0.046	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Thallium	ND	0.57	0.16	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Vanadium	45	0.29	0.065	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Zinc	70	1.1	0.23	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-16	Basis:	dry
Lab ID:	281460-016	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 8%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	4.3	2.2	0.18	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	7.5	0.30	0.086	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Barium	160	0.30	0.063	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.52	0.12	0.015	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	0.98	0.30	0.030	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	27	0.30	0.074	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	6.7	0.30	0.035	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Copper	8.2	0.30	0.098	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Lead	6.6	0.30	0.082	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.12	0.017	0.0050	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.3	0.30	0.058	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	29	0.30	0.078	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.19	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.30	0.047	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	0.85	0.59	0.17	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	36	0.30	0.067	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	46	1.2	0.24	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-17	Basis:	dry
Lab ID:	281460-017	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 13%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	4.9	2.3	0.18	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	6.7	0.30	0.088	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Barium	170	0.30	0.065	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.48	0.12	0.015	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	1.4	0.30	0.031	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	28	0.30	0.076	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	7.9	0.30	0.036	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Copper	14	0.30	0.10	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Lead	14	0.30	0.084	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.095	0.019	0.0057	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.4	0.30	0.059	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	34	0.30	0.080	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.3	0.19	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.30	0.048	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	ND	0.60	0.17	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	38	0.30	0.069	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	250	1.2	0.24	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-18	Basis:	dry
Lab ID:	281460-018	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 10%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.1 J	2.1	0.16	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Arsenic	6.8	0.26	0.075	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Barium	160	0.26	0.056	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Beryllium	0.48	0.10	0.013	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Cadmium	1.1	0.26	0.026	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Chromium	31	0.26	0.065	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Cobalt	7.9	0.26	0.031	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Copper	14	0.26	0.087	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Lead	17	0.26	0.072	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Mercury	0.17	0.018	0.0055	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.5	0.26	0.051	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Nickel	42	0.26	0.068	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Selenium	ND	2.1	0.17	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.041	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Thallium	0.40 J	0.52	0.15	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Vanadium	39	0.26	0.059	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Zinc	270	1.0	0.21	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-19	Basis:	dry
Lab ID:	281460-019	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 9%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	2.9	2.2	0.16	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	5.5	0.27	0.080	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Barium	140	0.27	0.059	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.40	0.11	0.014	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	0.95	0.27	0.028	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	25	0.27	0.069	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	7.8	0.27	0.033	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Copper	13	0.27	0.092	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Lead	11	0.27	0.077	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.13	0.017	0.0051	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	1.2	0.27	0.054	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	36	0.27	0.072	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.18	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.27	0.044	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	ND	0.55	0.15	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	32	0.27	0.063	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	99	1.1	0.22	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281460	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-20	Basis:	dry
Lab ID:	281460-020	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/26/16

Moisture: 11%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.1 J	2.0	0.15	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Arsenic	6.5	0.26	0.074	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Barium	170	0.26	0.055	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Beryllium	0.43	0.10	0.013	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Cadmium	1.8	0.26	0.026	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Chromium	91	0.26	0.064	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Cobalt	13	0.26	0.031	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Copper	18	0.26	0.085	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Lead	22	0.26	0.071	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Mercury	0.25	0.019	0.0057	239577	09/28/16	09/28/16	METHOD	EPA 7471A
Molybdenum	2.2	0.26	0.050	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Nickel	120	0.26	0.067	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.16	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.041	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Thallium	0.28 J	0.51	0.14	239837	10/05/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	40	0.26	0.058	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B
Zinc	170	1.0	0.20	239837	10/05/16	10/06/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	239577
Lab ID:	QC853396	Prepared:	09/28/16
Matrix:	Soil	Analyzed:	09/28/16
Units:	mg/Kg		

Result	RL	MDL
ND	0.015	0.0046

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	239577
Matrix:	Soil	Prepared:	09/28/16
Units:	mg/Kg	Analyzed:	09/28/16
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC853397	0.2016	0.1745	87	80-120		
BSD	QC853398	0.1923	0.1781	93	80-120	7	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	HA-1	Batch#:	239577
MSS Lab ID:	281460-001	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	mg/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/28/16

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	Moisture	RPD	Lim
MS	QC853399	0.1553	0.2100	0.3440	90	69-142	7%		
MSD	QC853400		0.2068	0.3827	110	69-142	7%	12	36

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	EPA 7471A
Analyte:	Mercury	Basis:	dry
Field ID:	HA-1	Diln Fac:	5.000
Type:	Serial Dilution	Batch#:	239577
MSS Lab ID:	281460-001	Sampled:	09/26/16
Lab ID:	QC853401	Received:	09/26/16
Matrix:	Soil	Analyzed:	09/28/16
Units:	mg/Kg		

MSS Result	MSS RL	Result	RL	Moisture	% Diff	Lim
0.1553	0.01822	0.2053	0.09112	7%	NC	10

NC= Not Calculated
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC854412	Batch#:	239837
Matrix:	Soil	Prepared:	10/05/16
Units:	mg/Kg	Analyzed:	10/06/16

Analyte	Result	RL	MDL
Antimony	ND	2.0	0.16
Arsenic	ND	0.27	0.080
Barium	ND	0.27	0.059
Beryllium	ND	0.11	0.014
Cadmium	ND	0.27	0.028
Chromium	ND	0.27	0.069
Cobalt	0.033 J	0.27	0.033
Copper	ND	0.27	0.092
Lead	ND	0.27	0.077
Molybdenum	ND	0.27	0.054
Nickel	ND	0.27	0.072
Selenium	ND	2.0	0.18
Silver	ND	0.27	0.044
Thallium	ND	0.55	0.15
Vanadium	ND	0.27	0.063
Zinc	ND	1.1	0.22

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	239837
Units:	mg/Kg	Prepared:	10/05/16
Diln Fac:	1.000	Analyzed:	10/06/16

Type: BS Lab ID: QC854413

Analyte	Spiked	Result	%REC	Limits
Antimony	53.19	51.60	97	80-120
Arsenic	53.19	52.63	99	80-120
Barium	53.19	56.66	107	80-120
Beryllium	26.60	28.51	107	80-120
Cadmium	53.19	56.86	107	80-120
Chromium	53.19	56.41	106	80-120
Cobalt	53.19	53.61	101	80-120
Copper	53.19	56.64	106	80-120
Lead	53.19	52.18	98	80-120
Molybdenum	53.19	53.42	100	80-120
Nickel	53.19	55.94	105	80-120
Selenium	53.19	52.23	98	80-120
Silver	5.319	5.334	100	80-120
Thallium	53.19	53.17	100	80-120
Vanadium	53.19	55.98	105	80-120
Zinc	53.19	55.81	105	80-120

Type: BSD Lab ID: QC854414

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	50.51	47.72	94	80-120	3	20
Arsenic	50.51	49.11	97	80-120	2	20
Barium	50.51	51.76	102	80-120	4	20
Beryllium	25.25	26.12	103	80-120	4	20
Cadmium	50.51	51.95	103	80-120	4	20
Chromium	50.51	51.71	102	80-120	4	20
Cobalt	50.51	49.19	97	80-120	3	20
Copper	50.51	51.87	103	80-120	4	20
Lead	50.51	48.52	96	80-120	2	20
Molybdenum	50.51	49.55	98	80-120	2	20
Nickel	50.51	51.01	101	80-120	4	20
Selenium	50.51	48.45	96	80-120	2	20
Silver	5.051	4.955	98	80-120	2	20
Thallium	50.51	49.38	98	80-120	2	20
Vanadium	50.51	51.34	102	80-120	3	20
Zinc	50.51	50.92	101	80-120	4	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Field ID:	HA-1	Batch#:	239837
MSS Lab ID:	281460-001	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	mg/Kg	Prepared:	10/05/16
Basis:	dry	Analyzed:	10/06/16
Diln Fac:	1.000		

Type: MS Moisture: 7%
Lab ID: QC854415

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	10.02	53.76	18.97	17	15-120
Arsenic	13.68	53.76	59.17	85	69-120
Barium	141.1	53.76	217.0	141	35-154
Beryllium	6.224	26.88	28.41	83	75-120
Cadmium	6.765	53.76	55.72	91	71-120
Chromium	32.57	53.76	85.85	99	57-133
Cobalt	13.37	53.76	56.73	81	56-125
Copper	18.82	53.76	69.01	93	54-144
Lead	15.80	53.76	59.61	81	53-125
Molybdenum	6.455	53.76	50.82	83	66-120
Nickel	41.09	53.76	85.13	82	44-141
Selenium	<0.1651	53.76	50.36	94	61-120
Silver	4.662	5.376	5.156	9 *	69-120
Thallium	0.3243	53.76	49.29	91	59-120
Vanadium	48.51	53.76	96.36	89	52-144
Zinc	152.3	53.76	207.3	102	45-145

Type: MSD Moisture: 7%
Lab ID: QC854416

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	55.43	19.71	17	15-120	1	41
Arsenic	55.43	59.61	83	69-120	2	35
Barium	55.43	209.3	123	35-154	4	36
Beryllium	27.71	28.82	82	75-120	1	20
Cadmium	55.43	55.23	87	71-120	4	25
Chromium	55.43	82.63	90	57-133	6	33
Cobalt	55.43	56.87	78	56-125	2	36
Copper	55.43	67.49	88	54-144	4	38
Lead	55.43	60.01	80	53-125	2	42
Molybdenum	55.43	50.41	79	66-120	4	20
Nickel	55.43	82.88	75	44-141	4	39
Selenium	55.43	51.34	93	61-120	1	33
Silver	5.543	5.072	7 *	69-120	3	22
Thallium	55.43	49.39	89	59-120	3	27
Vanadium	55.43	93.45	81	52-144	5	29
Zinc	55.43	205.6	96	45-145	2	39

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Field ID:	HA-1	Basis:	dry
Type:	Serial Dilution	Diln Fac:	5.000
MSS Lab ID:	281460-001	Batch#:	239837
Lab ID:	QC854417	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	mg/Kg	Analyzed:	10/06/16

Moisture: 7%

Analyte	MSS Result	MSS RL	Result	RL	% Diff	Lim
Antimony	10.02	2.068	1.403 J	2.688	86 *	10
Arsenic	13.68	0.2585	8.984	1.344	34 *	10
Barium	141.1	0.2585	159.4	1.344	13 *	10
Beryllium	6.224	0.1034	0.6002	0.5376	90 *	10
Cadmium	6.765	0.2585	1.642	1.344	76 *	10
Chromium	32.57	0.2585	30.92	1.344	5	10
Cobalt	13.37	0.2585	8.822	1.344	34 *	10
Copper	18.82	0.2586	14.81	1.345	21 *	10
Lead	15.80	0.2585	11.51	1.344	27 *	10
Molybdenum	6.455	0.2585	1.953	1.344	70 *	10
Nickel	41.09	0.2585	42.30	1.344	3	10
Selenium	ND	2.068	ND	2.688	NC	10
Silver	4.662	0.2585	ND	1.344	NC	10
Thallium	0.3243	0.5170	1.491 J	2.688	NC	10
Vanadium	48.51	0.2585	49.12	1.344	1	10
Zinc	152.3	1.034	177.1	5.376	16 *	10

*= Value outside of QC limits; see narrative
J= Estimated value
NC= Not Calculated
ND= Not Detected at or above MDL
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Field ID:	HA-1	Basis:	dry
Type:	Post Digest Spike	Diln Fac:	1.000
MSS Lab ID:	281460-001	Batch#:	239837
Lab ID:	QC854418	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	mg/Kg	Analyzed:	10/06/16

Moisture: 7%

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	10.02	5.376	5.245	-89 *	75-125
Arsenic	13.68	5.376	5.670	-149 *	75-125
Barium	141.1	5.376	6.118	-2511 NM	75-125
Beryllium	6.224	5.376	6.149	-1 *	75-125
Cadmium	6.765	5.376	6.229	-10 *	75-125
Chromium	32.57	5.376	6.014	-494 NM	75-125
Cobalt	13.37	5.376	5.966	-138 *	75-125
Copper	18.82	5.376	6.070	-237 *	75-125
Lead	15.80	5.376	5.773	-187 *	75-125
Molybdenum	6.455	5.376	5.731	-13 *	75-125
Nickel	41.09	5.376	6.006	-653 NM	75-125
Selenium	<0.1651	5.376	5.480	102	75-125
Silver	4.662	5.376	5.379	13 *	75-125
Thallium	0.3243	2.688	3.171	106	75-125
Vanadium	48.51	5.376	6.140	-788 NM	75-125
Zinc	152.3	5.376	6.625	-2709 NM	75-125

*= Value outside of QC limits; see narrative

NM= Not Meaningful: Sample concentration > 4X spike concentration

REPORTING SUMMARY FOR 281460 METALS Soil
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	MO	NI	SE	AG	TL	VN	ZN
281460-001	MET44	09/28/16 12:58	1.0										+							
281460-001	MET09	10/06/16 20:18	1.0													+				
281460-001	MET09	10/07/16 15:01	1.0	+	+	+	+	+	+	+	+	+		+	+		+		+	+
281460-001	MET09	10/07/16 18:26	1.0															+		
281460-002	MET44	09/28/16 13:03	1.0										+							
281460-002	MET09	10/06/16 20:30	1.0																	
281460-002	MET09	10/07/16 15:03	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-003	MET44	09/28/16 13:04	1.0										+							
281460-003	MET09	10/06/16 20:38	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-004	MET44	09/28/16 13:05	1.0										+							
281460-004	MET09	10/06/16 20:41	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+		+	+
281460-004	MET09	10/07/16 15:05	1.0															+		
281460-005	MET44	09/28/16 13:06	1.0										+							
281460-005	MET09	10/06/16 20:43	1.0																	
281460-005	MET09	10/07/16 15:14	1.0																	
281460-005	MET09	10/07/16 18:29	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-006	MET44	09/28/16 13:07	1.0										+							
281460-006	MET09	10/06/16 20:45	1.0																	
281460-006	MET09	10/07/16 15:16	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-007	MET44	09/28/16 13:08	1.0										+							
281460-007	MET09	10/06/16 20:48	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-008	MET44	09/28/16 13:12	1.0										+							
281460-008	MET09	10/06/16 20:50	1.0																	
281460-008	MET09	10/07/16 15:18	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-009	MET44	09/28/16 13:13	1.0										+							
281460-009	MET09	10/06/16 20:52	1.0																	
281460-009	MET09	10/07/16 15:20	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-010	MET44	09/28/16 13:14	1.0										+							
281460-010	MET09	10/06/16 20:54	1.0																	
281460-010	MET09	10/07/16 15:22	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-011	MET44	09/28/16 13:15	1.0										+							
281460-011	MET09	10/06/16 20:56	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-012	MET44	09/28/16 13:16	1.0										+							
281460-012	MET09	10/06/16 20:58	1.0																	
281460-012	MET09	10/07/16 15:24	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-013	MET44	09/28/16 13:18	1.0										+							
281460-013	MET09	10/06/16 21:07	1.0																	
281460-013	MET09	10/07/16 15:27	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-014	MET44	09/28/16 13:19	1.0										+							
281460-014	MET09	10/06/16 21:09	1.0																	

REPORTING SUMMARY FOR 281460 METALS Soil
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	SB	ASA	BAE	BED	CRD	CRO	COU	PB	HG	MO	NI	SE	AG	TL	V	ZN
281460-014	MET09	10/07/16 15:29	1.0	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-015	MET44	09/28/16 13:20	1.0									+							
281460-015	MET09	10/06/16 21:11	1.0	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-016	MET44	09/28/16 13:21	1.0									+							
281460-016	MET09	10/06/16 21:13	1.0																
281460-016	MET09	10/07/16 15:31	1.0	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-017	MET44	09/28/16 13:22	1.0									+							
281460-017	MET09	10/06/16 21:15	1.0																
281460-017	MET09	10/07/16 15:33	1.0	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-018	MET44	09/28/16 13:25	1.0									+							
281460-018	MET09	10/06/16 21:17	1.0	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-019	MET44	09/28/16 13:27	1.0									+							
281460-019	MET09	10/06/16 21:19	1.0																
281460-019	MET09	10/07/16 15:39	1.0	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281460-020	MET44	09/28/16 13:28	1.0									+							
281460-020	MET09	10/06/16 21:21	1.0	+	+	+	+	+	+	+	+		+	+	+	+		+	+
281460-020	MET09	10/07/16 15:42	1.0														+		
QC853396	MET44	09/28/16 12:53	1.0									+							
QC853397	MET44	09/28/16 12:54	1.0									+							
QC853398	MET44	09/28/16 12:55	1.0									+							
QC853399	MET44	09/28/16 12:59	1.0									+							
QC853400	MET44	09/28/16 13:01	1.0									+							
QC853401	MET44	09/28/16 13:02	5.0									+							
QC854412	MET09	10/06/16 20:11	1.0	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854413	MET09	10/06/16 20:13	1.0	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854414	MET09	10/06/16 20:16	1.0	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854415	MET09	10/06/16 20:20	1.0	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854416	MET09	10/06/16 20:22	1.0	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854417	MET09	10/06/16 20:24	5.0	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854418	MET09	10/06/16 20:27	1.0	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854418	MET09	10/07/16 14:59	1.0																

ICP Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96404076

Instrument : MET09 Begun : 10/06/16 14:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_0816	ICALBLK				10/06/16 14:36	1.0		
002	met09_sn_0816	ICAL	L1			10/06/16 14:38	1.0	1	
003	met09_sn_0816	ICAL	L2			10/06/16 14:41	1.0	2	
004	met09_sn_0816	ICAL	L3			10/06/16 14:43	1.0	3	
005	met09_sn_0816	ICAL	L4			10/06/16 14:45	1.0	4	
006	met09_sn_0816	ICAL	L5			10/06/16 14:47	1.0	5	
007	met09_sn_0816	ICV				10/06/16 14:49	1.0	6	
008	met09_sn_0816	XCRI				10/06/16 14:52	1.0	7	
009	met09_sn_0816	CRI				10/06/16 14:56	1.0	7	
010	met09_sn_0816	ICB				10/06/16 14:58	1.0		
011	met09_sn_0816	ICSA				10/06/16 15:01	1.0	8	10:AL=500000
012	met09_sn_0816	XICSAB				10/06/16 15:06	1.0	9	
013	met09_sn_0816	ICSAB				10/06/16 15:10	1.0	9	5:MG=500000
014	met09_sn_0816	SAMPLE	281278-001	Filtrate	239654	10/06/16 15:12	100.0		
015	met09_sn_0816	CCV				10/06/16 15:14	1.0	10	
016	met09_sn_0816	CCB				10/06/16 15:16	1.0		
017	met09_sn_0816	CCB				10/06/16 15:18	1.0		
018	met09_sn_0816	X	RINSE			10/06/16 15:26	1.0		
019	met09_sn_0816	BS	QC854124	TCLP Leachate	239761	10/06/16 15:28	1.0		
020	met09_sn_0816	BSD	QC854125	TCLP Leachate	239761	10/06/16 15:31	1.0		
021	met09_sn_0816	MSS	281579-005	TCLP Leachate	239761	10/06/16 15:33	10.0		1:NA=160000
022	met09_sn_0816	MS	QC854126	TCLP Leachate	239761	10/06/16 15:35	10.0		
023	met09_sn_0816	MSD	QC854127	TCLP Leachate	239761	10/06/16 15:38	10.0		
024	met09_sn_0816	SAMPLE	281247-001	TCLP Leachate	239761	10/06/16 15:40	500.0		
025	met09_sn_0816	SAMPLE	281247-002	TCLP Leachate	239761	10/06/16 15:43	500.0		
026	met09_sn_0816	SAMPLE	281247-003	TCLP Leachate	239761	10/06/16 15:45	500.0		
027	met09_sn_0816	SAMPLE	281247-004	TCLP Leachate	239761	10/06/16 15:47	500.0		
028	met09_sn_0816	CCV				10/06/16 15:50	1.0	10	
029	met09_sn_0816	CCB				10/06/16 15:52	1.0		
030	met09_sn_0816	CCB				10/06/16 15:54	1.0		
031	met09_sn_0816	X	RINSE			10/06/16 15:56	1.0		
032	met09_sn_0816	BLANK	QC854140	Air	239766	10/06/16 15:58	1.0		
033	met09_sn_0816	BS	QC854141	Air	239766	10/06/16 16:01	1.0		
034	met09_sn_0816	BSD	QC854142	Air	239766	10/06/16 16:03	1.0		
035	met09_sn_0816	MSS	281160-021	Air	239766	10/06/16 16:06	1.0		5:NA=120000
036	met09_sn_0816	MS	QC854143	Air	239766	10/06/16 16:09	1.0		
037	met09_sn_0816	MSD	QC854144	Air	239766	10/06/16 16:12	1.0		
038	met09_sn_0816	SAMPLE	281160-022	Air	239766	10/06/16 16:14	1.0		5:NA=130000
039	met09_sn_0816	SAMPLE	281160-023	Air	239766	10/06/16 16:17	1.0		5:NA=120000
040	met09_sn_0816	SAMPLE	281160-024	Air	239766	10/06/16 16:20	1.0		4:NA=120000
041	met09_sn_0816	CCV				10/06/16 16:23	1.0	10	
042	met09_sn_0816	CCB				10/06/16 16:25	1.0		
043	met09_sn_0816	CCB				10/06/16 16:27	1.0		
044	met09_sn_0816	SAMPLE	281160-025	Air	239766	10/06/16 16:30	1.0		5:NA=130000
045	met09_sn_0816	SAMPLE	281160-026	Air	239766	10/06/16 16:33	1.0		5:NA=130000
046	met09_sn_0816	SAMPLE	281160-027	Air	239766	10/06/16 16:36	1.0		5:NA=130000
047	met09_sn_0816	SAMPLE	281160-028	Air	239766	10/06/16 16:39	1.0		5:NA=120000
048	met09_sn_0816	SAMPLE	281160-029	Air	239766	10/06/16 16:42	1.0		5:NA=120000
049	met09_sn_0816	SAMPLE	281160-030	Air	239766	10/06/16 16:45	1.0		5:NA=130000
050	met09_sn_0816	SAMPLE	281160-031	Air	239766	10/06/16 16:48	1.0		4:NA=120000
051	met09_sn_0816	SAMPLE	281160-032	Air	239766	10/06/16 16:51	1.0		4:NA=120000
052	met09_sn_0816	SAMPLE	281160-033	Air	239766	10/06/16 16:54	1.0		4:NA=120000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96404076

Instrument : MET09 Begun : 10/06/16 14:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_0816	SAMPLE	281160-034	Air	239766	10/06/16 16:57	1.0		4:NA=120000
054	met09_sn_0816	CCV				10/06/16 17:00	1.0	10	
055	met09_sn_0816	CCB				10/06/16 17:03	1.0		
056	met09_sn_0816	CCB				10/06/16 17:05	1.0		
057	met09_sn_0816	SAMPLE	281160-035	Air	239766	10/06/16 17:07	1.0		5:NA=130000
058	met09_sn_0816	CCV				10/06/16 17:10	1.0	10	
059	met09_sn_0816	CCB				10/06/16 17:12	1.0		
060	met09_sn_0816	CCB				10/06/16 17:14	1.0		
061	met09_sn_0816	BLANK	QC854123	TCLP Leachate	239761	10/06/16 17:52	10.0		1:NA=160000
062	met09_sn_0816	SAMPLE	281707-001	TCLP Leachate	239761	10/06/16 17:58	10.0		
063	met09_sn_0816	SAMPLE	281587-001	Soil	239688	10/06/16 18:01	1.0		2:FE=260000
064	met09_sn_0816	SAMPLE	281600-001	WET Leachate	239719	10/06/16 18:04	10.0		1:NA=160000
065	met09_sn_0816	SAMPLE	281760-005	Soil	239839	10/06/16 18:06	1.0		2:FE=380000
066	met09_sn_0816	SAMPLE	281820-001	WET Leachate	239618	10/06/16 18:08	10.0		1:NA=160000
067	met09_sn_0816	SAMPLE	281587-001	Soil	239688	10/06/16 18:11	1.0		2:FE=260000
068	met09_sn_0816	SAMPLE	281821-001	WET Leachate	239618	10/06/16 18:14	10.0		1:NA=160000
069	met09_sn_0816	X	RINSE			10/06/16 18:16	1.0		
070	met09_sn_0816	CCV				10/06/16 18:19	1.0	10	
071	met09_sn_0816	CCB				10/06/16 18:21	1.0		
072	met09_sn_0816	CCB				10/06/16 18:23	1.0		
073	met09_sn_0816	X	RINSE			10/06/16 19:06	1.0		
074	met09_sn_0816	MS	QC853884	Filtrate	239702	10/06/16 19:09	10.0		
075	met09_sn_0816	MSD	QC853885	Filtrate	239702	10/06/16 19:11	10.0		
076	met09_sn_0816	SER	QC853886	Filtrate	239702	10/06/16 19:13	25.0		
077	met09_sn_0816	PDS	QC853887	Filtrate	239702	10/06/16 19:16	5.0	11 12 13	1:MG=120000
078	met09_sn_0816	MSS	281322-001	Filtrate	239702	10/06/16 19:19	5.0		1:MG=110000
079	met09_sn_0816	X	RINSE			10/06/16 19:22	1.0		
080	met09_sn_0816	BS	QC854124	TCLP Leachate	239761	10/06/16 19:24	1.0		
081	met09_sn_0816	BSD	QC854125	TCLP Leachate	239761	10/06/16 19:27	1.0		
082	met09_sn_0816	MS	QC854126	TCLP Leachate	239761	10/06/16 19:29	10.0		
083	met09_sn_0816	CCV				10/06/16 19:32	1.0	10	
084	met09_sn_0816	CCB				10/06/16 19:34	1.0		
085	met09_sn_0816	CCB				10/06/16 19:36	1.0		
086	met09_sn_0816	MSD	QC854127	TCLP Leachate	239761	10/06/16 19:38	10.0		
087	met09_sn_0816	SAMPLE	281580-005	TCLP Leachate	239761	10/06/16 19:40	10.0		1:NA=160000
088	met09_sn_0816	SAMPLE	281580-010	TCLP Leachate	239761	10/06/16 19:43	10.0		1:NA=150000
089	met09_sn_0816	?SAMPLE	281716-001		239761	10/06/16 19:45	10.0		
090	met09_sn_0816	?SAMPLE	281762-001		239761	10/06/16 19:48	10.0		
091	met09_sn_0816	?SAMPLE	281072-001		239761	10/06/16 19:50	10.0		
092	met09_sn_0816	?SAMPLE	281549-001		239761	10/06/16 19:52	10.0		
093	met09_sn_0816	?SAMPLE	281568-009		239761	10/06/16 19:55	10.0		
094	met09_sn_0816	?SAMPLE	281589-001		239761	10/06/16 19:57	10.0		
095	met09_sn_0816	?SAMPLE	281591-001		239761	10/06/16 19:59	10.0		
096	met09_sn_0816	CCV				10/06/16 20:02	1.0	10	
097	met09_sn_0816	CCB				10/06/16 20:04	1.0		
098	met09_sn_0816	CCB				10/06/16 20:06	1.0		
099	met09_sn_0816	X	RINSE			10/06/16 20:08	1.0		
100	met09_sn_0816	BLANK	QC854412	Soil	239837	10/06/16 20:11	1.0		
101	met09_sn_0816	BS	QC854413	Soil	239837	10/06/16 20:13	1.0		
102	met09_sn_0816	BSD	QC854414	Soil	239837	10/06/16 20:16	1.0		
103	met09_sn_0816	MSS	281460-001	Soil	239837	10/06/16 20:18	1.0		5:FE=420000
104	met09_sn_0816	MS	QC854415	Soil	239837	10/06/16 20:20	1.0		4:FE=410000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96404076

Instrument : MET09 Begun : 10/06/16 14:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met09_sn_0816	MSD	QC854416	Soil	239837	10/06/16 20:22	1.0		4:FE=390000
106	met09_sn_0816	SER	QC854417	Soil	239837	10/06/16 20:24	5.0		
107	met09_sn_0816	PDS	QC854418	Soil	239837	10/06/16 20:27	1.0	11 12 13	
108	met09_sn_0816	SAMPLE	281460-002	Soil	239837	10/06/16 20:30	1.0		5:FE=380000
109	met09_sn_0816	CCV				10/06/16 20:32	1.0	10	
110	met09_sn_0816	CCB				10/06/16 20:34	1.0		
111	met09_sn_0816	CCB				10/06/16 20:36	1.0		
112	met09_sn_0816	SAMPLE	281460-003	Soil	239837	10/06/16 20:38	1.0		3:FE=290000
113	met09_sn_0816	SAMPLE	281460-004	Soil	239837	10/06/16 20:41	1.0		5:FE=390000
114	met09_sn_0816	SAMPLE	281460-005	Soil	239837	10/06/16 20:43	1.0		5:FE=390000
115	met09_sn_0816	SAMPLE	281460-006	Soil	239837	10/06/16 20:45	1.0		4:FE=360000
116	met09_sn_0816	SAMPLE	281460-007	Soil	239837	10/06/16 20:48	1.0		5:FE=360000
117	met09_sn_0816	SAMPLE	281460-008	Soil	239837	10/06/16 20:50	1.0		5:CA=420000
118	met09_sn_0816	SAMPLE	281460-009	Soil	239837	10/06/16 20:52	1.0		3:FE=390000
119	met09_sn_0816	SAMPLE	281460-010	Soil	239837	10/06/16 20:54	1.0		4:FE=410000
120	met09_sn_0816	SAMPLE	281460-011	Soil	239837	10/06/16 20:56	1.0		4:FE=400000
121	met09_sn_0816	SAMPLE	281460-012	Soil	239837	10/06/16 20:58	1.0		5:FE=380000
122	met09_sn_0816	CCV				10/06/16 21:00	1.0	10	
123	met09_sn_0816	CCB				10/06/16 21:02	1.0		
124	met09_sn_0816	CCB				10/06/16 21:04	1.0		
125	met09_sn_0816	SAMPLE	281460-013	Soil	239837	10/06/16 21:07	1.0		5:FE=340000
126	met09_sn_0816	SAMPLE	281460-014	Soil	239837	10/06/16 21:09	1.0		4:FE=390000
127	met09_sn_0816	SAMPLE	281460-015	Soil	239837	10/06/16 21:11	1.0		3:FE=420000
128	met09_sn_0816	SAMPLE	281460-016	Soil	239837	10/06/16 21:13	1.0		4:FE=340000
129	met09_sn_0816	SAMPLE	281460-017	Soil	239837	10/06/16 21:15	1.0		5:FE=340000
130	met09_sn_0816	SAMPLE	281460-018	Soil	239837	10/06/16 21:17	1.0		5:FE=350000
131	met09_sn_0816	SAMPLE	281460-019	Soil	239837	10/06/16 21:19	1.0		4:FE=270000
132	met09_sn_0816	SAMPLE	281460-020	Soil	239837	10/06/16 21:21	1.0		5:FE=370000
133	met09_sn_0816	X	RINSE			10/06/16 21:24	1.0		
134	met09_sn_0816	BLANK	QC853969	Soil	239722	10/06/16 21:26	1.0		
135	met09_sn_0816	CCV				10/06/16 21:29	1.0	10	
136	met09_sn_0816	CCB				10/06/16 21:31	1.0		
137	met09_sn_0816	CCB				10/06/16 21:33	1.0		
138	met09_sn_0816	BS	QC853970	Soil	239722	10/06/16 21:35	1.0		1:SR=4800
139	met09_sn_0816	BSD	QC853971	Soil	239722	10/06/16 21:37	1.0		1:SR=4800
140	met09_sn_0816	MSS	281632-001	Soil	239722	10/06/16 21:40	1.0		5:FE=430000
141	met09_sn_0816	MS	QC853972	Soil	239722	10/06/16 21:42	1.0		
142	met09_sn_0816	MSD	QC853973	Soil	239722	10/06/16 21:44	1.0		
143	met09_sn_0816	SER	QC853974	Soil	239722	10/06/16 21:46	5.0		
144	met09_sn_0816	PDS	QC853975	Soil	239722	10/06/16 21:49	1.0	11 12 13	5:FE=430000
145	met09_sn_0816	SAMPLE	281632-002	Soil	239722	10/06/16 21:51	1.0		5:FE=470000
146	met09_sn_0816	CCV				10/06/16 21:53	1.0	10	
147	met09_sn_0816	CCB				10/06/16 21:56	1.0		
148	met09_sn_0816	CCB				10/06/16 21:58	1.0		
149	met09_sn_0816	CCV				10/06/16 22:22	1.0	10	
150	met09_sn_0816	CCB				10/06/16 22:25	1.0		
151	met09_sn_0816	CCB				10/06/16 22:27	1.0		
152	met09_sn_0816	CCV				10/06/16 22:31	1.0	10	
153	met09_sn_0816	CCB				10/06/16 22:33	1.0		
154	met09_sn_0816	CCB				10/06/16 22:35	1.0		
155	met09_sn_0816	X	RINSE			10/06/16 23:04	1.0		
156	met09_sn_0816	BLANK	QC854487	Miscell.	239855	10/06/16 23:06	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96404076

Instrument : MET09 Begun : 10/06/16 14:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
157	met09_sn_0816	BS	QC854488	Miscell.	239855	10/06/16 23:09	1.0		
158	met09_sn_0816	BSD	QC854489	Miscell.	239855	10/06/16 23:11	1.0		
159	met09_sn_0816	SAMPLE	280433-001	Miscell.	239855	10/06/16 23:13	1.0		
160	met09_sn_0816	SAMPLE	280434-001	Miscell.	239855	10/06/16 23:16	1.0		
161	met09_sn_0816	SAMPLE	280436-001	Miscell.	239855	10/06/16 23:18	1.0		
162	met09_sn_0816	SAMPLE	281687-001	Miscell.	239855	10/06/16 23:20	1.0		
163	met09_sn_0816	X	RINSE			10/06/16 23:23	1.0		
164	met09_sn_0816	BLANK	QC854280	Water	239804	10/06/16 23:25	1.0		
165	met09_sn_0816	CCV				10/06/16 23:28	1.0	10	
166	met09_sn_0816	CCB				10/06/16 23:30	1.0		
167	met09_sn_0816	CCB				10/06/16 23:32	1.0		
168	met09_sn_0816	BS	QC854281	Water	239804	10/06/16 23:34	1.0		
169	met09_sn_0816	BSD	QC854282	Water	239804	10/06/16 23:37	1.0		
170	met09_sn_0816	MSS	281743-001	Water	239804	10/06/16 23:39	1.0		
171	met09_sn_0816	MS	QC854283	Water	239804	10/06/16 23:41	1.0		
172	met09_sn_0816	MSD	QC854284	Water	239804	10/06/16 23:44	1.0		
173	met09_sn_0816	X	RINSE			10/06/16 23:46	1.0		
174	met09_sn_0816	SAMPLE	281761-001	Soil	239839	10/06/16 23:48	1.0		4:FE=550000
175	met09_sn_0816	SAMPLE	281761-002	Soil	239839	10/06/16 23:51	1.0		5:FE=590000
176	met09_sn_0816	SAMPLE	281762-005	Soil	239839	10/06/16 23:53	1.0		5:FE=570000
177	met09_sn_0816	MS	QC854051	Soil	239743	10/06/16 23:55	1.0		
178	met09_sn_0816	CCV				10/06/16 23:57	1.0	10	
179	met09_sn_0816	CCB				10/06/16 23:59	1.0		
180	met09_sn_0816	CCB				10/07/16 00:01	1.0		
181	met09_sn_0816	MSD	QC854052	Soil	239743	10/07/16 00:04	1.0		
182	met09_sn_0816	SAMPLE	281655-001	Soil	239743	10/07/16 00:06	1.0		6:CA=1300000
183	met09_sn_0816	SAMPLE	281785-001	Soil	239839	10/07/16 00:08	1.0		6:FE=850000
184	met09_sn_0816	X	RINSE			10/07/16 00:10	1.0		
185	met09_sn_0816	BLANK	QC854610	Soil	239887	10/07/16 00:13	1.0		
186	met09_sn_0816	BS	QC854611	Soil	239887	10/07/16 00:15	1.0		
187	met09_sn_0816	BSD	QC854612	Soil	239887	10/07/16 00:17	1.0		
188	met09_sn_0816	MSS	281716-001	Soil	239887	10/07/16 00:20	1.0		4:FE=580000
189	met09_sn_0816	MS	QC854613	Soil	239887	10/07/16 00:22	1.0		2:FE=640000
190	met09_sn_0816	MSD	QC854614	Soil	239887	10/07/16 00:24	1.0		2:FE=570000
191	met09_sn_0816	CCV				10/07/16 00:26	1.0	10	
192	met09_sn_0816	CCB				10/07/16 00:28	1.0		
193	met09_sn_0816	CCB				10/07/16 00:30	1.0		
194	met09_sn_0816	SER	QC854615	Soil	239887	10/07/16 00:32	5.0		
195	met09_sn_0816	PDS	QC854616	Soil	239887	10/07/16 00:35	1.0		4:FE=580000
196	met09_sn_0816	SAMPLE	281516-020	Soil	239887	10/07/16 00:37	1.0		2:FE=360000
197	met09_sn_0816	SAMPLE	281516-021	Soil	239887	10/07/16 00:41	1.0		4:FE=360000
198	met09_sn_0816	SAMPLE	281516-022	Soil	239887	10/07/16 00:44	1.0		4:FE=350000
199	met09_sn_0816	SAMPLE	281516-023	Soil	239887	10/07/16 00:46	1.0		4:FE=340000
200	met09_sn_0816	SAMPLE	281516-024	Soil	239887	10/07/16 00:48	1.0		3:FE=370000
201	met09_sn_0816	SAMPLE	281516-025	Soil	239887	10/07/16 00:51	1.0		5:FE=400000
202	met09_sn_0816	SAMPLE	281516-026	Soil	239887	10/07/16 00:53	1.0		4:FE=360000
203	met09_sn_0816	SAMPLE	281657-001	Soil	239887	10/07/16 00:55	1.0		3:FE=420000
204	met09_sn_0816	CCV				10/07/16 00:57	1.0	10	
205	met09_sn_0816	CCB				10/07/16 00:59	1.0		
206	met09_sn_0816	CCB				10/07/16 01:01	1.0		
207	met09_sn_0816	SAMPLE	281666-005	Soil	239887	10/07/16 01:04	1.0		9:FE=3000000
208	met09_sn_0816	SAMPLE	281713-001	Soil	239887	10/07/16 01:06	1.0		4:FE=400000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96404076

Instrument : MET09 Begun : 10/06/16 14:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
209	met09_sn_0816	?SAMPLE	281728-001		239887	10/07/16 01:08	1.0		
210	met09_sn_0816	SAMPLE	281790-001	Soil	239887	10/07/16 01:10	1.0		1:FE=390000
211	met09_sn_0816	SAMPLE	281810-001	Soil	239887	10/07/16 01:13	1.0		7:FE=620000
212	met09_sn_0816	SAMPLE	281813-001	Soil	239887	10/07/16 01:15	1.0		
213	met09_sn_0816	SAMPLE	281813-002	Soil	239887	10/07/16 01:18	1.0		6:CA=1000000
214	met09_sn_0816	SAMPLE	281813-003	Soil	239887	10/07/16 01:20	1.0		
215	met09_sn_0816	SAMPLE	281813-004	Soil	239887	10/07/16 01:22	1.0		5:CA=1000000
216	met09_sn_0816	SAMPLE	281655-001	Soil	239743	10/07/16 01:24	1.0		6:CA=1300000
217	met09_sn_0816	CCV				10/07/16 01:27	1.0	10	
218	met09_sn_0816	CCB				10/07/16 01:29	1.0		
219	met09_sn_0816	CCB				10/07/16 01:31	1.0		

MNA 10/07/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 180.

Standards used: 1=S30721 2=S31085 3=S31084 4=S31086 5=S30418 6=S30836 7=S30723 8=S31001 9=S31075 10=S30837 11=S29983 12=S29984 13=S30560

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96404076

Date : 10/06/16 Reference : met09_sn_0816
Sequence : MET09 10/06/16 Analyzed : 10/06/16 14:38

#	Type	Sample ID	Y A
		ICAL STD	11903873
		LOWER LIMIT	3571162
		UPPER LIMIT	23807746
010	ICB		12022007
011	ICSA		11143859
013	ICSAB		11086029
015	CCV		11810869
016	CCB		12060851
017	CCB		12153832
019	BS	QC854124	11883299
020	BSD	QC854125	11814711
021	MSS	281579-005	11410120
022	MS	QC854126	11387952
023	MSD	QC854127	11684881
024	SAMPLE	281247-001	11890920
025	SAMPLE	281247-002	11940432
026	SAMPLE	281247-003	11938637
027	SAMPLE	281247-004	11950174
028	CCV		11650584
029	CCB		11940231
030	CCB		11996343
032	BLANK	QC854140	12389335
033	BS	QC854141	11960079
034	BSD	QC854142	11950988
035	MSS	281160-021	11870553
036	MS	QC854143	11756547
037	MSD	QC854144	11782109
038	SAMPLE	281160-022	11899824
039	SAMPLE	281160-023	11708445
040	SAMPLE	281160-024	11758595
041	CCV		11687643
042	CCB		11867344
043	CCB		11997972
044	SAMPLE	281160-025	11743642
045	SAMPLE	281160-026	11737826
046	SAMPLE	281160-027	11738289
047	SAMPLE	281160-028	11778070
048	SAMPLE	281160-029	11704378
049	SAMPLE	281160-030	11777130
050	SAMPLE	281160-031	11798300
051	SAMPLE	281160-032	11693695
052	SAMPLE	281160-033	11704817
053	SAMPLE	281160-034	11818791
054	CCV		11658206
055	CCB		11768799
056	CCB		11979607
057	SAMPLE	281160-035	11689190
058	CCV		11700094
059	CCB		11819678
060	CCB		11848436
061	BLANK	QC854123	11672503

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96404076

Date : 10/06/16 Reference : met09_sn_0816
Sequence : MET09 10/06/16 Analyzed : 10/06/16 14:38

#	Type	Sample ID	Y A
062	SAMPLE	281707-001	15372680
063	SAMPLE	281587-001	11724633
064	SAMPLE	281600-001	11577859
065	SAMPLE	281760-005	11781240
066	SAMPLE	281820-001	11772844
067	SAMPLE	281587-001	11809060
068	SAMPLE	281821-001	11709276
070	CCV		11765493
071	CCB		11853790
072	CCB		16798793
074	MS	QC853884	11430005
075	MSD	QC853885	11243066
076	SER	QC853886	11423606
077	PDS	QC853887	10914774
080	BS	QC854124	11681884
081	BSD	QC854125	11555258
082	MS	QC854126	11359947
083	CCV		11408197
084	CCB		11771846
085	CCB		11498749
086	MSD	QC854127	11423799
087	SAMPLE	281580-005	11258322
088	SAMPLE	281580-010	11493126
096	CCV		11666692
097	CCB		11743926
098	CCB		11801494
100	BLANK	QC854412	12071565
101	BS	QC854413	11727361
102	BSD	QC854414	11774156
103	MSS	281460-001	11692400
104	MS	QC854415	11431700
105	MSD	QC854416	11551751
106	SER	QC854417	11572965
107	PDS	QC854418	11783651
108	SAMPLE	281460-002	11575521
109	CCV		11567106
110	CCB		11674994
111	CCB		11881261
112	SAMPLE	281460-003	11521885
113	SAMPLE	281460-004	11568160
114	SAMPLE	281460-005	11555977
115	SAMPLE	281460-006	11480144
116	SAMPLE	281460-007	11604951
117	SAMPLE	281460-008	11630552
118	SAMPLE	281460-009	11513168
119	SAMPLE	281460-010	11536265
120	SAMPLE	281460-011	11447138
121	SAMPLE	281460-012	11336019
122	CCV		11580432
123	CCB		11779591
124	CCB		11856335
125	SAMPLE	281460-013	11621030

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96404076

Date : 10/06/16 Reference : met09_sn_0816
Sequence : MET09 10/06/16 Analyzed : 10/06/16 14:38

#	Type	Sample ID	Y A
126	SAMPLE	281460-014	11647762
127	SAMPLE	281460-015	11576505
128	SAMPLE	281460-016	11459589
129	SAMPLE	281460-017	11577705
130	SAMPLE	281460-018	11448471
131	SAMPLE	281460-019	11634983
132	SAMPLE	281460-020	11380134
134	BLANK	QC853969	11805514
135	CCV		11235395
136	CCB		11904029
137	CCB		11795594
138	BS	QC853970	11789481
139	BSD	QC853971	11808057
141	MS	QC853972	11259881
142	MSD	QC853973	11113835
143	SER	QC853974	11556249
144	PDS	QC853975	11438536
146	CCV		11563767
147	CCB		11799214
148	CCB		11682759
149	CCV		16484553
150	CCB		11795281
151	CCB		11670591
152	CCV		11339039
153	CCB		11441444
154	CCB		11713383
156	BLANK	QC854487	12097467
157	BS	QC854488	11558956
158	BSD	QC854489	11530054
159	SAMPLE	280433-001	11639712
160	SAMPLE	280434-001	11828691
161	SAMPLE	280436-001	11663943
162	SAMPLE	281687-001	11836024
164	BLANK	QC854280	11862861
165	CCV		11370486
166	CCB		11583923
167	CCB		11698062
168	BS	QC854281	11713745
169	BSD	QC854282	11588467
170	MSS	281743-001	11406260
171	MS	QC854283	11500798
172	MSD	QC854284	11321833
174	SAMPLE	281761-001	11460488
175	SAMPLE	281761-002	11239494
176	SAMPLE	281762-005	11333923
177	MS	QC854051	10700869
178	CCV		11360015
179	CCB		11575749
180	CCB		11514439
181	MSD	QC854052	10792001
182	SAMPLE	281655-001	10855492
183	SAMPLE	281785-001	11183015

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96404076

Date : 10/06/16 Reference : met09_sn_0816
Sequence : MET09 10/06/16 Analyzed : 10/06/16 14:38

#	Type	Sample ID	Y	A
185	BLANK	QC854610	11816679	
186	BS	QC854611	11535939	
187	BSD	QC854612	11674606	
188	MSS	281716-001	11245448	
189	MS	QC854613	11121240	
190	MSD	QC854614	11337562	
191	CCV		11317937	
192	CCB		11467671	
193	CCB		11563900	
194	SER	QC854615	11424718	
196	SAMPLE	281516-020	11603781	
197	SAMPLE	281516-021	11469265	
198	SAMPLE	281516-022	11378371	
199	SAMPLE	281516-023	11375401	
200	SAMPLE	281516-024	11505857	
201	SAMPLE	281516-025	11299806	
202	SAMPLE	281516-026	11302308	
203	SAMPLE	281657-001	11400723	
204	CCV		11305945	
205	CCB		11573621	
206	CCB		11359537	
207	SAMPLE	281666-005	10704940	
208	SAMPLE	281713-001	11304128	
210	SAMPLE	281790-001	11479143	
211	SAMPLE	281810-001	11242072	
212	SAMPLE	281813-001	19392159	
213	SAMPLE	281813-002	10829869	
214	SAMPLE	281813-003	24968076	*
215	SAMPLE	281813-004	10961687	
216	SAMPLE	281655-001	10735189	
217	CCV		11251162	
218	CCB		11508745	
219	CCB		11486804	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281460 METALS Soil: EPA 6010B

Inst : MET09
Calnum : 96404076001
Units : ug/L

Date : 06-OCT-2016 14:36
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_0816	96404076002	L1	06-OCT-2016 14:38	S30721
L2	met09_sn_0816	96404076003	L2	06-OCT-2016 14:41	S31085
L3	met09_sn_0816	96404076004	L3	06-OCT-2016 14:43	S31084
L4	met09_sn_0816	96404076005	L4	06-OCT-2016 14:45	S31086
L5	met09_sn_0816	96404076006	L5	06-OCT-2016 14:47	S30418

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	3.2400	2.3610	2.3875	2.4012		LOR0	0.00000	0.41648		2.5974	1.000	0.995	
Arsenic	A	2.6000	2.0230	2.0275	2.0488		LOR0	0.00000	0.48813		2.1748	1.000	0.995	
Barium	A	73.160	73.412	75.266	71.667		LOR0	0.00000	0.01395		73.376	1.000	0.995	
Beryllium	A	6569.7	6267.8	6269.0			LOR0	0.00000	1.60E-4		6368.8	1.000	0.995	
Cadmium	A	136.50	132.74	137.11	128.12		LOR0	0.00000	0.00780		133.62	1.000	0.995	
Chromium	A	151.28	191.90	196.48	190.32		LOR0	0.00000	0.00525		182.50	1.000	0.995	
Cobalt	A	39.360	37.996	39.096	37.378		LOR0	0.00000	0.02674		38.457	1.000	0.995	
Copper	A	394.06	348.29	346.70	333.25		LOR0	0.00000	0.00300		355.58	1.000	0.995	
Lead	A	20.820	16.889	17.281	16.602		LOR0	0.00000	0.06021		17.898	1.000	0.995	
Molybdenum	A	20.000	18.900	19.121	18.752		LOR0	0.00000	0.05332		19.193	1.000	0.995	
Nickel	A	94.120	101.08	105.98	101.63		LOR0	0.00000	0.00984		100.70	1.000	0.995	
Selenium	A	3.1900	2.6420	2.7570	2.7892		LOR0	0.00000	0.35857		2.8445	1.000	0.995	
Silver	A	82.040	81.115	81.501	79.970		LOR0	0.00000	0.01250		81.156	1.000	0.995	
Thallium	A	2.1600	2.2630	2.2948	2.2275		LOR0	0.00000	0.44879		2.2363	1.000	0.995	
Vanadium	A	264.22	225.65	229.83	224.01		LOR0	0.00000	0.00446		235.93	1.000	0.995	
Zinc	A	58.695	56.930	58.519	55.950		LOR0	0.00000	0.01786		57.524	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	**35**	100.00	-2	1000.0	-1	10000	0		
Arsenic	A	5.0000	**27**	100.00	-1	1000.0	-1	10000	0		
Barium	A	5.0000	2	100.00	2	1000.0	5	10000	0		
Beryllium	A	2.0000	5	100.00	0	1000.0	0				
Cadmium	A	5.0000	6	100.00	4	1000.0	7	10000	0		
Chromium	A	5.0000	**-21**	100.00	1	1000.0	3	10000	0		
Cobalt	A	5.0000	5	100.00	2	1000.0	5	10000	0		
Copper	A	5.0000	18	100.00	4	1000.0	4	10000	0		
Lead	A	5.0000	**25**	100.00	2	1000.0	4	10000	0		
Molybdenum	A	5.0000	7	100.00	1	1000.0	2	10000	0		
Nickel	A	5.0000	-7	100.00	-1	1000.0	4	10000	0		
Selenium	A	10.000	14	100.00	-5	1000.0	-1	10000	0		
Silver	A	5.0000	3	20.000	1	200.00	2	2000.0	0		
Thallium	A	10.000	-3	100.00	2	1000.0	3	10000	0		
Vanadium	A	5.0000	18	100.00	1	1000.0	3	10000	0		
Zinc	A	20.000	5	100.00	2	1000.0	5	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281460 METALS Soil
EPA 6010B

Inst : MET09
Calnum : 96404076001 Cal Date : 06-OCT-2016

ICV 96404076007 (06-OCT-2016) stds: S30836

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	4879	ug/L	-2	10	
Arsenic	A	5000	4901	ug/L	-2	10	
Barium	A	5000	5221	ug/L	4	10	
Beryllium	A	500.0	504.9	ug/L	1	10	
Cadmium	A	5000	5269	ug/L	5	10	
Chromium	A	5000	5214	ug/L	4	10	
Cobalt	A	5000	5109	ug/L	2	10	
Copper	A	5000	5207	ug/L	4	10	
Lead	A	5000	4921	ug/L	-2	10	
Molybdenum	A	5000	4935	ug/L	-1	10	
Nickel	A	5000	5168	ug/L	3	10	
Selenium	A	5000	4854	ug/L	-3	10	
Silver	A	1000	1036	ug/L	4	10	
Thallium	A	5000	4846	ug/L	-3	10	
Vanadium	A	5000	5213	ug/L	4	10	
Zinc	A	5000	5198	ug/L	4	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076010.3 File : met09_sn_0816 Time : 06-OCT-2016 14:58
Cal : 96404076001 Caldate : 06-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	12022007	0.99

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076011.3 File : met09_sn_0816 Time : 06-OCT-2016 15:01
Cal : 96404076001 Caldate : 06-OCT-2016
Standards: S31001

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[0.6618]	10.00	ug/L	
Arsenic	A	[-3.324]	5.000	ug/L	
Barium	A	[0.2850]	5.000	ug/L	
Beryllium	A	[0.4959]	2.000	ug/L	
Cadmium	A	[1.490]	5.000	ug/L	
Cobalt	A	[-0.4257]	5.000	ug/L	
Lead	A	[0.2015]	5.000	ug/L	
Molybdenum	A	[0.1276]	5.000	ug/L	
Selenium	A	[5.271]	10.00	ug/L	
Silver	A	[-2.358]	5.000	ug/L	
Thallium	A	[-3.721]	10.00	ug/L	
Zinc	A	[9.315]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec	Flags
Chromium	A	20000	19760	ug/L	99	
Copper	A	20000	20750	ug/L	104	
Manganese	A	20000	19110	ug/L	96	
Nickel	A	20000	19240	ug/L	96	
Vanadium	A	20000	20390	ug/L	102	
Aluminum	R	500000	504000	ug/L	101	
Calcium	R	500000	485800	ug/L	97	
Iron	R	200000	198400	ug/L	99	
Magnesium	R	500000	494000	ug/L	99	
Titanium	R	20000	20850	ug/L	104	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11143859	-6.38

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076013.3 File : met09_sn_0816 Time : 06-OCT-2016 15:10
Cal : 96404076001 Caldate : 06-OCT-2016
Standards: S31075

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	486.1	ug/L	-3	20	
Arsenic	A	500.0	475.2	ug/L	-5	20	
Barium	A	500.0	521.4	ug/L	4	20	
Beryllium	A	500.0	539.1	ug/L	8	20	
Cadmium	A	1000	1039	ug/L	4	20	
Chromium	A	500.0	508.7	ug/L	2	20	
Cobalt	A	500.0	505.0	ug/L	1	20	
Copper	A	500.0	495.6	ug/L	-1	20	
Lead	A	1000	958.3	ug/L	-4	20	
Molybdenum	A	500.0	505.7	ug/L	1	20	
Nickel	A	1000	1004	ug/L	0	20	
Selenium	A	500.0	480.5	ug/L	-4	20	
Silver	A	1000	1098	ug/L	10	20	
Thallium	A	500.0	492.6	ug/L	-1	20	
Vanadium	A	500.0	543.9	ug/L	9	20	
Zinc	A	1000	1013	ug/L	1	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11086029	-6.87

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076096 File : met09_sn_0816 Time : 06-OCT-2016 20:02
Cal : 96404076001 Caldate : 06-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.5974	2.2251	5000	4634	ug/L	-7	10	
Arsenic	A	2.1748	1.9344	5000	4721	ug/L	-6	10	
Barium	A	73.376	71.957	5000	5018	ug/L	0	10	
Beryllium	A	6368.8	6391.0	500.0	509.7	ug/L	2	10	
Cadmium	A	133.62	128.53	5000	5012	ug/L	0	10	
Chromium	A	182.50	190.71	5000	5009	ug/L	0	10	
Cobalt	A	38.457	35.855	5000	4794	ug/L	-4	10	
Copper	A	355.58	333.78	5000	5006	ug/L	0	10	
Lead	A	17.898	15.710	5000	4729	ug/L	-5	10	
Molybdenum	A	19.193	17.832	5000	4754	ug/L	-5	10	
Nickel	A	100.70	100.78	5000	4956	ug/L	-1	10	
Selenium	A	2.8445	2.6032	5000	4667	ug/L	-7	10	
Silver	A	81.156	79.474	1000	993.6	ug/L	-1	10	
Thallium	A	2.2363	2.0806	5000	4669	ug/L	-7	10	
Vanadium	A	235.93	224.49	5000	5009	ug/L	0	10	
Zinc	A	57.524	55.213	5000	4932	ug/L	-1	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11666692	-1.99

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076098 File : met09_sn_0816 Time : 06-OCT-2016 20:06
Cal : 96404076001 Caldate : 06-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	[2.538]	5.000	2.500	ug/L	!CCB
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11801494	-0.86

!=warning CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076109 File : met09_sn_0816 Time : 06-OCT-2016 20:32
Cal : 96404076001 Caldate : 06-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.5974	2.1990	5000	4579	ug/L	-8	10	
Arsenic	A	2.1748	1.9239	5000	4696	ug/L	-6	10	r ***
Barium	A	73.376	72.065	5000	5025	ug/L	1	10	
Beryllium	A	6368.8	6401.4	500.0	510.6	ug/L	2	10	
Cadmium	A	133.62	128.60	5000	5015	ug/L	0	10	
Chromium	A	182.50	191.32	5000	5025	ug/L	0	10	
Cobalt	A	38.457	35.889	5000	4799	ug/L	-4	10	
Copper	A	355.58	334.93	5000	5023	ug/L	0	10	
Lead	A	17.898	15.627	5000	4704	ug/L	-6	10	
Molybdenum	A	19.193	17.752	5000	4732	ug/L	-5	10	
Nickel	A	100.70	100.86	5000	4960	ug/L	-1	10	
Selenium	A	2.8445	2.6014	5000	4664	ug/L	-7	10	r ***
Silver	A	81.156	79.809	1000	997.8	ug/L	0	10	
Thallium	A	2.2363	2.0822	5000	4672	ug/L	-7	10	
Vanadium	A	235.93	225.20	5000	5025	ug/L	1	10	
Zinc	A	57.524	55.153	5000	4927	ug/L	-1	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11567106	-2.83

r=RSD out

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076110 File : met09_sn_0816 Time : 06-OCT-2016 20:34
Cal : 96404076001 Caldate : 06-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	[2.570]	5.000	2.500	ug/L	!CCB
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11674994	-1.92

!=warning CCB=instrument blank

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076111 File : met09_sn_0816 Time : 06-OCT-2016 20:36
Cal : 96404076001 Caldate : 06-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11881261	-0.19

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076122 File : met09_sn_0816 Time : 06-OCT-2016 21:00
Cal : 96404076001 Caldate : 06-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.5974	2.2031	5000	4588	ug/L	-8	10	
Arsenic	A	2.1748	1.9175	5000	4680	ug/L	-6	10	
Barium	A	73.376	70.979	5000	4950	ug/L	-1	10	
Beryllium	A	6368.8	6324.8	500.0	504.5	ug/L	1	10	
Cadmium	A	133.62	126.02	5000	4915	ug/L	-2	10	
Chromium	A	182.50	188.97	5000	4963	ug/L	-1	10	
Cobalt	A	38.457	35.588	5000	4759	ug/L	-5	10	
Copper	A	355.58	330.36	5000	4955	ug/L	-1	10	
Lead	A	17.898	15.604	5000	4698	ug/L	-6	10	
Molybdenum	A	19.193	17.587	5000	4688	ug/L	-6	10	
Nickel	A	100.70	99.376	5000	4887	ug/L	-2	10	
Selenium	A	2.8445	2.5540	5000	4579	ug/L	-8	10	
Silver	A	81.156	79.156	1000	989.6	ug/L	-1	10	
Thallium	A	2.2363	2.0567	5000	4615	ug/L	-8	10	
Vanadium	A	235.93	222.62	5000	4968	ug/L	-1	10	
Zinc	A	57.524	53.910	5000	4816	ug/L	-4	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11580432	-2.72

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076123 File : met09_sn_0816 Time : 06-OCT-2016 21:02
Cal : 96404076001 Caldate : 06-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11779591	-1.04

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076124 File : met09_sn_0816 Time : 06-OCT-2016 21:04
Cal : 96404076001 Caldate : 06-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11856335	-0.40

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076135 File : met09_sn_0816 Time : 06-OCT-2016 21:29
Cal : 96404076001 Caldate : 06-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.5974	2.2616	5000	4710	ug/L	-6	10	
Arsenic	A	2.1748	1.9542	5000	4770	ug/L	-5	10	
Barium	A	73.376	72.053	5000	5024	ug/L	0	10	
Beryllium	A	6368.8	6248.7	500.0	498.4	ug/L	0	10	
Cadmium	A	133.62	127.26	5000	4963	ug/L	-1	10	
Chromium	A	182.50	191.33	5000	5025	ug/L	0	10	
Cobalt	A	38.457	36.013	5000	4815	ug/L	-4	10	
Copper	A	355.58	336.11	5000	5041	ug/L	1	10	
Lead	A	17.898	16.057	5000	4834	ug/L	-3	10	
Molybdenum	A	19.193	18.007	5000	4800	ug/L	-4	10	
Nickel	A	100.70	100.37	5000	4936	ug/L	-1	10	
Selenium	A	2.8445	2.6192	5000	4696	ug/L	-6	10	
Silver	A	81.156	80.148	1000	1002	ug/L	0	10	
Thallium	A	2.2363	2.1028	5000	4719	ug/L	-6	10	
Vanadium	A	235.93	225.40	5000	5030	ug/L	1	10	
Zinc	A	57.524	54.275	5000	4848	ug/L	-3	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11235395	-5.62

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076136 File : met09_sn_0816 Time : 06-OCT-2016 21:31
Cal : 96404076001 Caldate : 06-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	[4.327]	5.000	4.000	ug/L	!CCB
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11904029	0.00

!=warning CCB=instrument blank

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96405096

Instrument : MET09 Begun : 10/07/16 07:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_0816	ICALBLK				10/07/16 07:36	1.0		
002	met09_sn_0816	ICAL	L1			10/07/16 07:39	1.0	1	
003	met09_sn_0816	ICAL	L2			10/07/16 07:41	1.0	2	
004	met09_sn_0816	ICAL	L3			10/07/16 07:44	1.0	3	
005	met09_sn_0816	ICAL	L4			10/07/16 07:45	1.0	4	
006	met09_sn_0816	ICAL	L5			10/07/16 07:47	1.0	5	
007	met09_sn_0816	ICV				10/07/16 07:49	1.0	6	
008	met09_sn_0816	XCRI				10/07/16 07:51	1.0	7	
009	met09_sn_0816	CRI				10/07/16 07:54	1.0	7	
010	met09_sn_0816	ICB				10/07/16 07:56	1.0		
011	met09_sn_0816	ICSA				10/07/16 07:58	1.0	8	10:AL=500000
012	met09_sn_0816	XICSAB				10/07/16 08:28	1.0	9	
013	met09_sn_0816	ICSAB				10/07/16 08:30	1.0	9	5:AL=500000
014	met09_sn_0816	CCV				10/07/16 08:31	1.0	10	
015	met09_sn_0816	CCB				10/07/16 08:33	1.0		
016	met09_sn_0816	PDS	QC853887	Filtrate	239702	10/07/16 08:36	25.0	11 12 13	1:NA=180000
017	met09_sn_0816	SAMPLE	281655-001	Soil	239743	10/07/16 08:38	1.0		6:CA=1300000
018	met09_sn_0816	SAMPLE	281770-001	WET Leachate	239853	10/07/16 08:40	10.0		1:NA=130000
019	met09_sn_0816	SAMPLE	281771-001	WET Leachate	239853	10/07/16 08:43	10.0		1:NA=130000
020	met09_sn_0816	BLANK	QC854610	Soil	239887	10/07/16 08:45	1.0		
021	met09_sn_0816	BS	QC854611	Soil	239887	10/07/16 08:47	1.0		
022	met09_sn_0816	BSD	QC854612	Soil	239887	10/07/16 08:49	1.0		
023	met09_sn_0816	MSS	281716-001	Soil	239887	10/07/16 08:50	1.0		4:FE=550000
024	met09_sn_0816	MS	QC854613	Soil	239887	10/07/16 08:52	1.0		2:FE=600000
025	met09_sn_0816	MSD	QC854614	Soil	239887	10/07/16 08:54	1.0		
026	met09_sn_0816	CCV				10/07/16 08:56	1.0	10	
027	met09_sn_0816	CCB				10/07/16 08:59	1.0		
028	met09_sn_0816	SAMPLE	281813-002	Soil	239887	10/07/16 09:01	1.0		6:CA=970000
029	met09_sn_0816	SAMPLE	281813-003	Soil	239887	10/07/16 09:03	1.0		6:FE=560000
030	met09_sn_0816	SAMPLE	281813-004	Soil	239887	10/07/16 09:05	1.0		5:CA=960000
031	met09_sn_0816	MSS	281716-001	Soil	239887	10/07/16 09:08	1.0		4:FE=550000
032	met09_sn_0816	SER	QC854615	Soil	239887	10/07/16 09:10	5.0		
033	met09_sn_0816	PDS	QC854616	Soil	239887	10/07/16 09:13	1.0	11 12 13	4:FE=550000
034	met09_sn_0816	SAMPLE	281790-001	Soil	239887	10/07/16 09:15	1.0		1:FE=370000
035	met09_sn_0816	SAMPLE	281810-001	Soil	239887	10/07/16 09:17	1.0		7:FE=580000
036	met09_sn_0816	SAMPLE	281813-001	Soil	239887	10/07/16 09:19	1.0		6:CA=990000
037	met09_sn_0816	?SAMPLE	281716-001		239853	10/07/16 09:21	10.0		
038	met09_sn_0816	CCV				10/07/16 09:24	1.0	10	
039	met09_sn_0816	CCB				10/07/16 09:26	1.0		
040	met09_sn_0816	CCB				10/07/16 09:28	1.0		
041	met09_sn_0816	?SAMPLE	281756-001		239853	10/07/16 09:30	10.0		
042	met09_sn_0816	SAMPLE	281760-005	WET Leachate	239853	10/07/16 09:32	10.0		1:NA=130000
043	met09_sn_0816	?SAMPLE	281775-009		239853	10/07/16 09:35	10.0		
044	met09_sn_0816	CCV				10/07/16 09:45	1.0	10	
045	met09_sn_0816	CCB				10/07/16 09:47	1.0		
046	met09_sn_0816	CCV				10/07/16 09:52	1.0	10	
047	met09_sn_0816	CCB				10/07/16 09:54	1.0		
048	met09_sn_0816	X	RINSE			10/07/16 09:57	1.0		
049	met09_sn_0816	BLANK	QC854697	TCLP Leachate	239909	10/07/16 10:00	10.0		1:NA=140000
050	met09_sn_0816	BS	QC854698	TCLP Leachate	239909	10/07/16 10:02	1.0		
051	met09_sn_0816	BSD	QC854699	TCLP Leachate	239909	10/07/16 10:04	1.0		
052	met09_sn_0816	MSS	281793-001	TCLP Leachate	239909	10/07/16 10:07	10.0		1:NA=140000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96405096

Instrument : MET09 Begun : 10/07/16 07:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_0816	MS	QC854700	TCLP Leachate	239909	10/07/16 10:15	10.0		
054	met09_sn_0816	MSD	QC854701	TCLP Leachate	239909	10/07/16 10:17	10.0		
055	met09_sn_0816	SAMPLE	281793-002	TCLP Leachate	239909	10/07/16 10:20	10.0		1:NA=130000
056	met09_sn_0816	SAMPLE	281600-001		239909	10/07/16 10:22	10.0		
057	met09_sn_0816	SAMPLE	281756-001		239909	10/07/16 10:24	10.0		
058	met09_sn_0816	CCV				10/07/16 10:27	1.0	10	
059	met09_sn_0816	CCB				10/07/16 10:29	1.0		
060	met09_sn_0816	CCV				10/07/16 10:32	1.0	10	
061	met09_sn_0816	CCB				10/07/16 10:34	1.0		
062	met09_sn_0816	SAMPLE	281760-005	TCLP Leachate	239909	10/07/16 10:38	10.0		1:NA=140000
063	met09_sn_0816	SAMPLE	281775-009		239909	10/07/16 10:41	10.0		
064	met09_sn_0816	SAMPLE	281921-001	TCLP Leachate	239909	10/07/16 10:43	10.0		1:NA=130000
065	met09_sn_0816	SAMPLE	281809-001		239909	10/07/16 10:46	10.0		
066	met09_sn_0816	X	RINSE			10/07/16 10:48	1.0		
067	met09_sn_0816	XBLANK	QC853742	Water	239663	10/07/16 10:51	1.0		
068	met09_sn_0816	XBS	QC853743	Water	239663	10/07/16 10:53	1.0		
069	met09_sn_0816	XBSD	QC853744	Water	239663	10/07/16 10:55	1.0		
070	met09_sn_0816	XMSS	281582-002	Water	239663	10/07/16 10:58	1.0		
071	met09_sn_0816	XMS	QC853745	Water	239663	10/07/16 11:00	1.0		
072	met09_sn_0816	CCV				10/07/16 11:02	1.0	10	
073	met09_sn_0816	CCB				10/07/16 11:04	1.0		
074	met09_sn_0816	CCB				10/07/16 11:07	1.0		
075	met09_sn_0816	X	RINSE			10/07/16 11:11	1.0		
076	met09_sn_0816	BLANK	QC854610	Soil	239887	10/07/16 11:14	1.0		
077	met09_sn_0816	BLANK	QC853742	Water	239663	10/07/16 11:16	1.0		
078	met09_sn_0816	XBS	QC853743	Water	239663	10/07/16 11:18	1.0		
079	met09_sn_0816	XBSD	QC853744	Water	239663	10/07/16 11:25	1.0		
080	met09_sn_0816	XMSS	281582-002	Water	239663	10/07/16 11:28	1.0		
081	met09_sn_0816	CCV				10/07/16 12:10	1.0	10	
082	met09_sn_0816	CCB				10/07/16 12:12	1.0		
083	met09_sn_0816	X	RINSE			10/07/16 12:16	1.0		
084	met09_sn_0816	SAMPLE	281813-001	Soil	239887	10/07/16 12:19	1.0		6:CA=890000
085	met09_sn_0816	SAMPLE	281813-002	Soil	239887	10/07/16 12:21	1.0		6:CA=980000
086	met09_sn_0816	SAMPLE	281813-003	Soil	239887	10/07/16 12:23	1.0		6:FE=570000
087	met09_sn_0816	SAMPLE	281813-004	Soil	239887	10/07/16 12:25	1.0		6:CA=970000
088	met09_sn_0816	X	RINSE			10/07/16 12:28	1.0		
089	met09_sn_0816	BS	QC853743	Water	239663	10/07/16 12:30	1.0		
090	met09_sn_0816	BSD	QC853744	Water	239663	10/07/16 12:33	1.0		
091	met09_sn_0816	MSS	281582-002	Water	239663	10/07/16 12:35	1.0		
092	met09_sn_0816	MS	QC853745	Water	239663	10/07/16 12:38	1.0		
093	met09_sn_0816	CCV				10/07/16 12:40	1.0	10	
094	met09_sn_0816	CCB				10/07/16 12:42	1.0		
095	met09_sn_0816	MSD	QC853746	Water	239663	10/07/16 12:44	1.0		
096	met09_sn_0816	SER	QC853747	Water	239663	10/07/16 12:47	5.0		
097	met09_sn_0816	PDS	QC853748	Water	239663	10/07/16 12:49	1.0	11 12 13	
098	met09_sn_0816	SAMPLE	281394-001	Water	239663	10/07/16 12:51	1.0		
099	met09_sn_0816	SAMPLE	281394-002	Water	239663	10/07/16 12:54	1.0		
100	met09_sn_0816	SAMPLE	281394-003	Water	239663	10/07/16 12:56	1.0		
101	met09_sn_0816	SAMPLE	281394-004	Water	239663	10/07/16 12:58	1.0		
102	met09_sn_0816	SAMPLE	281394-005	Water	239663	10/07/16 13:01	1.0		
103	met09_sn_0816	SAMPLE	281394-006	Water	239663	10/07/16 13:03	1.0		
104	met09_sn_0816	SAMPLE	281394-007	Water	239663	10/07/16 13:05	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96405096

Instrument : MET09 Begun : 10/07/16 07:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met09_sn_0816	CCV				10/07/16 13:08	1.0	10	
106	met09_sn_0816	CCB				10/07/16 13:10	1.0		
107	met09_sn_0816	SAMPLE	281394-008	Water	239663	10/07/16 13:13	1.0		
108	met09_sn_0816	SAMPLE	281394-009	Water	239663	10/07/16 13:15	1.0		
109	met09_sn_0816	SAMPLE	281394-010	Water	239663	10/07/16 13:17	1.0		
110	met09_sn_0816	SAMPLE	281394-011	Water	239663	10/07/16 13:20	1.0		
111	met09_sn_0816	X	RINSE			10/07/16 13:31	1.0		
112	met09_sn_0816	XSAMPLE	281616-001	Soil	239789	10/07/16 13:33	1.0		
113	met09_sn_0816	SAMPLE	281394-012	Water	239663	10/07/16 13:36	1.0		
114	met09_sn_0816	XSAMPLE	281600-001	WET Leachate	239719	10/07/16 13:38	10.0		
115	met09_sn_0816	XSAMPLE	281579-010	WET Leachate	239719	10/07/16 13:40	10.0		
116	met09_sn_0816	CCV				10/07/16 13:43	1.0	10	
117	met09_sn_0816	CCB				10/07/16 13:45	1.0		
118	met09_sn_0816	X	RINSE			10/07/16 13:48	1.0		
119	met09_sn_0816	BS	QC853743	Water	239663	10/07/16 13:50	1.0		
120	met09_sn_0816	BSD	QC853744	Water	239663	10/07/16 13:53	1.0		
121	met09_sn_0816	SAMPLE	281616-001	Soil	239789	10/07/16 13:55	1.0		3:FE=400000
122	met09_sn_0816	SAMPLE	281600-001	WET Leachate	239719	10/07/16 13:57	10.0		1:NA=130000
123	met09_sn_0816	SAMPLE	281579-010	WET Leachate	239719	10/07/16 13:59	10.0		1:NA=120000
124	met09_sn_0816	SAMPLE	281820-001	WET Leachate	239618	10/07/16 14:02	10.0		1:NA=140000
125	met09_sn_0816	SAMPLE	281821-001	WET Leachate	239618	10/07/16 14:04	10.0		1:NA=130000
126	met09_sn_0816	SAMPLE	281640-001	Soil	239789	10/07/16 14:07	1.0		3:FE=380000
127	met09_sn_0816	SAMPLE	281660-001	Soil	239789	10/07/16 14:09	1.0		6:CA=840000
128	met09_sn_0816	CCV				10/07/16 14:11	1.0	10	
129	met09_sn_0816	XCCB				10/07/16 14:13	1.0		
130	met09_sn_0816	CCB				10/07/16 14:15	1.0		
131	met09_sn_0816	SAMPLE	281660-002	Soil	239789	10/07/16 14:17	1.0		3:FE=470000
132	met09_sn_0816	SAMPLE	281660-003	Soil	239789	10/07/16 14:19	1.0		3:FE=470000
133	met09_sn_0816	SAMPLE	281664-003	Soil	239789	10/07/16 14:21	1.0		6:FE=570000
134	met09_sn_0816	SAMPLE	281295-004	Water	239635	10/07/16 14:24	1.0		
135	met09_sn_0816	X	RINSE			10/07/16 14:26	1.0		
136	met09_sn_0816	SAMPLE	281295-003	Water	239635	10/07/16 14:28	100.0		
137	met09_sn_0816	SAMPLE	281295-005	Water	239635	10/07/16 14:31	100.0		
138	met09_sn_0816	SAMPLE	281616-001	Soil	239789	10/07/16 14:33	1.0		3:FE=410000
139	met09_sn_0816	SAMPLE	281295-006	Water	239635	10/07/16 14:35	1.0		
140	met09_sn_0816	BLANK	QC853742	Water	239663	10/07/16 14:38	1.0		
141	met09_sn_0816	CCV				10/07/16 14:40	1.0	10	
142	met09_sn_0816	CCB				10/07/16 14:42	1.0		
143	met09_sn_0816	SAMPLE	281387-002	Water	239635	10/07/16 14:45	1.0		1:CA=140000
144	met09_sn_0816	SAMPLE	281412-001	Water	239635	10/07/16 14:47	1.0		
145	met09_sn_0816	SAMPLE	281443-001	Water	239635	10/07/16 14:49	1.0		
146	met09_sn_0816	X	RINSE			10/07/16 14:52	1.0		
147	met09_sn_0816	SAMPLE	281456-002	Water	239635	10/07/16 14:54	100.0		
148	met09_sn_0816	SAMPLE	281456-003	Water	239635	10/07/16 14:57	100.0		
149	met09_sn_0816	PDS	QC854418	Soil	239837	10/07/16 14:59	1.0	11 12 13	5:FE=400000
150	met09_sn_0816	MSS	281460-001	Soil	239837	10/07/16 15:01	1.0		5:FE=390000
151	met09_sn_0816	SAMPLE	281460-002	Soil	239837	10/07/16 15:03	1.0		4:FE=370000
152	met09_sn_0816	SAMPLE	281460-004	Soil	239837	10/07/16 15:05	1.0		5:FE=360000
153	met09_sn_0816	CCV				10/07/16 15:07	1.0	10	
154	met09_sn_0816	XCCB				10/07/16 15:10	1.0		
155	met09_sn_0816	CCB				10/07/16 15:12	1.0		
156	met09_sn_0816	SAMPLE	281460-005	Soil	239837	10/07/16 15:14	1.0		4:FE=370000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96405096

Instrument : MET09 Begun : 10/07/16 07:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
157	met09_sn_0816	SAMPLE	281460-006	Soil	239837	10/07/16 15:16	1.0		4:CA=340000
158	met09_sn_0816	SAMPLE	281460-008	Soil	239837	10/07/16 15:18	1.0		4:CA=410000
159	met09_sn_0816	SAMPLE	281460-009	Soil	239837	10/07/16 15:20	1.0		3:FE=360000
160	met09_sn_0816	SAMPLE	281460-010	Soil	239837	10/07/16 15:22	1.0		4:FE=380000
161	met09_sn_0816	SAMPLE	281460-012	Soil	239837	10/07/16 15:24	1.0		5:FE=350000
162	met09_sn_0816	SAMPLE	281460-013	Soil	239837	10/07/16 15:27	1.0		4:FE=310000
163	met09_sn_0816	SAMPLE	281460-014	Soil	239837	10/07/16 15:29	1.0		4:FE=350000
164	met09_sn_0816	SAMPLE	281460-016	Soil	239837	10/07/16 15:31	1.0		4:FE=320000
165	met09_sn_0816	SAMPLE	281460-017	Soil	239837	10/07/16 15:33	1.0		5:FE=310000
166	met09_sn_0816	CCV				10/07/16 15:35	1.0	10	
167	met09_sn_0816	CCB				10/07/16 15:37	1.0		
168	met09_sn_0816	SAMPLE	281460-019	Soil	239837	10/07/16 15:39	1.0		4:FE=270000
169	met09_sn_0816	SAMPLE	281460-020	Soil	239837	10/07/16 15:42	1.0		5:FE=340000
170	met09_sn_0816	SAMPLE	281516-020	Soil	239887	10/07/16 15:44	1.0		3:FE=330000
171	met09_sn_0816	SAMPLE	281516-021	Soil	239887	10/07/16 15:46	1.0		4:FE=340000
172	met09_sn_0816	SAMPLE	281516-022	Soil	239887	10/07/16 15:48	1.0		4:FE=330000
173	met09_sn_0816	SAMPLE	281516-023	Soil	239887	10/07/16 15:50	1.0		4:FE=310000
174	met09_sn_0816	SAMPLE	281516-024	Soil	239887	10/07/16 15:52	1.0		3:FE=340000
175	met09_sn_0816	SAMPLE	281516-025	Soil	239887	10/07/16 15:54	1.0		5:FE=370000
176	met09_sn_0816	SAMPLE	281516-026	Soil	239887	10/07/16 15:56	1.0		4:FE=340000
177	met09_sn_0816	SAMPLE	281657-001	Soil	239887	10/07/16 15:59	1.0		3:FE=410000
178	met09_sn_0816	CCV				10/07/16 16:01	1.0	10	
179	met09_sn_0816	CCB				10/07/16 16:03	1.0		
180	met09_sn_0816	SAMPLE	281666-005	Soil	239887	10/07/16 16:05	1.0		8:FE=2700000
181	met09_sn_0816	SAMPLE	281713-001	Soil	239887	10/07/16 16:07	1.0		4:FE=380000
182	met09_sn_0816	X	RINSE			10/07/16 16:10	1.0		
183	met09_sn_0816	SAMPLE	281598-002	Miscell.	239839	10/07/16 16:12	500.0		
184	met09_sn_0816	SAMPLE	281598-003	Miscell.	239839	10/07/16 16:15	100.0		
185	met09_sn_0816	SAMPLE	281598-008	Miscell.	239839	10/07/16 16:17	100.0		
186	met09_sn_0816	SAMPLE	281598-005	Miscell.	239839	10/07/16 16:19	5.0		2:CA=1200000
187	met09_sn_0816	SAMPLE	281659-002	Soil	239839	10/07/16 16:22	1.0		2:FE=290000
188	met09_sn_0816	CCV				10/07/16 16:24	1.0	10	
189	met09_sn_0816	CCB				10/07/16 16:26	1.0		
190	met09_sn_0816	CCV				10/07/16 16:34	1.0	10	
191	met09_sn_0816	CCB				10/07/16 16:36	1.0		

TLO 10/07/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 64.

MNA 10/07/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 65 through 175.

Standards used: 1=S30721 2=S31085 3=S31084 4=S31086 5=S30418 6=S30836 7=S30723 8=S31001 9=S31075 10=S30837 11=S29983 12=S29984 13=S30560

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96405096

Date : 10/07/16 Reference : met09_sn_0816
Sequence : MET09 10/07/16 Analyzed : 10/07/16 07:39

#	Type	Sample ID	Y A
		ICAL STD	12467800
		LOWER LIMIT	3740340
		UPPER LIMIT	24935601
010	ICB		12298797
011	ICSA		11568290
013	ICSAB		11334271
014	CCV		12141353
015	CCB		12383186
016	PDS	QC853887	11886618
017	SAMPLE	281655-001	11686210
018	SAMPLE	281770-001	12061145
019	SAMPLE	281771-001	12073769
020	BLANK	QC854610	12533192
021	BS	QC854611	12137174
022	BSD	QC854612	12319330
023	MSS	281716-001	12033865
024	MS	QC854613	11863625
025	MSD	QC854614	12023077
026	CCV		12145035
027	CCB		12361800
028	SAMPLE	281813-002	11595458
029	SAMPLE	281813-003	11699511
030	SAMPLE	281813-004	11755825
031	MSS	281716-001	11863588
032	SER	QC854615	12218224
033	PDS	QC854616	12124888
034	SAMPLE	281790-001	12329217
035	SAMPLE	281810-001	12286918
036	SAMPLE	281813-001	11833356
038	CCV		12113314
039	CCB		12174112
040	CCB		12111819
042	SAMPLE	281760-005	11918352
044	CCV		12157357
045	CCB		12360712
046	CCV		12075131
047	CCB		12155593
049	BLANK	QC854697	12074016
050	BS	QC854698	12129027
051	BSD	QC854699	12319469
052	MSS	281793-001	11943259
053	MS	QC854700	12192919
054	MSD	QC854701	12101084
055	SAMPLE	281793-002	12055379
058	CCV		12101731
059	CCB		12220342
060	CCV		12216234
061	CCB		12287280
062	SAMPLE	281760-005	12064557
064	SAMPLE	281921-001	12112147
072	CCV		11988399

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96405096

Date : 10/07/16 Reference : met09_sn_0816
Sequence : MET09 10/07/16 Analyzed : 10/07/16 07:39

#	Type	Sample ID	Y A
073	CCB		12459785
074	CCB		12474104
076	BLANK	QC854610	12605287
077	BLANK	QC853742	12494562
081	CCV		12337863
082	CCB		12491303
084	SAMPLE	281813-001	12128507
085	SAMPLE	281813-002	11974712
086	SAMPLE	281813-003	12145943
087	SAMPLE	281813-004	11711390
089	BS	QC853743	12360737
090	BSD	QC853744	12362349
091	MSS	281582-002	12394575
092	MS	QC853745	12216080
093	CCV		12222160
094	CCB		12409984
095	MSD	QC853746	12237249
096	SER	QC853747	12449396
097	PDS	QC853748	12204846
098	SAMPLE	281394-001	12677538
099	SAMPLE	281394-002	12714822
100	SAMPLE	281394-003	12428275
101	SAMPLE	281394-004	12608072
102	SAMPLE	281394-005	12555028
103	SAMPLE	281394-006	12604930
104	SAMPLE	281394-007	12392989
105	CCV		12071954
106	CCB		12251871
109	SAMPLE	281394-010	12562610
110	SAMPLE	281394-011	12570755
113	SAMPLE	281394-012	12482224
116	CCV		12150180
117	CCB		12475069
119	BS	QC853743	12491653
120	BSD	QC853744	12208880
121	SAMPLE	281616-001	12313944
122	SAMPLE	281600-001	12006151
123	SAMPLE	281579-010	11951219
124	SAMPLE	281820-001	12043025
125	SAMPLE	281821-001	12071018
126	SAMPLE	281640-001	12410236
127	SAMPLE	281660-001	11706557
128	CCV		12116198
130	CCB		12296911
131	SAMPLE	281660-002	12194909
132	SAMPLE	281660-003	12225842
133	SAMPLE	281664-003	12011444
134	SAMPLE	281295-004	12439210
136	SAMPLE	281295-003	12272576
137	SAMPLE	281295-005	12583695
138	SAMPLE	281616-001	12275578
139	SAMPLE	281295-006	12813530

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96405096

Date : 10/07/16 Reference : met09_sn_0816
Sequence : MET09 10/07/16 Analyzed : 10/07/16 07:39

#	Type	Sample ID	Y A
140	BLANK	QC853742	12431732
141	CCV		12208490
142	CCB		12322072
143	SAMPLE	281387-002	12308331
145	SAMPLE	281443-001	12360921
149	PDS	QC854418	12148500
150	MSS	281460-001	12146382
151	SAMPLE	281460-002	12075696
152	SAMPLE	281460-004	12105338
153	CCV		12015191
155	CCB		12001753
156	SAMPLE	281460-005	11945685
157	SAMPLE	281460-006	12000861
158	SAMPLE	281460-008	11833725
159	SAMPLE	281460-009	12028212
160	SAMPLE	281460-010	11925525
161	SAMPLE	281460-012	11758905
162	SAMPLE	281460-013	11884433
163	SAMPLE	281460-014	11897330
164	SAMPLE	281460-016	11771683
165	SAMPLE	281460-017	11966524
166	CCV		11888247
167	CCB		12179743
168	SAMPLE	281460-019	12129366
169	SAMPLE	281460-020	11868509
170	SAMPLE	281516-020	12151611
171	SAMPLE	281516-021	12230860
172	SAMPLE	281516-022	11909597
173	SAMPLE	281516-023	11928850
174	SAMPLE	281516-024	12009155
175	SAMPLE	281516-025	12028717
176	SAMPLE	281516-026	12052764
177	SAMPLE	281657-001	12161689
178	CCV		11846122
179	CCB		12213063
180	SAMPLE	281666-005	11341620
181	SAMPLE	281713-001	11945097
183	SAMPLE	281598-002	12125317
184	SAMPLE	281598-003	12155204
185	SAMPLE	281598-008	12034406
186	SAMPLE	281598-005	11680336
187	SAMPLE	281659-002	11953499
188	CCV		11808084
189	CCB		11968464
190	CCV		11765695
191	CCB		12044593

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281460 METALS Soil: EPA 6010B

Inst : MET09
Calnum : 96405096001
Units : ug/L

Date : 07-OCT-2016 07:36
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_0816	96405096002	L1	07-OCT-2016 07:39	S30721
L2	met09_sn_0816	96405096003	L2	07-OCT-2016 07:41	S31085
L3	met09_sn_0816	96405096004	L3	07-OCT-2016 07:44	S31084
L4	met09_sn_0816	96405096005	L4	07-OCT-2016 07:45	S31086
L5	met09_sn_0816	96405096006	L5	07-OCT-2016 07:47	S30418

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	4.3000	3.4720	3.5891	3.6271		LOR0	0.00000	0.27573		3.7471	1.000	0.995	
Arsenic	A	1.5800	2.8330	2.8567	2.9572		LOR0	0.00000	0.33827		2.5567	1.000	0.995	
Barium	A	100.78	98.296	100.65	98.971		LOR0	0.00000	0.01010		99.674	1.000	0.995	
Beryllium	A	8086.5	7869.0	7951.7			LOR0	0.00000	1.26E-4		7969.1	1.000	0.995	
Cadmium	A	201.36	203.15	205.28	197.11		LOR0	0.00000	0.00507		201.72	1.000	0.995	
Chromium	A	229.08	244.01	246.85	245.73		LOR0	0.00000	0.00407		241.42	1.000	0.995	
Cobalt	A	48.080	48.148	49.741	49.105		LOR0	0.00000	0.02036		48.768	1.000	0.995	
Copper	A	386.36	413.22	416.25	410.33		LOR0	0.00000	0.00244		406.54	1.000	0.995	
Lead	A	18.940	22.420	22.493	22.475		LOR0	0.00000	0.04449		21.582	1.000	0.995	
Molybdenum	A	31.260	30.093	30.000	30.700		LOR0	0.00000	0.03258		30.513	1.000	0.995	
Nickel	A	127.74	138.42	138.24	137.19		LOR0	0.00000	0.00729		135.40	1.000	0.995	
Selenium	A	2.4500	4.1090	4.1531	4.3298		LOR0	0.00000	0.23105		3.7605	1.000	0.995	
Silver	A	85.100	90.000	94.914	96.199		LOR0	0.00000	0.01040		91.553	1.000	0.995	
Thallium	A	3.9800	3.5070	3.4857	3.4403		LOR0	0.00000	0.29063		3.6033	1.000	0.995	
Vanadium	A	242.66	278.87	283.09	284.68		LOR0	0.00000	0.00351		272.33	1.000	0.995	
Zinc	A	82.495	87.620	91.209	90.571		LOR0	0.00000	0.01104		87.974	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	19	100.00	-4	1000.0	-1	10000	0		
Arsenic	A	5.0000	**-47**	100.00	-4	1000.0	-3	10000	0		
Barium	A	5.0000	2	100.00	-1	1000.0	2	10000	0		
Beryllium	A	2.0000	2	100.00	-1	1000.0	0				
Cadmium	A	5.0000	2	100.00	3	1000.0	4	10000	0		
Chromium	A	5.0000	-7	100.00	-1	1000.0	0	10000	0		
Cobalt	A	5.0000	-2	100.00	-2	1000.0	1	10000	0		
Copper	A	5.0000	-6	100.00	1	1000.0	1	10000	0		
Lead	A	5.0000	-16	100.00	0	1000.0	0	10000	0		
Molybdenum	A	5.0000	2	100.00	-2	1000.0	-2	10000	0		
Nickel	A	5.0000	-7	100.00	1	1000.0	1	10000	0		
Selenium	A	10.000	**-43**	100.00	-5	1000.0	-4	10000	0		
Silver	A	5.0000	-12	20.000	-6	200.00	-1	2000.0	0		
Thallium	A	10.000	16	100.00	2	1000.0	1	10000	0		
Vanadium	A	5.0000	-15	100.00	-2	1000.0	-1	10000	0		
Zinc	A	20.000	-9	100.00	-3	1000.0	1	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281460 METALS Soil
EPA 6010B

Inst : MET09
Calnum : 96405096001 Cal Date : 07-OCT-2016

ICV 96405096007 (07-OCT-2016) stds: S30836

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	5026	ug/L	1	10	
Arsenic	A	5000	5065	ug/L	1	10	
Barium	A	5000	5063	ug/L	1	10	
Beryllium	A	500.0	508.4	ug/L	2	10	
Cadmium	A	5000	5129	ug/L	3	10	
Chromium	A	5000	5059	ug/L	1	10	
Cobalt	A	5000	5011	ug/L	0	10	
Copper	A	5000	5018	ug/L	0	10	
Lead	A	5000	5134	ug/L	3	10	
Molybdenum	A	5000	5003	ug/L	0	10	
Nickel	A	5000	5002	ug/L	0	10	
Selenium	A	5000	5009	ug/L	0	10	
Silver	A	1000	1003	ug/L	0	10	
Thallium	A	5000	4941	ug/L	-1	10	
Vanadium	A	5000	5028	ug/L	1	10	
Zinc	A	5000	5063	ug/L	1	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096010 File : met09_sn_0816 Time : 07-OCT-2016 07:56
Cal : 96405096001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12298797	-1.36

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096011 File : met09_sn_0816 Time : 07-OCT-2016 07:58
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S31001

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[4.174]	10.00	ug/L	
Arsenic	A	[1.499]	5.000	ug/L	
Barium	A	[0.6741]	5.000	ug/L	
Beryllium	A	[0.09501]	2.000	ug/L	
Cadmium	A	[1.101]	5.000	ug/L	
Cobalt	A	[0.005480]	5.000	ug/L	
Lead	A	[-1.886]	5.000	ug/L	
Molybdenum	A	[-0.7128]	5.000	ug/L	
Selenium	A	[8.751]	10.00	ug/L	
Silver	A	[-3.953]	5.000	ug/L	
Thallium	A	[1.739]	10.00	ug/L	
Zinc	A	[6.995]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec	Flags
Chromium	A	20000	19390	ug/L	97	
Copper	A	20000	20200	ug/L	101	
Manganese	A	20000	19110	ug/L	96	
Nickel	A	20000	18750	ug/L	94	
Vanadium	A	20000	19910	ug/L	100	
Aluminum	R	500000	497300	ug/L	99	
Calcium	R	500000	473200	ug/L	95	
Iron	R	200000	196200	ug/L	98	
Magnesium	R	500000	489900	ug/L	98	
Titanium	R	20000	20680	ug/L	103	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	11568290	-7.21

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096013 File : met09_sn_0816 Time : 07-OCT-2016 08:30
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S31075

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	535.7	ug/L	7	20	
Arsenic	A	500.0	509.9	ug/L	2	20	
Barium	A	500.0	513.0	ug/L	3	20	
Beryllium	A	500.0	526.9	ug/L	5	20	
Cadmium	A	1000	1024	ug/L	2	20	
Chromium	A	500.0	503.8	ug/L	1	20	
Cobalt	A	500.0	506.0	ug/L	1	20	
Copper	A	500.0	487.9	ug/L	-2	20	
Lead	A	1000	992.9	ug/L	-1	20	
Molybdenum	A	500.0	501.3	ug/L	0	20	
Nickel	A	1000	986.2	ug/L	-1	20	
Selenium	A	500.0	534.0	ug/L	7	20	
Silver	A	1000	1088	ug/L	9	20	
Thallium	A	500.0	506.1	ug/L	1	20	
Vanadium	A	500.0	536.4	ug/L	7	20	
Zinc	A	1000	993.2	ug/L	-1	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	11334271	-9.09

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096141 File : met09_sn_0816 Time : 07-OCT-2016 14:40
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	3.7471	3.5214	5000	4855	ug/L	-3	10	
Arsenic	A	2.5567	2.9033	5000	4911	ug/L	-2	10	
Barium	A	99.674	96.291	5000	4864	ug/L	-3	10	
Beryllium	A	7969.1	7940.0	500.0	499.3	ug/L	0	10	
Cadmium	A	201.72	191.54	5000	4857	ug/L	-3	10	
Chromium	A	241.42	241.94	5000	4923	ug/L	-2	10	
Cobalt	A	48.768	48.970	5000	4986	ug/L	0	10	
Copper	A	406.54	401.62	5000	4893	ug/L	-2	10	
Lead	A	21.582	22.601	5000	5028	ug/L	1	10	
Molybdenum	A	30.513	28.649	5000	4667	ug/L	-7	10	
Nickel	A	135.40	132.86	5000	4842	ug/L	-3	10	
Selenium	A	3.7605	4.1352	5000	4777	ug/L	-4	10	
Silver	A	91.553	94.181	1000	979.2	ug/L	-2	10	
Thallium	A	3.6033	3.2086	5000	4663	ug/L	-7	10	
Vanadium	A	272.33	277.68	5000	4877	ug/L	-2	10	
Zinc	A	87.974	85.969	5000	4746	ug/L	-5	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12208490	-2.08

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096142 File : met09_sn_0816 Time : 07-OCT-2016 14:42
Cal : 96405096001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12322072	-1.17

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096153 File : met09_sn_0816 Time : 07-OCT-2016 15:07
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	3.7471	3.4780	5000	4795	ug/L	-4	10	
Arsenic	A	2.5567	2.8774	5000	4867	ug/L	-3	10	
Barium	A	99.674	96.100	5000	4854	ug/L	-3	10	
Beryllium	A	7969.1	7871.9	500.0	495.0	ug/L	-1	10	
Cadmium	A	201.72	190.52	5000	4831	ug/L	-3	10	
Chromium	A	241.42	241.59	5000	4915	ug/L	-2	10	
Cobalt	A	48.768	48.678	5000	4956	ug/L	-1	10	
Copper	A	406.54	399.88	5000	4872	ug/L	-3	10	
Lead	A	21.582	22.455	5000	4995	ug/L	0	10	
Molybdenum	A	30.513	28.361	5000	4620	ug/L	-8	10	
Nickel	A	135.40	132.48	5000	4828	ug/L	-3	10	
Selenium	A	3.7605	4.0529	5000	4682	ug/L	-6	10	
Silver	A	91.553	94.090	1000	978.2	ug/L	-2	10	
Thallium	A	3.6033	3.1654	5000	4600	ug/L	-8	10	
Vanadium	A	272.33	277.49	5000	4874	ug/L	-3	10	
Zinc	A	87.974	85.195	5000	4703	ug/L	-6	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12015191	-3.63

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096155 File : met09_sn_0816 Time : 07-OCT-2016 15:12
Cal : 96405096001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12001753	-3.74

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096166 File : met09_sn_0816 Time : 07-OCT-2016 15:35
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	3.7471	3.4771	5000	4794	ug/L	-4	10	
Arsenic	A	2.5567	2.8432	5000	4809	ug/L	-4	10	
Barium	A	99.674	94.178	5000	4757	ug/L	-5	10	
Beryllium	A	7969.1	7805.1	500.0	490.8	ug/L	-2	10	
Cadmium	A	201.72	185.31	5000	4699	ug/L	-6	10	
Chromium	A	241.42	237.21	5000	4826	ug/L	-3	10	
Cobalt	A	48.768	47.448	5000	4831	ug/L	-3	10	
Copper	A	406.54	393.00	5000	4788	ug/L	-4	10	
Lead	A	21.582	21.906	5000	4873	ug/L	-3	10	
Molybdenum	A	30.513	27.605	5000	4497	ug/L	-10	10	
Nickel	A	135.40	129.64	5000	4725	ug/L	-6	10	
Selenium	A	3.7605	4.0236	5000	4648	ug/L	-7	10	
Silver	A	91.553	92.442	1000	961.1	ug/L	-4	10	
Thallium	A	3.6033	3.1801	5000	4621	ug/L	-8	10	
Vanadium	A	272.33	272.51	5000	4787	ug/L	-4	10	
Zinc	A	87.974	82.622	5000	4561	ug/L	-9	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	11888247	-4.65

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096167 File : met09_sn_0816 Time : 07-OCT-2016 15:37
Cal : 96405096001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12179743	-2.31

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096178 File : met09_sn_0816 Time : 07-OCT-2016 16:01
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	3.7471	3.3641	5000	4638	ug/L	-7	10	
Arsenic	A	2.5567	2.7651	5000	4677	ug/L	-6	10	
Barium	A	99.674	95.027	5000	4800	ug/L	-4	10	
Beryllium	A	7969.1	7683.5	500.0	483.2	ug/L	-3	10	
Cadmium	A	201.72	186.24	5000	4722	ug/L	-6	10	
Chromium	A	241.42	238.76	5000	4858	ug/L	-3	10	
Cobalt	A	48.768	47.543	5000	4840	ug/L	-3	10	
Copper	A	406.54	396.21	5000	4827	ug/L	-3	10	
Lead	A	21.582	21.913	5000	4875	ug/L	-3	10	
Molybdenum	A	30.513	27.701	5000	4512	ug/L	-10	10	
Nickel	A	135.40	130.54	5000	4757	ug/L	-5	10	
Selenium	A	3.7605	3.8823	5000	4485	ug/L	-10	10	
Silver	A	91.553	93.196	1000	968.9	ug/L	-3	10	
Thallium	A	3.6033	3.1083	5000	4517	ug/L	-10	10	
Vanadium	A	272.33	274.88	5000	4828	ug/L	-3	10	
Zinc	A	87.974	82.897	5000	4576	ug/L	-8	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	11846122	-4.99

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096179 File : met09_sn_0816 Time : 07-OCT-2016 16:03
Cal : 96405096001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12213063	-2.04

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96405655

Instrument : MET09 Begun : 10/07/16 16:55
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_0816	ICALBLK				10/07/16 16:55	1.0		
002	met09_sn_0816	ICAL	L1			10/07/16 16:58	1.0	1	
003	met09_sn_0816	ICAL	L2			10/07/16 17:00	1.0	2	
004	met09_sn_0816	ICAL	L3			10/07/16 17:02	1.0	3	
005	met09_sn_0816	ICAL	L4			10/07/16 17:04	1.0	4	
006	met09_sn_0816	ICAL	L5			10/07/16 17:06	1.0	5	
007	met09_sn_0816	XICV				10/07/16 17:08	1.0	6	
008	met09_sn_0816	ICV				10/07/16 17:09	1.0	6	
009	met09_sn_0816	XCRI				10/07/16 17:10	1.0	7	
010	met09_sn_0816	CRI				10/07/16 17:12	1.0	7	
011	met09_sn_0816	XICB				10/07/16 17:15	1.0		
012	met09_sn_0816	ICB				10/07/16 17:18	1.0		
013	met09_sn_0816	ICSA				10/07/16 17:20	1.0	8	10:AL=510000
014	met09_sn_0816	XICSAB				10/07/16 17:44	1.0	9	
015	met09_sn_0816	ICSAB				10/07/16 18:11	1.0	9	5:AL=520000
016	met09_sn_0816	X	RINSE			10/07/16 18:24	1.0		
017	met09_sn_0816	MSS	281460-001	Soil	239837	10/07/16 18:26	1.0		
018	met09_sn_0816	SAMPLE	281460-005	Soil	239837	10/07/16 18:29	1.0		5:FE=380000
019	met09_sn_0816	SAMPLE	281516-023	Soil	239887	10/07/16 18:31	1.0		4:FE=320000
020	met09_sn_0816	SAMPLE	281160-018	Air	239724	10/07/16 18:33	1.0		3:BA=51000
021	met09_sn_0816	SAMPLE	281160-020	Air	239724	10/07/16 18:36	1.0		4:NA=110000
022	met09_sn_0816	SAMPLE	281160-023	Air	239766	10/07/16 18:39	1.0		
023	met09_sn_0816	SAMPLE	281160-034	Air	239766	10/07/16 18:42	1.0		5:NA=120000
024	met09_sn_0816	X	RINSE			10/07/16 18:45	1.0		
025	met09_sn_0816	BLANK	QC853618	Water	239635	10/07/16 18:47	1.0		
026	met09_sn_0816	CCV				10/07/16 18:50	1.0	10	
027	met09_sn_0816	CCB				10/07/16 18:52	1.0		
028	met09_sn_0816	CCB				10/07/16 18:54	1.0		
029	met09_sn_0816	BS	QC853619	Water	239635	10/07/16 18:56	1.0		
030	met09_sn_0816	BSD	QC853620	Water	239635	10/07/16 18:58	1.0		
031	met09_sn_0816	MS	QC853621	Water	239635	10/07/16 19:01	1.0		1:CA=110000
032	met09_sn_0816	MSD	QC853622	Water	239635	10/07/16 19:03	1.0		1:CA=110000
033	met09_sn_0816	X	RINSE			10/07/16 19:05	1.0		
034	met09_sn_0816	BLANK	QC854543	Water	239872	10/07/16 19:08	1.0		
035	met09_sn_0816	BS	QC854544	Water	239872	10/07/16 19:10	1.0		
036	met09_sn_0816	BSD	QC854545	Water	239872	10/07/16 19:13	1.0		
037	met09_sn_0816	MSS	281794-003	Water	239872	10/07/16 19:15	1.0		
038	met09_sn_0816	MS	QC854546	Water	239872	10/07/16 19:17	1.0		
039	met09_sn_0816	CCV				10/07/16 19:20	1.0	10	
040	met09_sn_0816	CCB				10/07/16 19:22	1.0		
041	met09_sn_0816	CCV				10/07/16 19:25	1.0	10	
042	met09_sn_0816	CCB				10/07/16 19:27	1.0		
043	met09_sn_0816	MSD	QC854547	Water	239872	10/07/16 19:29	1.0		
044	met09_sn_0816	SER	QC854548	Water	239872	10/07/16 19:32	5.0		
045	met09_sn_0816	PDS	QC854549	Water	239872	10/07/16 19:34	1.0	11 12 13	
046	met09_sn_0816	SAMPLE	281534-001	Water	239872	10/07/16 19:36	1.0		
047	met09_sn_0816	SAMPLE	281535-001	Water	239872	10/07/16 19:39	1.0		
048	met09_sn_0816	SAMPLE	281646-017	Water	239872	10/07/16 19:41	1.0		1:NA=160000
049	met09_sn_0816	SAMPLE	281658-005	Water	239872	10/07/16 19:43	1.0		3:MG=200000
050	met09_sn_0816	SAMPLE	281724-001	Water	239872	10/07/16 19:47	1.0		
051	met09_sn_0816	SAMPLE	281767-001	Water	239872	10/07/16 19:49	1.0		5:NA=330000
052	met09_sn_0816	SAMPLE	281767-002	Water	239872	10/07/16 19:51	1.0		4:CA=220000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96405655

Instrument : MET09 Begun : 10/07/16 16:55
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_0816	CCV				10/07/16 19:54	1.0	10	
054	met09_sn_0816	CCB				10/07/16 19:56	1.0		
055	met09_sn_0816	CCB				10/07/16 19:58	1.0		
056	met09_sn_0816	SAMPLE	281767-003	Water	239872	10/07/16 20:01	1.0		3:CA=390000
057	met09_sn_0816	SAMPLE	281773-001	Water	239872	10/07/16 20:04	1.0		3:CA=500000
058	met09_sn_0816	SAMPLE	281773-002	Water	239872	10/07/16 20:07	1.0		3:CA=550000
059	met09_sn_0816	SAMPLE	281773-003	Water	239872	10/07/16 20:10	1.0		3:CA=790000
060	met09_sn_0816	SAMPLE	281773-005	Water	239872	10/07/16 20:13	1.0		5:NA=510000
061	met09_sn_0816	SAMPLE	281773-006	Water	239872	10/07/16 20:16	1.0		5:NA=510000
062	met09_sn_0816	SAMPLE	281773-007	Water	239872	10/07/16 20:20	1.0		
063	met09_sn_0816	SAMPLE	281828-001	Water	239872	10/07/16 20:22	1.0		4:CA=380000
064	met09_sn_0816	SAMPLE	281828-002	Water	239872	10/07/16 20:25	1.0		3:CA=620000
065	met09_sn_0816	SAMPLE	281828-003	Water	239872	10/07/16 20:28	1.0		
066	met09_sn_0816	CCV				10/07/16 20:31	1.0	10	
067	met09_sn_0816	CCB				10/07/16 20:33	1.0		
068	met09_sn_0816	CCB				10/07/16 20:35	1.0		
069	met09_sn_0816	SAMPLE	281829-001	Water	239872	10/07/16 20:37	1.0		3:CA=330000
070	met09_sn_0816	CCV				10/07/16 20:40	1.0	10	
071	met09_sn_0816	CCB				10/07/16 20:42	1.0		
072	met09_sn_0816	X	RINSE			10/07/16 21:18	1.0		
073	met09_sn_0816	BLANK	QC854757	Water	239927	10/07/16 21:21	1.0		
074	met09_sn_0816	BS	QC854758	Water	239927	10/07/16 21:23	1.0		
075	met09_sn_0816	BSD	QC854759	Water	239927	10/07/16 21:25	1.0		
076	met09_sn_0816	MSS	281773-004	Water	239927	10/07/16 21:28	1.0		3:CA=580000
077	met09_sn_0816	MS	QC854760	Water	239927	10/07/16 21:31	1.0		
078	met09_sn_0816	MSD	QC854761	Water	239927	10/07/16 21:34	1.0		
079	met09_sn_0816	SAMPLE	281791-001	Water	239927	10/07/16 21:37	1.0		1:NA=490000
080	met09_sn_0816	SAMPLE	281791-002	Water	239927	10/07/16 21:40	1.0		3:CA=380000
081	met09_sn_0816	SAMPLE	281791-003	Water	239927	10/07/16 21:43	1.0		3:CA=410000
082	met09_sn_0816	CCV				10/07/16 21:46	1.0	10	
083	met09_sn_0816	CCB				10/07/16 21:48	1.0		
084	met09_sn_0816	SAMPLE	281791-004	Water	239927	10/07/16 21:50	1.0		3:CA=470000
085	met09_sn_0816	SAMPLE	281791-005	Water	239927	10/07/16 21:53	1.0		3:CA=530000
086	met09_sn_0816	SAMPLE	281791-006	Water	239927	10/07/16 21:56	1.0		2:CA=260000
087	met09_sn_0816	SAMPLE	281843-001	Water	239927	10/07/16 21:59	1.0		
088	met09_sn_0816	SAMPLE	281849-001	Water	239927	10/07/16 22:02	1.0		5:CA=210000
089	met09_sn_0816	SAMPLE	281865-001	Water	239927	10/07/16 22:04	1.0		
090	met09_sn_0816	SAMPLE	281865-002	Water	239927	10/07/16 22:06	1.0		
091	met09_sn_0816	SAMPLE	281865-003	Water	239927	10/07/16 22:09	1.0		
092	met09_sn_0816	X	RINSE			10/07/16 22:11	1.0		
093	met09_sn_0816	BLANK	QC854816	Soil	239937	10/07/16 22:13	1.0		
094	met09_sn_0816	CCV				10/07/16 22:16	1.0	10	
095	met09_sn_0816	CCB				10/07/16 22:18	1.0		
096	met09_sn_0816	BS	QC854817	Soil	239937	10/07/16 22:20	1.0		
097	met09_sn_0816	BSD	QC854818	Soil	239937	10/07/16 22:22	1.0		
098	met09_sn_0816	MSS	281646-001	Soil	239937	10/07/16 22:23	1.0		6:FE=600000
099	met09_sn_0816	MS	QC854819	Soil	239937	10/07/16 22:25	1.0		
100	met09_sn_0816	MSD	QC854820	Soil	239937	10/07/16 22:27	1.0		
101	met09_sn_0816	SAMPLE	281646-002	Soil	239937	10/07/16 22:30	1.0		5:FE=620000
102	met09_sn_0816	SAMPLE	281646-004	Soil	239937	10/07/16 22:32	1.0		6:FE=670000
103	met09_sn_0816	SAMPLE	281646-005	Soil	239937	10/07/16 22:34	1.0		5:FE=750000
104	met09_sn_0816	SAMPLE	281646-007	Soil	239937	10/07/16 22:36	1.0		6:FE=600000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96405655

Instrument : MET09 Begun : 10/07/16 16:55
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met09_sn_0816	SAMPLE	281646-008	Soil	239937	10/07/16 22:38	1.0		6:FE=510000
106	met09_sn_0816	CCV				10/07/16 22:40	1.0	10	
107	met09_sn_0816	CCB				10/07/16 22:43	1.0		
108	met09_sn_0816	SAMPLE	281646-011	Soil	239937	10/07/16 22:45	1.0		6:FE=570000
109	met09_sn_0816	SAMPLE	281646-012	Soil	239937	10/07/16 22:47	1.0		5:FE=600000
110	met09_sn_0816	SAMPLE	281725-001	Soil	239937	10/07/16 22:49	1.0		5:FE=410000
111	met09_sn_0816	SAMPLE	281725-002	Soil	239937	10/07/16 22:51	1.0		5:CA=1200000
112	met09_sn_0816	SAMPLE	281725-003	Soil	239937	10/07/16 22:54	1.0		5:FE=360000
113	met09_sn_0816	SAMPLE	281725-004	Soil	239937	10/07/16 22:56	1.0		5:FE=470000
114	met09_sn_0816	SAMPLE	281756-001	Soil	239937	10/07/16 22:58	1.0		4:FE=430000
115	met09_sn_0816	SAMPLE	281788-001	Soil	239937	10/07/16 23:00	1.0		7:CA=790000
116	met09_sn_0816	SAMPLE	281788-002	Soil	239937	10/07/16 23:02	1.0		7:CA=740000
117	met09_sn_0816	SAMPLE	281851-001	Soil	239937	10/07/16 23:04	1.0		2:FE=170000
118	met09_sn_0816	CCV				10/07/16 23:06	1.0	10	
119	met09_sn_0816	CCB				10/07/16 23:08	1.0		
120	met09_sn_0816	SAMPLE	281852-001	Soil	239937	10/07/16 23:11	1.0		1:FE=240000
121	met09_sn_0816	SAMPLE	281893-001	Soil	239937	10/07/16 23:13	1.0		5:FE=390000
122	met09_sn_0816	X	RINSE			10/07/16 23:15	1.0		
123	met09_sn_0816	SAMPLE	281321-002	Filtrate	239702	10/07/16 23:18	1.0		2:MG=190000
124	met09_sn_0816	SAMPLE	281321-003	Filtrate	239702	10/07/16 23:21	1.0		2:MG=180000
125	met09_sn_0816	SAMPLE	281321-004	Filtrate	239702	10/07/16 23:24	1.0		4:MG=590000

MNA 10/07/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 57.

Standards used: 1=S30721 2=S31085 3=S31084 4=S31086 5=S30418 6=S30836 7=S30723 8=S31001 9=S31075 10=S30837 11=S29983 12=S29984 13=S30560

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96405655

Date : 10/07/16 Reference : met09_sn_0816
Sequence : MET09 10/07/16 Analyzed : 10/07/16 16:58

#	Type	Sample ID	Y A
		ICAL STD	12584080
		LOWER LIMIT	3775224
		UPPER LIMIT	25168160
012	ICB		12530929
013	ICSA		11629862
015	ICSAB		11561384
017	MSS	281460-001	15583276
018	SAMPLE	281460-005	12390029
019	SAMPLE	281516-023	12224439
020	SAMPLE	281160-018	12531014
021	SAMPLE	281160-020	12520880
022	SAMPLE	281160-023	22009891
023	SAMPLE	281160-034	12340742
025	BLANK	QC853618	12532301
026	CCV		12390299
027	CCB		12527826
028	CCB		12527272
029	BS	QC853619	12402863
030	BSD	QC853620	12281942
031	MS	QC853621	12493069
032	MSD	QC853622	12353125
034	BLANK	QC854543	12703536
035	BS	QC854544	12652121
036	BSD	QC854545	12355594
037	MSS	281794-003	12399058
038	MS	QC854546	12052066
039	CCV		12284105
040	CCB		12822320
041	CCV		12402462
042	CCB		12672803
043	MSD	QC854547	12456646
044	SER	QC854548	12534030
045	PDS	QC854549	12597099
046	SAMPLE	281534-001	12397915
047	SAMPLE	281535-001	12478088
048	SAMPLE	281646-017	12325179
049	SAMPLE	281658-005	11881234
050	SAMPLE	281724-001	12518583
051	SAMPLE	281767-001	12055773
052	SAMPLE	281767-002	11647366
053	CCV		12252797
054	CCB		12493074
055	CCB		12682921
056	SAMPLE	281767-003	11328606
057	SAMPLE	281773-001	11572655
058	SAMPLE	281773-002	11515008
059	SAMPLE	281773-003	11456903
060	SAMPLE	281773-005	11957887
061	SAMPLE	281773-006	11961527
062	SAMPLE	281773-007	12448108
063	SAMPLE	281828-001	11690251

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96405655

Date : 10/07/16 Reference : met09_sn_0816
Sequence : MET09 10/07/16 Analyzed : 10/07/16 16:58

#	Type	Sample ID	Y A
064	SAMPLE	281828-002	11300275
065	SAMPLE	281828-003	12721934
066	CCV		12375168
067	CCB		12567727
068	CCB		12509976
069	SAMPLE	281829-001	11565073
070	CCV		12397911
071	CCB		12698658
073	BLANK	QC854757	12682986
074	BS	QC854758	12774525
075	BSD	QC854759	12553413
076	MSS	281773-004	11687352
077	MS	QC854760	11582295
078	MSD	QC854761	11669525
079	SAMPLE	281791-001	12300078
080	SAMPLE	281791-002	11594985
081	SAMPLE	281791-003	11695218
082	CCV		12577053
083	CCB		12583250
084	SAMPLE	281791-004	11532821
085	SAMPLE	281791-005	11323948
086	SAMPLE	281791-006	11719155
088	SAMPLE	281849-001	12119572
089	SAMPLE	281865-001	12622506
090	SAMPLE	281865-002	12946826
091	SAMPLE	281865-003	12854295
093	BLANK	QC854816	12990754
094	CCV		12402942
095	CCB		12560222
096	BS	QC854817	12655937
097	BSD	QC854818	12597158
098	MSS	281646-001	12335019
099	MS	QC854819	12255338
100	MSD	QC854820	12184408
101	SAMPLE	281646-002	12318874
102	SAMPLE	281646-004	12418512
103	SAMPLE	281646-005	12600698
104	SAMPLE	281646-007	12298417
105	SAMPLE	281646-008	12465894
106	CCV		12345316
107	CCB		12396096
108	SAMPLE	281646-011	12608372
109	SAMPLE	281646-012	12433337
110	SAMPLE	281725-001	12334851
111	SAMPLE	281725-002	12060657
112	SAMPLE	281725-003	12411980
113	SAMPLE	281725-004	12184718
114	SAMPLE	281756-001	12566636
115	SAMPLE	281788-001	12316279
116	SAMPLE	281788-002	12253572
117	SAMPLE	281851-001	12487202
118	CCV		12289756

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96405655

Date : 10/07/16 Reference : met09_sn_0816
Sequence : MET09 10/07/16 Analyzed : 10/07/16 16:58

#	Type	Sample ID	Y A
119	CCB		12565224
120	SAMPLE	281852-001	12487398
121	SAMPLE	281893-001	12650092

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281460 METALS Soil: EPA 6010B

Inst : MET09
Calnum : 96405655001
Units : ug/L

Date : 07-OCT-2016 16:55
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_0816	96405655002	L1	07-OCT-2016 16:58	S30721
L2	met09_sn_0816	96405655003	L2	07-OCT-2016 17:00	S31085
L3	met09_sn_0816	96405655004	L3	07-OCT-2016 17:02	S31084
L4	met09_sn_0816	96405655005	L4	07-OCT-2016 17:04	S31086
L5	met09_sn_0816	96405655006	L5	07-OCT-2016 17:06	S30418

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	2.7700	3.2400	3.1359	3.2593		LOR0	0.00000	0.30693		3.1013	1.000	0.995	
Arsenic	A	4.2000	2.6520	2.5659	2.6548		LOR0	0.00000	0.37680		3.0182	1.000	0.995	
Barium	A	95.680	94.172	90.981	92.479		LOR0	0.00000	0.01081		93.328	1.000	0.995	
Beryllium	A	7729.6	7272.8	7349.8			LOR0	0.00000	1.36E-4		7450.7	1.000	0.995	
Cadmium	A	180.18	178.90	174.20	173.60		LOR0	0.00000	0.00576		176.72	1.000	0.995	
Chromium	A	252.36	230.12	224.86	229.88		LOR0	0.00000	0.00435		234.30	1.000	0.995	
Cobalt	A	46.500	46.301	44.992	45.923		LOR0	0.00000	0.02178		45.929	1.000	0.995	
Copper	A	203.28	389.66	383.25	390.64		LOR0	0.00000	0.00256		341.71	1.000	0.995	
Lead	A	24.240	20.954	20.261	20.414		LOR0	0.00000	0.04899		21.467	1.000	0.995	
Molybdenum	A	27.740	27.137	26.109	26.780		LOR0	0.00000	0.03735		26.942	1.000	0.995	
Nickel	A	111.06	125.30	122.91	125.78		LOR0	0.00000	0.00795		121.26	1.000	0.995	
Selenium	A	3.7500	3.6440	3.5126	3.6876		LOR0	0.00000	0.27131		3.6485	1.000	0.995	
Silver	A	61.820	84.915	88.154	91.645		LOR0	0.00000	0.01092		81.634	1.000	0.995	
Thallium	A	4.2300	3.2180	3.0461	3.0769		LOR0	0.00000	0.32503		3.3928	1.000	0.995	
Vanadium	A	282.04	264.65	258.53	267.15		LOR0	0.00000	0.00374		268.09	1.000	0.995	
Zinc	A	84.430	79.437	75.857	77.848		LOR0	0.00000	0.01285		79.393	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	-15	100.00	-1	1000.0	-4	10000	0		
Arsenic	A	5.0000	**58**	100.00	0	1000.0	-3	10000	0		
Barium	A	5.0000	3	100.00	2	1000.0	-2	10000	0		
Beryllium	A	2.0000	5	100.00	-1	1000.0	0				
Cadmium	A	5.0000	4	100.00	3	1000.0	0	10000	0		
Chromium	A	5.0000	10	100.00	0	1000.0	-2	10000	0		
Cobalt	A	5.0000	1	100.00	1	1000.0	-2	10000	0		
Copper	A	5.0000	**-48**	100.00	0	1000.0	-2	10000	0		
Lead	A	5.0000	19	100.00	3	1000.0	-1	10000	0		
Molybdenum	A	5.0000	4	100.00	1	1000.0	-2	10000	0		
Nickel	A	5.0000	-12	100.00	0	1000.0	-2	10000	0		
Selenium	A	10.000	2	100.00	-1	1000.0	-5	10000	0		
Silver	A	5.0000	**-33**	20.000	-7	200.00	-4	2000.0	0		
Thallium	A	10.000	**37**	100.00	5	1000.0	-1	10000	0		
Vanadium	A	5.0000	6	100.00	-1	1000.0	-3	10000	0		
Zinc	A	20.000	8	100.00	2	1000.0	-3	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281460 METALS Soil
EPA 6010B

Inst : MET09
Calnum : 96405655001 Cal Date : 07-OCT-2016

ICV 96405655008 (07-OCT-2016) stds: S30836

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	4982	ug/L	0	10	
Arsenic	A	5000	5059	ug/L	1	10	
Barium	A	5000	5096	ug/L	2	10	
Beryllium	A	500.0	528.6	ug/L	6	10	
Cadmium	A	5000	5191	ug/L	4	10	
Chromium	A	5000	5118	ug/L	2	10	
Cobalt	A	5000	5042	ug/L	1	10	
Copper	A	5000	5060	ug/L	1	10	
Lead	A	5000	5139	ug/L	3	10	
Molybdenum	A	5000	5073	ug/L	1	10	
Nickel	A	5000	5079	ug/L	2	10	
Selenium	A	5000	5035	ug/L	1	10	
Silver	A	1000	1008	ug/L	1	10	
Thallium	A	5000	4946	ug/L	-1	10	
Vanadium	A	5000	5097	ug/L	2	10	
Zinc	A	5000	5132	ug/L	3	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405655012 File : met09_sn_0816 Time : 07-OCT-2016 17:18
Cal : 96405655001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12584080	12530929	-0.42

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405655013 File : met09_sn_0816 Time : 07-OCT-2016 17:20
Cal : 96405655001 Caldate : 07-OCT-2016
Standards: S31001

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[-1.421]	10.00	ug/L	
Arsenic	A	[-2.584]	5.000	ug/L	
Barium	A	[0.5880]	5.000	ug/L	
Beryllium	A	[0.3828]	2.000	ug/L	
Cadmium	A	[1.523]	5.000	ug/L	
Cobalt	A	[0.4644]	5.000	ug/L	
Lead	A	[-3.437]	5.000	ug/L	
Molybdenum	A	[-0.04068]	5.000	ug/L	
Selenium	A	[6.843]	10.00	ug/L	
Silver	A	[2.526]	5.000	ug/L	
Thallium	A	[9.759]	10.00	ug/L	
Zinc	A	[9.992]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec	Flags
Chromium	A	20000	20120	ug/L	101	
Copper	A	20000	21140	ug/L	106	
Manganese	A	20000	19810	ug/L	99	
Nickel	A	20000	19660	ug/L	98	
Vanadium	A	20000	20670	ug/L	103	
Aluminum	R	500000	511600	ug/L	102	
Calcium	R	500000	496700	ug/L	99	
Iron	R	200000	201500	ug/L	101	
Magnesium	R	500000	510600	ug/L	102	
Titanium	R	20000	22100	ug/L	111	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12584080	11629862	-7.58

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405655015 File : met09_sn_0816 Time : 07-OCT-2016 18:11
Cal : 96405655001 Caldate : 07-OCT-2016
Standards: S31075

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	542.0	ug/L	8	20	
Arsenic	A	500.0	502.1	ug/L	0	20	
Barium	A	500.0	533.5	ug/L	7	20	
Beryllium	A	500.0	562.6	ug/L	13	20	
Cadmium	A	1000	1079	ug/L	8	20	
Chromium	A	500.0	519.0	ug/L	4	20	
Cobalt	A	500.0	502.3	ug/L	0	20	
Copper	A	500.0	495.7	ug/L	-1	20	
Lead	A	1000	967.7	ug/L	-3	20	
Molybdenum	A	500.0	529.3	ug/L	6	20	
Nickel	A	1000	1026	ug/L	3	20	
Selenium	A	500.0	490.4	ug/L	-2	20	
Silver	A	1000	1102	ug/L	10	20	
Thallium	A	500.0	535.7	ug/L	7	20	
Vanadium	A	500.0	555.1	ug/L	11	20	
Zinc	A	1000	1057	ug/L	6	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12584080	11561384	-8.13

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405655026 File : met09_sn_0816 Time : 07-OCT-2016 18:50
Cal : 96405655001 Caldate : 07-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	3.1013	3.2077	5000	4923	ug/L	-2	10	
Arsenic	A	3.0182	2.6852	5000	5059	ug/L	1	10	
Barium	A	93.328	93.239	5000	5042	ug/L	1	10	
Beryllium	A	7450.7	7709.8	500.0	524.5	ug/L	5	10	
Cadmium	A	176.72	178.84	5000	5151	ug/L	3	10	
Chromium	A	234.30	230.39	5000	5012	ug/L	0	10	
Cobalt	A	45.929	44.505	5000	4847	ug/L	-3	10	
Copper	A	341.71	387.78	5000	4964	ug/L	-1	10	
Lead	A	21.467	20.176	5000	4942	ug/L	-1	10	
Molybdenum	A	26.942	26.836	5000	5012	ug/L	0	10	
Nickel	A	121.26	126.09	5000	5013	ug/L	0	10	
Selenium	A	3.6485	3.7460	5000	5082	ug/L	2	10	
Silver	A	81.634	90.467	1000	987.5	ug/L	-1	10	
Thallium	A	3.3928	3.0637	5000	4979	ug/L	0	10	
Vanadium	A	268.09	267.27	5000	5004	ug/L	0	10	
Zinc	A	79.393	79.388	5000	5100	ug/L	2	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12584080	12390299	-1.54

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405655027 File : met09_sn_0816 Time : 07-OCT-2016 18:52
Cal : 96405655001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12584080	12527826	-0.45

SAMPLE PREPARATION SUMMARY

Batch # : 239837
Started By : RLG
Method : 3050B
Spike #1 ID : S30743

Prep Date : 05-OCT-2016 14:15
Spike #2 ID : S30742

Analysis : ICP
Finished By : RLG
Units : g
Spike #3 ID : S30560

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
281460-001		Soil	1.04	50	1	48.08						6010	
281460-002		Soil	1.05	50	1	47.62						6010	
281460-003		Soil	.91	50	1	54.95						6010	
281460-004		Soil	1.03	50	1	48.54						6010	
281460-005		Soil	1.06	50	1	47.17						6010	
281460-006		Soil	1.07	50	1	46.73						6010	
281460-007		Soil	.95	50	1	52.63						6010	
281460-008		Soil	.94	50	1	53.19						6010	
281460-009		Soil	.94	50	1	53.19						6010	
281460-010		Soil	1.07	50	1	46.73						6010	
281460-011		Soil	1.06	50	1	47.17						6010	
281460-012		Soil	.98	50	1	51.02						6010	
281460-013		Soil	.93	50	1	53.76						6010	
281460-014		Soil	.95	50	1	52.63						6010	
281460-015		Soil	.98	50	1	51.02						6010	
281460-016		Soil	.92	50	1	54.35						6010	
281460-017		Soil	.95	50	1	52.63						6010	
281460-018		Soil	1.07	50	1	46.73						6010	
281460-019		Soil	1	50	1	50.0						6010	
281460-020		Soil	1.1	50	1	45.45						6010	
QC854412	BLANK	Soil	.91	50	1	54.95							
QC854413	BS	Soil	.94	50	1	53.19		.5	.5	.5			
QC854414	BSD	Soil	.99	50	1	50.51		.5	.5	.5			
QC854415	MS	Soil	1	50	1	50.0		.5	.5	.5			
QC854416	MSD	Soil	.97	50	1	51.55		.5	.5	.5			
QC854417	SER	Soil	1	50	1	50.0							
QC854418	PDS	Soil	1	50	1	50.0							

Analyst: MNA Date: 10/06/16 Reviewer: _____ Date: _____

Soil Digestion for ICP & ICP-MS Curtis & Tompkins, Ltd. Version 11, Dec.2015

LIMS Batch #: 239837 Digestion Method: ☑ EPA 3050b ☐ _____ Time ON: 1415 Time OFF: 1715 BK3940 Page 31

Date Digested: 10/5/2016

Digested by: RLG

Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Filtered? (y/n)	ID ✓	Comments
BLANK		0.91	☑ 50 ☐ ____	Y	✓	QC854412
BS		0.94	☑ 50 ☐ ____		✓	QC854413
BSD		0.99	☑ 50 ☐ ____		✓	4
MS		1.00	☑ 50 ☐ ____		✓	5
MSD		0.97	☑ 50 ☐ ____		✓	6
281460-001	A	1.04	☑ 50 ☐ ____		✓	MSS
-002		1.05	☑ 50 ☐ ____		✓	
-003		0.91	☑ 50 ☐ ____		✓	
-004		1.03	☑ 50 ☐ ____		✓	
-005		1.06	☑ 50 ☐ ____		✓	
-006		1.07	☑ 50 ☐ ____		✓	
-007		0.95	☑ 50 ☐ ____		✓	
-008		0.94	☑ 50 ☐ ____		✓	
-009		0.94	☑ 50 ☐ ____		✓	
-010		1.07	☑ 50 ☐ ____		✓	
-011		1.06	☑ 50 ☐ ____		✓	
-012		0.98	☑ 50 ☐ ____		✓	
-013		0.93	☑ 50 ☐ ____		✓	
-014		0.95	☑ 50 ☐ ____		✓	
-015		0.98	☑ 50 ☐ ____		✓	
-016		0.92	☑ 50 ☐ ____		✓	
-017		0.95	☑ 50 ☐ ____		✓	
-018		1.07	☑ 50 ☐ ____		✓	
-019		1.00	☑ 50 ☐ ____		✓	
-020		1.10	☑ 50 ☐ ____		✓	

Balance ID: metals prep calibration has been checked? ☑ Yes ☐ No

	Reagent ID or LIMS #	Initials / Date
SCP Digestion tubes / ESS Watch glass, lot#	250653-0026 / 1512389-6149-NG	RLG 10/5/16
Blank 'matrix' lot#	S941-6H017	
0.5 mL of spike solution (Std1) was added to all spikes	S30743	
0.5 mL of spike solution (Std2) was added to all spikes	S30742	
0.5 mL of spike solution (Std3) was added to all spikes	S30560	
Digestion Block ID, Probe Location	TETON 5	
Temperature (°C), Thermometer ID	96° SN4153837	
1:1 HNO3 Reagent ID	JTB140712	
concentrated HNO3 lot#	JTB140712	
3mL 30% hydrogen peroxide lot#	FS161509	
concentrated HCl lot#	JTB140285	
☑ filtered thru' Whatman 541, lot#	9738694	
Relinquished to ICP group	ICP	

Date	ettes	l.(mL)	ID
16		5	N27150D
		5	2916708
		1	
		5	

10/5/16

Digestion Chemist / Date

Continued from page 0

Continued on page _____

Reviewed Online/ See LIMS

Mercury Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1066392392

Instrument : MET44 Begun : 09/28/16 11:52
Method : EPA 7470A SOP Version : hg_water_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met44	ICALBLK				09/28/16 11:52	1.0		
002	met44	ICAL	ICAL1			09/28/16 11:53	1.0	1	
003	met44	ICAL	ICAL2			09/28/16 11:54	1.0	1	
004	met44	ICAL	ICAL3			09/28/16 11:55	1.0	1	
005	met44	ICAL	ICAL4			09/28/16 11:56	1.0	1	
006	met44	ICAL	ICAL5			09/28/16 11:57	1.0	1	
007	met44	ICV				09/28/16 11:59	1.0	2	
008	met44	ICB				09/28/16 12:00	1.0		
009	met44	BLANK	QC853387	Miscell.	239575	09/28/16 12:01	1.0		
010	met44	LCS	QC853388	Miscell.	239575	09/28/16 12:02	1.0		1:HG=22
011	met44	MSS	280136-001	Miscell.	239575	09/28/16 12:03	1.0		
012	met44	MS	QC853389	Miscell.	239575	09/28/16 12:05	1.0		1:HG=25
013	met44	MSD	QC853390	Miscell.	239575	09/28/16 12:06	1.0		1:HG=22
014	met44	CCV				09/28/16 12:13	1.0	3	
015	met44	CCB				09/28/16 12:14	1.0		
016	met44	BLANK	QC853391	Soil	239576	09/28/16 12:15	1.0		
017	met44	BS	QC853392	Soil	239576	09/28/16 12:16	1.0		
018	met44	BSD	QC853393	Soil	239576	09/28/16 12:17	1.0		
019	met44	MSS	281459-001	Soil	239576	09/28/16 12:18	1.0		
020	met44	MS	QC853394	Soil	239576	09/28/16 12:20	1.0		
021	met44	MSD	QC853395	Soil	239576	09/28/16 12:21	1.0		1:HG=10
022	met44	SAMPLE	281465-001	Soil	239576	09/28/16 12:22	1.0		
023	met44	SAMPLE	281477-001	Soil	239576	09/28/16 12:23	1.0		
024	met44	SAMPLE	281328-001	Miscell.	239576	09/28/16 12:24	1.0		
025	met44	SAMPLE	281329-001	Miscell.	239576	09/28/16 12:26	1.0		
026	met44	XCCV				09/28/16 12:27	1.0	3	
027	met44	CCV				09/28/16 12:29	1.0	3	
028	met44	CCB				09/28/16 12:30	1.0		
029	met44	SAMPLE	281330-001	Miscell.	239576	09/28/16 12:31	1.0		
030	met44	SAMPLE	281331-001	Miscell.	239576	09/28/16 12:33	1.0		
031	met44	SAMPLE	281459-002	Soil	239576	09/28/16 12:34	1.0		
032	met44	SAMPLE	281459-003	Soil	239576	09/28/16 12:35	1.0		
033	met44	SAMPLE	281459-004	Soil	239576	09/28/16 12:36	1.0		
034	met44	SAMPLE	281459-005	Soil	239576	09/28/16 12:37	1.0		
035	met44	SAMPLE	281459-006	Soil	239576	09/28/16 12:38	1.0		
036	met44	SAMPLE	281459-007	Soil	239576	09/28/16 12:39	1.0		
037	met44	SAMPLE	281459-008	Soil	239576	09/28/16 12:40	1.0		
038	met44	SAMPLE	281459-009	Soil	239576	09/28/16 12:41	1.0		
039	met44	CCV				09/28/16 12:43	1.0	3	
040	met44	CCB				09/28/16 12:44	1.0		
041	met44	SAMPLE	281459-010	Soil	239576	09/28/16 12:45	1.0		
042	met44	SAMPLE	281459-011	Soil	239576	09/28/16 12:46	1.0		
043	met44	SAMPLE	281459-012	Soil	239576	09/28/16 12:47	1.0		
044	met44	SAMPLE	281459-013	Soil	239576	09/28/16 12:48	1.0		
045	met44	SAMPLE	281459-014	Soil	239576	09/28/16 12:49	1.0		
046	met44	X	RINSE			09/28/16 12:51	1.0		
047	met44	BLANK	QC853396	Soil	239577	09/28/16 12:53	1.0		
048	met44	BS	QC853397	Soil	239577	09/28/16 12:54	1.0		
049	met44	BSD	QC853398	Soil	239577	09/28/16 12:55	1.0		
050	met44	CCV				09/28/16 12:56	1.0	3	
051	met44	CCB				09/28/16 12:57	1.0		
052	met44	MSS	281460-001	Soil	239577	09/28/16 12:58	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1066392392

Instrument : MET44 Begun : 09/28/16 11:52
Method : EPA 7470A SOP Version : hg_water_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met44	MS	QC853399	Soil	239577	09/28/16 12:59	1.0		
054	met44	MSD	QC853400	Soil	239577	09/28/16 13:01	1.0		
055	met44	SER	QC853401	Soil	239577	09/28/16 13:02	5.0		
056	met44	SAMPLE	281460-002	Soil	239577	09/28/16 13:03	1.0		
057	met44	SAMPLE	281460-003	Soil	239577	09/28/16 13:04	1.0		
058	met44	SAMPLE	281460-004	Soil	239577	09/28/16 13:05	1.0		
059	met44	SAMPLE	281460-005	Soil	239577	09/28/16 13:06	1.0		
060	met44	SAMPLE	281460-006	Soil	239577	09/28/16 13:07	1.0		
061	met44	SAMPLE	281460-007	Soil	239577	09/28/16 13:08	1.0		
062	met44	CCV				09/28/16 13:10	1.0	3	
063	met44	CCB				09/28/16 13:11	1.0		
064	met44	SAMPLE	281460-008	Soil	239577	09/28/16 13:12	1.0		
065	met44	SAMPLE	281460-009	Soil	239577	09/28/16 13:13	1.0		
066	met44	SAMPLE	281460-010	Soil	239577	09/28/16 13:14	1.0		
067	met44	SAMPLE	281460-011	Soil	239577	09/28/16 13:15	1.0		
068	met44	SAMPLE	281460-012	Soil	239577	09/28/16 13:16	1.0		
069	met44	SAMPLE	281460-013	Soil	239577	09/28/16 13:18	1.0		
070	met44	SAMPLE	281460-014	Soil	239577	09/28/16 13:19	1.0		
071	met44	SAMPLE	281460-015	Soil	239577	09/28/16 13:20	1.0		
072	met44	SAMPLE	281460-016	Soil	239577	09/28/16 13:21	1.0		
073	met44	SAMPLE	281460-017	Soil	239577	09/28/16 13:22	1.0		
074	met44	CCV				09/28/16 13:23	1.0	3	
075	met44	CCB				09/28/16 13:24	1.0		
076	met44	SAMPLE	281460-018	Soil	239577	09/28/16 13:25	1.0		
077	met44	SAMPLE	281460-019	Soil	239577	09/28/16 13:27	1.0		
078	met44	SAMPLE	281460-020	Soil	239577	09/28/16 13:28	1.0		
079	met44	MS	QC853394	Soil	239576	09/28/16 13:31	1.0		
080	met44	MSD	QC853395	Soil	239576	09/28/16 13:32	1.0		
081	met44	X	RINSE			09/28/16 13:33	1.0		
082	met44	SAMPLE	281465-001	Soil	239576	09/28/16 13:34	1.0		
083	met44	LCS	QC853388	Miscell.	239575	09/28/16 13:35	50.0		
084	met44	CCV				09/28/16 13:36	1.0	3	
085	met44	CCB				09/28/16 13:38	1.0		
086	met44	X	RINSE			09/28/16 13:39	1.0		
087	met44	MS	QC853389	Miscell.	239575	09/28/16 13:40	50.0		
088	met44	MSD	QC853390	Miscell.	239575	09/28/16 13:41	50.0		
089	met44	X	RINSE			09/28/16 13:42	1.0		
090	met44	MS	QC853394	Soil	239576	09/28/16 13:43	1.0		
091	met44	MSD	QC853395	Soil	239576	09/28/16 13:44	1.0		
092	met44	CCV				09/28/16 13:45	1.0	3	
093	met44	CCB				09/28/16 13:47	1.0		
094	met44	LCS	QC853388	Miscell.	239575	09/28/16 14:17	20.0		spk
095	met44	X	RINSE			09/28/16 14:18	1.0		
096	met44	MS	QC853389	Miscell.	239575	09/28/16 14:19	20.0		
097	met44	MSD	QC853390	Miscell.	239575	09/28/16 14:20	20.0		
098	met44	X	RINSE			09/28/16 14:21	1.0		
099	met44	LCS	QC853388	Miscell.	239575	09/28/16 14:22	20.0		
100	met44	X	RINSE			09/28/16 14:23	1.0		
101	met44	MS	QC853389	Miscell.	239575	09/28/16 14:24	20.0		
102	met44	MSD	QC853390	Miscell.	239575	09/28/16 14:25	20.0		
103	met44	X	RINSE			09/28/16 14:27	1.0		
104	met44	CCV				09/28/16 14:28	1.0	3	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1066392392

Instrument : MET44 Begun : 09/28/16 11:52
Method : EPA 7470A SOP Version : hg_water_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met44	CCB				09/28/16 14:29	1.0		
106	met44	MS	QC853394	Soil	239576	09/28/16 14:30	1.0		
107	met44	MSD	QC853395	Soil	239576	09/28/16 14:31	1.0		
108	met44	X	RINSE			09/28/16 14:32	1.0		
109	met44	MS	QC853394	Soil	239576	09/28/16 14:33	1.0		
110	met44	MSD	QC853395	Soil	239576	09/28/16 14:34	1.0		
111	met44	CCV				09/28/16 14:38	1.0	3	
112	met44	CCB				09/28/16 14:39	1.0		

LCS 09/28/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 93.

Standards used: 1=S31032 2=S31034 3=S31035

Flags used: spk=5% spike rule

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281460 METALS Soil: EPA 7470A

Inst : MET44
Calnum : 1066392392001
Units : ug/L

Date : 28-SEP-2016 11:52
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met44	1066392392002	ICAL1	28-SEP-2016 11:53	S31032 (500X)
L2	met44	1066392392003	ICAL2	28-SEP-2016 11:54	S31032 (200X)
L3	met44	1066392392004	ICAL3	28-SEP-2016 11:55	S31032 (50X)
L4	met44	1066392392005	ICAL4	28-SEP-2016 11:56	S31032 (20X)
L5	met44	1066392392006	ICAL5	28-SEP-2016 11:57	S31032 (10X)

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Mercury	0.0125	0.0144	0.0150	0.0150	0.0152	LIN0	0.03029	65.6606		0.0144	1.000	.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Mercury	0.2000	-3	0.5000	1	2.0000	0	5.0000	-1	10.000	0

Instrument amount = a0 + response * a1 + response^2 * a2; LIN0=Linear regression including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281460 METALS Soil
EPA 7470A

Inst : MET44
Calnum : 1066392392001 Cal Date : 28-SEP-2016

ICV 1066392392007 (28-SEP-2016) stds: S31034

Analyte	Spiked	Quant	Units	%D	Max	Flags
Mercury	5.000	5.172	ug/L	3	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066392392008 File : met44 Time : 28-SEP-2016 12:00
Cal : 1066392392001 Caldate : 28-SEP-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066392392039 File : met44 Time : 28-SEP-2016 12:43
Cal : 1066392392001 Caldate : 28-SEP-2016
Standards: S31035

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0144	0.0133	5.000	4.390	ug/L	-12	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066392392040 File : met44 Time : 28-SEP-2016 12:44
Cal : 1066392392001 Caldate : 28-SEP-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066392392050 File : met44 Time : 28-SEP-2016 12:56
Cal : 1066392392001 Caldate : 28-SEP-2016
Standards: S31035

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0144	0.0128	5.000	4.219	ug/L	-16	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066392392051 File : met44 Time : 28-SEP-2016 12:57
Cal : 1066392392001 Caldate : 28-SEP-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066392392062 File : met44 Time : 28-SEP-2016 13:10
Cal : 1066392392001 Caldate : 28-SEP-2016
Standards: S31035

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0144	0.0132	5.000	4.351	ug/L	-13	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066392392063 File : met44 Time : 28-SEP-2016 13:11
Cal : 1066392392001 Caldate : 28-SEP-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066392392074 File : met44 Time : 28-SEP-2016 13:23
Cal : 1066392392001 Caldate : 28-SEP-2016
Standards: S31035

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0144	0.0137	5.000	4.515	ug/L	-10	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066392392075 File : met44 Time : 28-SEP-2016 13:24
Cal : 1066392392001 Caldate : 28-SEP-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281460 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066392392084 File : met44 Time : 28-SEP-2016 13:36
Cal : 1066392392001 Caldate : 28-SEP-2016
Standards: S31035

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0144	0.0138	5.000	4.561	ug/L	-9	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281460 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066392392085 File : met44 Time : 28-SEP-2016 13:38
Cal : 1066392392001 Caldate : 28-SEP-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

SAMPLE PREPARATION SUMMARY

Batch # : 239577
Started By : LCS
Method : METHOD
Spike #1 ID : S31032

Prep Date : 28-SEP-2016 09:45

Analysis : HG
Finished By : LCS
Units : g

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
281460-001		Soil	.59	50	1	84.75						T22/HG	
281460-002		Soil	.58	50	1	86.21						T22/HG	
281460-003		Soil	.6	50	1	83.33						T22/HG	
281460-004		Soil	.65	50	1	76.92						T22/HG	
281460-005		Soil	.64	50	1	78.13						T22/HG	
281460-006		Soil	.59	50	1	84.75						T22/HG	
281460-007		Soil	.64	50	1	78.13						T22/HG	
281460-008		Soil	.6	50	1	83.33						T22/HG	
281460-009		Soil	.55	50	1	90.91						T22/HG	
281460-010		Soil	.6	50	1	83.33						T22/HG	
281460-011		Soil	.62	50	1	80.65						T22/HG	
281460-012		Soil	.61	50	1	81.97						T22/HG	
281460-013		Soil	.6	50	1	83.33						T22/HG	
281460-014		Soil	.65	50	1	76.92						T22/HG	
281460-015		Soil	.63	50	1	79.37						T22/HG	
281460-016		Soil	.65	50	1	76.92						T22/HG	
281460-017		Soil	.61	50	1	81.97						T22/HG	
281460-018		Soil	.61	50	1	81.97						T22/HG	
281460-019		Soil	.65	50	1	76.92						T22/HG	
281460-020		Soil	.59	50	1	84.75						T22/HG	
QC853396	BLANK	Soil	.65	50	1	76.92							
QC853397	BS	Soil	.62	50	1	80.65		1.25					
QC853398	BSD	Soil	.65	50	1	76.92		1.25					
QC853399	MS	Soil	.64	50	1	78.13		1.25					
QC853400	MSD	Soil	.65	50	1	76.92		1.25					
QC853401	SER	Soil	.59	50	1	84.75							

Analyst: LCS Date: 09/28/16 Reviewer: PRW Date: 09/28/16

Soil Digestion for Mercury

Curtis & Tompkins, Ltd.

LIMS Batch #: 239577

Digestion Method: ☒ EPA 7471A/ 7471B ☐ _____

BK3932

Date Digested: 9/28/16

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Sample #	container ID	Sample Weight (g)	Final Volume (mL)	Filtered? (y/n)	Comments
MB		.65	☒ 50 ☐ ____	y	
BS		.62	☒ 50 ☐ ____		
BSD		.65	☒ 50 ☐ ____		
MS		.64	☒ 50 ☐ ____		
MSD		.65	☒ 50 ☐ ____		
2814160-001	A	.59	☒ 50 ☐ ____		MSS
-002		.58	☒ 50 ☐ ____		
-003		.6	☒ 50 ☐ ____		
-004		.65	☒ 50 ☐ ____		
-005		.64	☒ 50 ☐ ____		
-006		.59	☒ 50 ☐ ____		
-007		.64	☒ 50 ☐ ____		
-008		.6	☒ 50 ☐ ____		
-009		.55	☒ 50 ☐ ____		
-010		.6	☒ 50 ☐ ____		
-011		.62	☒ 50 ☐ ____		
-012		.61	☒ 50 ☐ ____		
-013		.6	☒ 50 ☐ ____		
-014		.65	☒ 50 ☐ ____		
-015		.63	☒ 50 ☐ ____		
-016		.65	☒ 50 ☐ ____		
-017		.61	☒ 50 ☐ ____		
-018		.61	☒ 50 ☐ ____		
-019		.65	☒ 50 ☐ ____		
-020		.59	☒ 50 ☐ ____		

Balance ID: Hg calibration has been checked? ☒ Yes ☐ No

	Reagent ID/ LIMS# / Time	Initials / Date
Digestion Tubes, Lot #	EK162444	LJ 9/28
Blank/LCS 'matrix' ID	D1069103	
1.25 mL of spike standard was added to all spikes	S31032	
☒ CAL digested with this batch? ICAL Std S#	S31033	
ICV / CCV LIMS S#	S310324/S301035	
Digestion Temperature (°C), and Probe Location	101 / 20	
Digestion block ID	Denali	
Thermometer #	4155822	
Digestion Started at (time)	9:45	
Aqua Regia (HNO3+ HCl) Reagent ID	9.28.16	
5% $KMnO_4$ reagent ID	~~9.28.16~~ 9.23.16	LJ 9/28
NaCl.hydroxylamine hydrochloride Reagent ID	LJ 9/28 ~~9.28.16~~ 9.12.16	
Stannous Chloride Reagent ID	~~9.2.16~~ 9.28.16	
Digestion Completd at (time)	~~9.28.16~~	
☒ filtered thru' 0.45 um syringe filter (lot #)	S0000079103	

Pipettes

Vol.(mL)	ID
.1	J28153D
.25-1	G156936
1.25-5	L340785D
10-10	R229100

LCS 9/28/16

Prep Chemist / Date

Continued from page _____

Continued on page _____

Reviewed Online / See LIMS

Version 7, Dec.2015

Laboratory Job Number 281460

ANALYTICAL REPORT

Wet Chemistry

Matrix: Soil

Curtis & Tompkins, Ltd.

Moisture

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	ASTM D2216/CLP
Analyte:	Moisture, Percent	Batch#:	239622
Matrix:	Soil	Sampled:	09/26/16
Units:	%	Received:	09/26/16
Diln Fac:	1.000	Analyzed:	09/29/16

Field ID	Lab ID	Result	RL
HA-1	281460-001	7	1
HA-2	281460-002	8	1
HA-3	281460-003	9	1
HA-4	281460-004	10	1
HA-5	281460-005	9	1
HA-6	281460-006	8	1
HA-7	281460-007	8	1
HA-8	281460-008	9	1
HA-9	281460-009	14	1
HA-10	281460-010	14	1
HA-11	281460-011	9	1
HA-12	281460-012	8	1
HA-13	281460-013	10	1
HA-14	281460-014	10	1
HA-15	281460-015	11	1
HA-16	281460-016	8	1
HA-17	281460-017	13	1
HA-18	281460-018	10	1
HA-19	281460-019	9	1
HA-20	281460-020	11	1

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Moisture

Lab #:	281460	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	ASTM D2216/CLP
Analyte:	Moisture, Percent	Units:	%
Field ID:	HA-20	Diln Fac:	1.000
Type:	SDUP	Batch#:	239622
MSS Lab ID:	281460-020	Sampled:	09/26/16
Lab ID:	QC853572	Received:	09/26/16
Matrix:	Soil	Analyzed:	09/29/16

MSS Result	Result	RL	RPD	Lim
10.89	10.65	1.000	2	26

RL= Reporting Limit
RPD= Relative Percent Difference

Percent Moisture Summary Report

Batch: 239622
Date: 09/29/16
Method: CLP SOW 390
Analyst: MFV

Sample	Tare (g)	Wet (g)	Dry (g)	Percent Solids	Percent Moisture
281460-001	11.3561	17.1709	16.7895	93	7
281460-002	11.2931	17.6551	17.1502	92	8
281460-003	11.2027	17.6277	17.0212	91	9
281460-004	10.8875	17.3922	16.7263	90	10
281460-005	11.3762	17.0840	16.5682	91	9
281460-006	11.3027	17.7288	17.1832	92	8
281460-007	11.3622	16.5850	16.1521	92	8
281460-008	11.3681	17.1853	16.6500	91	9
281460-009	10.9715	17.1394	16.2756	86	14
281460-010	11.0441	16.7109	15.9371	86	14
281460-011	11.2470	16.8683	16.3816	91	9
281460-012	11.3640	16.5819	16.1416	92	8
281460-013	11.3270	17.0654	16.4647	90	10
281460-014	10.9993	16.5812	16.0267	90	10
281460-015	11.3168	17.1539	16.5119	89	11
281460-016	11.0655	17.2368	16.7154	92	8
281460-017	11.3281	18.0578	17.1931	87	13
281460-018	11.3152	17.3473	16.7207	90	10
281460-019	11.4212	17.0745	16.5841	91	9
281460-020	11.0216	17.5956	16.8796	89	11
QC853572	11.2670	17.7580	17.0666	89	11
of 281460-020			RPD:	0.3%	2.2%

Percent Moisture Summary Report

Batch: 239622
Date: 09/29/16
Method: CLP SOW 390
Analyst: MFV

Sample	Tare (g)	Wet (g)	Dry (g)	Percent Solids	Percent Moisture
281460-001	11.3561	17.1709	16.7895	93	7
281460-002	11.2931	17.6551	17.1502	92	8
281460-003	11.2027	17.6277	17.0212	91	9
281460-004	10.8875	17.3922	16.7263	90	10
281460-005	11.3762	17.0840	16.5682	91	9
281460-006	11.3027	17.7288	17.1832	92	8
281460-007	11.3622	16.5850	16.1521	92	8
281460-008	11.3681	17.1853	16.6500	91	9
281460-009	10.9715	17.1394	16.2756	86	14
281460-010	11.0441	16.7109	15.9371	86	14
281460-011	11.2470	16.8683	16.3816	91	9
281460-012	11.3640	16.5819	16.1416	92	8
281460-013	11.3270	17.0654	16.4647	90	10
281460-014	10.9993	16.5812	16.0267	90	10
281460-015	11.3168	17.1539	16.5119	89	11
281460-016	11.0655	17.2368	16.7154	92	8
281460-017	11.3281	18.0578	17.1931	87	13
281460-018	11.3152	17.3473	16.7207	90	10
281460-019	11.4212	17.0745	16.5841	91	9
281460-020	11.0216	17.5956	16.8796	89	11
QC853572	11.2670	17.7580	17.0666	89	11
of 281460-020			RPD:	0.3%	2.2%

Moisture LOG **Curtis & Tompkins, Ltd.**

LIMS Batch #: 239622
Date: 9-29-16

Page: **88**
Benchbook#: **BK 3889**
Scale Used
☑ Leachates Analytical
☐ _____

Sample # / Letter	Dish #	Dish Weight (g)	Sample + Dish Wt (g)	Final Weight (g)	*Comments
BLK	4	11.2519	Ø	11.2517	
281460-001 A	45	11.3561	17.1709	16.7895	
-002	84	11.2931	17.6551	17.1502	
-003	85	11.2027	17.6277	17.0212	
-004	72	10.8875	17.3922	16.7263	
-005	30	11.3762	17.0840	16.5682	
-006	25	11.3027	17.7288	17.1832	
-007	37	11.3622	16.5850	16.1521	
-008	94	11.3681	17.1853	16.6500	
-009	7	10.9715	17.1394	16.2756	
-010	64	11.0441	16.7109	15.9371	
-011	59	11.2470	16.8683	16.3816	
-012	93	11.3640	16.5819	16.1416	
-013	91	11.3270	17.0654	16.4647	
-014	3	10.9993	16.5812	16.0267	
-015	9	11.3168	17.1539	16.5119	
-016	60	11.0655	17.2368	16.7154	
~~-016~~	36	11.3281	18.0578	17.1931	-017
-018	32	11.3152	17.3473	16.7207	
-019	29	11.4212	17.0745	16.5841	
-020	23	11.0216	17.5956	16.8796	
SDUP -020	89	11.2670	17.7580	17.0666	

Date/ Time IN: 9-29-16 0245
Temp (C) IN: 104
Date/ Time OUT: 9-29-16 2010
Temp (C) OUT: 104

9-29-16
Extraction Chemist **Date**

Reviewed Online / See LIMS

PROJECT AE163 METTLER

Notebook No. BK 2394

Continued From Page

DATE	ANALYST	0.2000	100.0000	LEVEL	SET#
8-25-16	MN	0.2000	99.9999	✓	9907
8-26-16	MN	0.2000	99.9998	✓	9907
8-30-16	MN	0.2000	100.0001	✓	9907
8-31-16	MN	0.2000	100.0001	✓	9907
9-3-16	MN	0.2000	100.0000	✓	9907
9-12-16	VV	0.2002	99.9993	✓	9907
9-13-16	VV	0.2000	99.9998	✓	9907
9-14-16	VV	0.2000	99.9997	✓	9907
9-19-16	VV	0.2001	100.0001	✓	9907
9-20-16	MN	0.2001	100.0010	✓	9907
9-21-16	MN	0.2000	99.9997	✓	9907
9-22-16	MN	0.2000	99.9998	✓	9907
9-25-16	MN	0.2000	100.0000	✓	9907
9-28-16	MN	0.1999	100.0000	✓	9907
9-29-16	MN	0.2000	100.0000	✓	9907

Continued on Page

Read and Understood By

Signed Date Signed Date

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 281516
ANALYTICAL REPORT

Remedy Engineering	Project : 106101
2510 Old Eureka Way	Location : SJ Columbine Reservoir Sampling
Redding, CA 96001	Level : III

Sample ID	Lab ID	Sample ID	Lab ID
HA-21	281516-001	HA-34	281516-014
HA-22	281516-002	HA-35	281516-015
HA-23	281516-003	HA-36	281516-016
HA-24	281516-004	HA-37	281516-017
HA-25	281516-005	HA-38	281516-018
HA-26	281516-006	HA-39	281516-019
HA-27	281516-007	HA-40	281516-020
HA-28	281516-008	HA-41	281516-021
HA-29	281516-009	HA-42	281516-022
HA-30	281516-010	HA-43	281516-023
HA-31	281516-011	HA-44	281516-024
HA-32	281516-012	HA-45	281516-025
HA-33	281516-013	HA-46	281516-026

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Mikelle Chong Date: 12/13/2016

Mikelle Chong
Project Manager
mikelle.chong@ctberk.com
(510) 204-2236 Ext 13115

CA ELAP# 2896, NELAP# 4044-001

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**281516**
Client:	**Remedy Engineering**
Project:	**106101**
Location:	**SJ Columbine Reservoir Sampling**
Request Date:	**09/27/16**
Samples Received:	**09/27/16**

This data package contains sample and QC results for twenty six soil samples, requested for the above referenced project on 09/27/16. See attached cooler receipt form for any sample receipt problems or discrepancies. This report was revised and reissued on 12/13/2016 for MDLs.

TPH-Extractables by GC (EPA 8015B):

HA-23 (lab # 281516-003) and HA-35 (lab # 281516-015) were diluted due to the dark and viscous nature of the sample extracts.

No other analytical problems were encountered.

Pesticides (EPA 8081A):

All samples underwent sulfur cleanup using the copper option in EPA Method 3660B.

All samples underwent florisil cleanup using EPA Method 3620C.

High responses were observed for many analytes in the ICV analyzed 09/12/16 21:30; average ICV drift met method requirements.

High responses were observed for many analytes in the CCV analyzed 10/04/16 08:50; average CCV drift met method requirements, and these analytes were not detected at or above the RL in the associated samples.

High responses were observed for alpha-BHC, dieldrin, and methoxychlor in the CCV analyzed 10/04/16 12:31; average CCV drift met method requirements, and these analytes were not detected at or above the RL in the associated samples.

High response was observed for endrin in the CCV analyzed 09/30/16 18:30; average CCV drift met method requirements, and this analyte was not detected at or above the RL in the associated samples.

High responses were observed for many analytes in the CCV analyzed 09/30/16 20:23; affected data was qualified with "b".

High responses were observed for many analytes in the CCV analyzed 09/30/16 17:29; affected data was qualified with "b".

High responses were observed for dieldrin and endrin in the CCV analyzed 09/30/16 13:42; average CCV drift met method requirements, and these analytes were not detected at or above the RL in the associated samples.

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number: **281516**
Client: **Remedy Engineering**
Project: **106101**
Location: **SJ Columbine Reservoir Sampling**
Request Date: **09/27/16**
Samples Received: **09/27/16**

Pesticides (EPA 8081A):

Low response was observed for endrin aldehyde in the CCV analyzed 09/30/16 11:27; average CCV drift met method requirements.

Matrix spikes QC853772,QC853773 (batch 239670) were not reported because the parent sample required a dilution that would have diluted out the spikes.

Many samples were diluted due to the color of the sample extracts.

No other analytical problems were encountered.

PCBs (EPA 8082):
All samples underwent sulfuric acid cleanup using EPA Method 3665A.

All samples underwent sulfur cleanup using the copper option in EPA Method 3660B.

Low response was observed for Aroclor-1016 in the CCV analyzed 09/29/16 19:18; affected data was qualified with "b".

High surrogate recovery was observed for decachlorobiphenyl in the method blank for batch 239605; the corresponding TCMX surrogate recovery was within limits, and no target analytes were detected in the sample.

No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):
High recovery was observed for mercury in the MS of HA-25 (lab # 281516-005); the BS/BSD were within limits, and the associated RPD was within limits.

High recovery was observed for arsenic in the post digest spike for batch 239887; the parent sample was not a project sample, and the BS/BSD were within limits.

High % difference was observed for copper in the serial dilution of HA-21 (lab # 281516-001).

Mercury was detected between the MDL and the RL in the method blank for batch 239683.

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**281516**
Client:	**Remedy Engineering**
Project:	**106101**
Location:	**SJ Columbine Reservoir Sampling**
Request Date:	**09/27/16**
Samples Received:	**09/27/16**

Metals (EPA 6010B and EPA 7471A):

Zinc was detected above the RL in the method blank for batch 239887; this analyte was detected in samples at a level at least 10 times that of the blank. Silver was detected between the MDL and the RL in the method blank for batch 239887; this analyte was not detected in samples at or above the RL.

Chromium was detected between the MDL and the RL in the method blank for batch 239884; this analyte was detected in samples at a level at least 10 times that of the blank.

No other analytical problems were encountered.

Moisture (ASTM D2216/CLP):

No analytical problems were encountered.

Chain of Custody

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2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 281516

Project No: 106101
Project Name: SJ Columbine Reservoir Sampling
EDD Format: CH2M **Rpt Level:** ☐ II XIII ☐ IV
Turnaround Time: ☐ RUSH _____ X Standard

Sampler: Tom Corontzos
Report To: Tom Corontzos
Company : Remedy Engineering, Inc.
Telephone: 530-241-7658
Email: tcorontz@remedyengineering.com

Lab No.	Sample ID.	Sampling Date	Sampling Time	Matrix: Water	Matrix: Soil	Matrix:	Matrix:	# of Containers	Chemical Preservative: HCl	H_2SO_4	HNO_3	NaOH	None	Analytical Request: Title 22 CAM Metals (6010, 7471)	Pesticides (8081)	PCBs (8082)	TPH-diesel, motor oil (8015)	Moisture										
	~~HA-14~~				X								X	X	X													
	~~HA-15~~				X								X	X	X													
	~~HA-16~~				X								X	X	X													
	~~HA-17~~				X								X	X	X													
	~~HA-18~~				X								X	X	X													
	~~HA-19~~				X								X	X	X													
	~~HA-20~~				X								X	X	X	X	X											
	HA-21	9-26-16	1532		X								X	X	X			X										
	HA-22	9-26-16	1538		X								X	X	X			X										
	HA-23	9-26-16	1548		X								X	X	X	X	X	X										
	HA-24	9-26-16	1615		X								X	X	X			X										
	HA-25	9-26-16	1605		X								X	X	X			X										
	HA-26	9-26-16	1625		X								X	X	X			X										

Notes:

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
[illegible]	9/27/16 1341	[illegible]	9/27
[illegible]	9/27 @ 1621	[illegible]	9/27 @ 1621

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
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(510)486-0900 Phone
(510)486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # :

C&T LOGIN # 281516

Project No: 106101
Project Name: SJ Columbine Reservoir Sampling
EDD Format: CH2M **Rpt Level:** ☐ II XIII ☐ IV
Turnaround Time: ☐ RUSH _____ X Standard

Sampler: Tom Corontzos
Report To: Tom Corontzos
Company : Remedy Engineering, Inc.
Telephone: 530-241-7658
Email: tcorontz@remedyengineering.com

Lab No.	Sample ID.	Sampling Date	Sampling Time	Matrix: Water	Matrix: Soil	Matrix:	Matrix:	# of Containers	Chemical Preservative: HCl	H_2SO_4	HNO_3	NaOH	None	Analytical Request: Title 22 CAM Metals (6010, 7471)	Pesticides (8081)	PCBs (8082)	TPH-diesel, motor oil (8015)	Moisture
	HA-27	9-26-16	1642		X								X	X	X			X
	HA-28	9-26-16	1646		X								X	X	X	X	X	X
	HA-29	9-26-16	1712		X								X	X	X			X
	HA-30	9-26-16	1715		X								X	X	X			X
	HA-31	9-27-16	0755		X								X	X	X			X
	HA-32	9-27-16	0751		X								X	X	X	X	X	X
	HA-33	9-27-16	0827		X								X	X	X			X
	HA-34	9-27-16	0825		X								X	X	X			X
	HA-35	9-27-16	0855		X								X	X	X	X	X	X
	HA-36	9-27-16	0850		X								X	X	X			X
	HA-37	9-27-16	0928		X								X	X	X			X
	HA-38	9-27-16	0925		X								X	X	X	X	X	X
	HA-39	9-27-16	0946		X								X	X	X	X	X	X

Notes:

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:		RECEIVED BY:	
Tom Corontzos	9/27/16 1741 DATE/TIME	[illegible]	9/27 @ 1341 DATE/TIME
[illegible]	9/27 @ 1621 DATE/TIME	Dnguyen	9/27 @ 1621 DATE/TIME
	DATE/TIME		DATE/TIME

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Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
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(510)486-0532 Fax

CHAIN OF CUSTODY

C&T LOGIN # 281516

Project No: 106101
Project Name: SJ Columbine Reservoir Sampling
EDD Format: CH2M **Rpt Level:** ☐ II ☒ III ☐ IV
Turnaround Time: ☐ RUSH _____ ☒ Standard

Sampler: Tom Corontzos
Report To: Tom Corontzos
Company : Remedy Engineering, Inc.
Telephone: 530-241-7658
Email: tcorontz@remedyengineering.com

Lab No.	Sample ID.	Sampling Date	Sampling Time	Matrix: Water	Matrix: Soil	Matrix:	Matrix:	# of Containers	Chemical Preservative: HCl	H_2SO_4	HNO_3	NaOH	None	Analytical Request: Title 22 CAM Metals (6010, 7471)	Pesticides (8081)	PCBs (8082)	TPH-diesel, motor oil (8015)	moisture
	HA-40	9-27-16	0955		X								X	X	X	X	X	X
	HA-41	9-27-16	1013		X								X	X	X	X	X	X
	HA-42	9-27-16	1010		X								X	X	X	X	X	X
	HA-43	9-27-16	1055		X								X	X	X	X	X	X
	HA-44	9-27-16	1035		X								X	X	X	X	X	X
	HA-45	9-27-16	1125		X								X	X				X
	HA-46	9-27-16	1120		X								X	X	X	X	X	X

Notes:

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
Tom Corontzos	9/27/16 1341	[illegible]	9/27 @ 1341
[illegible]	9/27 @ 1621	[illegible]	9/27 @ 1621

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 281516 Date Received 9/27/16 Number of coolers 1
Client Remedy Engineering Project 106101

Date Opened 9/27 By (print) DTN (sign) dnguyen
Date Logged in ↓ By (print) ↓ (sign) ↓
Date Labeled ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES (NO)
   Shipping info _____

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many _____ Name _____ Date _____
2B. Were custody seals intact upon arrival? _____ YES NO (N/A)
3. Were custody papers dry and intact when received? _____ (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) ___ (YES) NO
6. Indicate the packing in cooler: (if other, describe) _____

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 5.3

☐ Temperature blank(s) included? ☐ Thermometer# _____ ☒ IR Gun# A

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES (NO)
   If YES, what time were they transferred to freezer? _____
9. Did all bottles arrive unbroken/unopened? _____ (YES) NO
10. Are there any missing / extra samples? _____ YES (NO)
11. Are samples in the appropriate containers for indicated tests? _____ (YES) NO
12. Are sample labels present, in good condition and complete? _____ (YES) NO
13. Do the sample labels agree with custody papers? _____ (YES) NO
14. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
15. Are the samples appropriately preserved? _____ YES NO (N/A)
16. Did you check preservatives for all bottles for each sample? _____ YES NO (N/A)
17. Did you document your preservative check? (pH strip lot# _____) YES NO (N/A)
18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO (N/A)
20. Are bubbles > 6mm absent in VOA samples? _____ YES NO (N/A)
21. Was the client contacted concerning this sample delivery? _____ YES (NO)
   If YES, Who was called? _____ By _____ Date: _____

COMMENTS

_____

Curtis & Tompkins, Ltd.

Detections Summary for 281516

Results for any subcontracted analyses are not included in this summary.

Client : Remedy Engineering
Project : 106101
Location : SJ Columbine Reservoir Sampling

Client Sample ID : HA-21 Laboratory Sample ID : 281516-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Arsenic	2.2		0.25	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	55		0.25	0.053	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.19		0.099	0.012	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.73		0.25	0.025	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	10		0.25	0.062	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	2.6		0.25	0.030	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	4.8		0.25	0.083	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	8.9		0.25	0.069	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.029		0.017	0.0050	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.74		0.25	0.048	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	12		0.25	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	12		0.25	0.057	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	130		0.99	0.20	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	3		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-22 Laboratory Sample ID : 281516-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
delta-BHC	0.79	J	2.0	0.24	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
Antimony	4.2		2.4	0.20	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	15		0.33	0.095	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	260		0.33	0.070	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.77		0.13	0.016	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.1		0.33	0.033	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	70		0.33	0.082	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	20		0.33	0.039	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	28		0.33	0.11	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	9.5		0.33	0.091	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.066		0.018	0.0055	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.1		0.33	0.064	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	160		0.33	0.086	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.32	J	0.65	0.18	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	66		0.33	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	74		1.3	0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	16		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Curtis & Tompkins, Ltd.

Client Sample ID : HA-23 Laboratory Sample ID : 281516-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	29	Y	3.3	1.0	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	290		17	5.0	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
Aroclor-1254	50		11	2.7	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B
Aroclor-1260	49		11	1.7	ug/Kg	Dry	1.000	EPA 8082	EPA 3550B
Antimony	1.5	J	2.2	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	5.8		0.28	0.081	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	150		0.28	0.060	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.40		0.11	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.3		0.28	0.028	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	26		0.28	0.070	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.2		0.28	0.033	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	14		0.28	0.093	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	21		0.28	0.077	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.13		0.019	0.0057	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.4		0.28	0.054	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	33		0.28	0.073	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.24	J	0.56	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	36		0.28	0.063	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	330		1.1	0.22	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	10		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-24 Laboratory Sample ID : 281516-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	2.4		2.2	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.7		0.29	0.083	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	220		0.29	0.061	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.58		0.11	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.90		0.29	0.029	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	32		0.29	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.3		0.29	0.034	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	10		0.29	0.095	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	8.0		0.29	0.080	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.11		0.017	0.0052	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.2		0.29	0.056	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	37		0.29	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	42		0.29	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	84		1.1	0.23	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	9		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

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Client Sample ID : HA-25 Laboratory Sample ID : 281516-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Heptachlor epoxide	18	J	91	10	ug/Kg	Dry	50.00	EPA 8081A	EPA 3550B
gamma-Chlordane	10	C,J	91	7.9	ug/Kg	Dry	50.00	EPA 8081A	EPA 3550B
Antimony	2.0	J	2.2	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	8.6		0.28	0.082	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	180		0.28	0.061	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.41		0.11	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.7		0.28	0.029	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	43		0.28	0.071	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.28	0.034	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	26		0.28	0.094	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	45		0.28	0.079	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.41		0.017	0.0051	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	2.6		0.28	0.055	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	66		0.28	0.074	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.65		0.57	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	48		0.28	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	400		1.1	0.23	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	7		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-26 Laboratory Sample ID : 281516-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Heptachlor epoxide	28	C,J	37	4.2	ug/Kg	Dry	20.00	EPA 8081A	EPA 3550B
gamma-Chlordane	8.3	C,J	37	3.2	ug/Kg	Dry	20.00	EPA 8081A	EPA 3550B
Antimony	3.0		2.2	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	9.1		0.28	0.081	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	200		0.28	0.060	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.45		0.11	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.5		0.28	0.028	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	48		0.28	0.070	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	12		0.28	0.033	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	23		0.28	0.092	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	30		0.28	0.077	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.28		0.019	0.0056	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	2.1		0.28	0.054	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	81		0.28	0.073	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	49		0.28	0.063	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	110		1.1	0.22	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	7		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

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Client Sample ID : HA-27 Laboratory Sample ID : 281516-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	2.9		2.2	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.2		0.29	0.084	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	190		0.29	0.062	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.57		0.12	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.2		0.29	0.030	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	35		0.29	0.073	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.6		0.29	0.035	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	13		0.29	0.096	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	32		0.29	0.081	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.13		0.018	0.0054	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.4		0.29	0.057	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	42		0.29	0.076	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.34	J	0.58	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	43		0.29	0.066	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	400		1.2	0.23	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	10		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-28 Laboratory Sample ID : 281516-008

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.6	Y	1.1	0.33	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	12		5.4	1.6	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Antimony	2.0	J	2.2	0.18	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.0		0.30	0.087	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	190		0.30	0.064	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.55		0.12	0.015	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.1		0.30	0.030	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	32		0.30	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.1		0.30	0.036	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	9.0		0.30	0.10	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	6.2		0.30	0.083	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.23		0.017	0.0050	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	2.3		0.30	0.058	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	32		0.30	0.079	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.91		0.60	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	41		0.30	0.068	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	53		1.2	0.24	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	8		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

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Client Sample ID : HA-29 Laboratory Sample ID : 281516-009

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Antimony	2.4		2.1	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	9.3		0.26	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	200		0.26	0.055	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.58		0.10	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.1		0.26	0.026	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	32		0.26	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	9.5		0.26	0.031	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	11		0.26	0.086	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	7.7		0.26	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.11		0.018	0.0053	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	2.8		0.26	0.050	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	37		0.26	0.068	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.80		0.51	0.14	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	40		0.26	0.059	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	52		1.0	0.21	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	9		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-30 Laboratory Sample ID : 281516-010

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
beta-BHC	3.4	C,J	3.8	0.89	ug/Kg	Dry	2.000	EPA 8081A	EPA 3550B
delta-BHC	0.83	C,J	3.8	0.45	ug/Kg	Dry	2.000	EPA 8081A	EPA 3550B
Antimony	1.3	J	2.2	0.18	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.6		0.30	0.087	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	180		0.30	0.064	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.54		0.12	0.015	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.3		0.30	0.030	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	31		0.30	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.7		0.30	0.036	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	9.5		0.30	0.10	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	6.1		0.30	0.083	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.16		0.018	0.0055	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.4		0.30	0.058	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	34		0.30	0.079	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	1.1		0.60	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	40		0.30	0.068	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	48		1.2	0.24	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	11		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

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Client Sample ID : HA-31 Laboratory Sample ID : 281516-011

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
gamma-Chlordane	8.6	J	18	3.9	ug/Kg	Dry	10.00	EPA 8081A	EPA 3550B
Antimony	2.6		2.1	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.4		0.26	0.074	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	260		0.26	0.055	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.49		0.10	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.3		0.26	0.026	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	32		0.26	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	8.5		0.26	0.031	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	11		0.26	0.085	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	9.2		0.26	0.071	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.20		0.019	0.0056	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.8		0.26	0.050	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	36		0.26	0.067	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.39	J	0.51	0.14	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	41		0.26	0.058	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	110		1.0	0.21	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	8		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-32 Laboratory Sample ID : 281516-012

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	0.93	J	1.1	0.33	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	3.3	J	5.4	1.6	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
alpha-Chlordane	0.65	J	1.8	0.23	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
gamma-Chlordane	0.89	J	1.8	0.16	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
Antimony	1.7	J	2.0	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	8.9		0.25	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	160		0.25	0.053	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.50		0.10	0.012	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.6		0.25	0.025	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	28		0.25	0.063	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.6		0.25	0.030	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	9.4		0.25	0.083	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	6.5		0.25	0.069	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.15		0.017	0.0052	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	2.1		0.25	0.049	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	29		0.25	0.066	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.73		0.50	0.14	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	37		0.25	0.057	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	54		1.0	0.20	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	7		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

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Client Sample ID : HA-33 Laboratory Sample ID : 281516-013

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Heptachlor epoxide	8.7	C,J	36	5.2	ug/Kg	Dry	20.00	EPA 8081A	EPA 3550B
alpha-Chlordane	71	C	36	5.4	ug/Kg	Dry	20.00	EPA 8081A	EPA 3550B
gamma-Chlordane	56	C	36	7.7	ug/Kg	Dry	20.00	EPA 8081A	EPA 3550B
Antimony	1.9	J	2.2	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.7		0.28	0.082	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	320		0.28	0.061	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.47		0.11	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.2		0.28	0.029	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	39		0.28	0.071	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	8.6		0.28	0.034	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	13		0.28	0.094	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	18		0.28	0.079	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.15		0.017	0.0050	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.6		0.28	0.055	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.28	0.074	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.55	J	0.57	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	42		0.28	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	100		1.1	0.23	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	7		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-34 Laboratory Sample ID : 281516-014

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
alpha-Chlordane	33	C	9.1	1.4	ug/Kg	Dry	5.000	EPA 8081A	EPA 3550B
gamma-Chlordane	24		9.1	1.9	ug/Kg	Dry	5.000	EPA 8081A	EPA 3550B
Antimony	1.6	J	2.1	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.4		0.26	0.077	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	170		0.26	0.057	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.51		0.11	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.3		0.26	0.027	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	30		0.26	0.066	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.9		0.26	0.032	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	10		0.26	0.088	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	11		0.26	0.073	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.52		0.018	0.0055	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.6		0.26	0.051	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	33		0.26	0.069	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	37		0.26	0.060	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	78		1.1	0.21	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	7		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

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Client Sample ID : HA-35 Laboratory Sample ID : 281516-015

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	5.9	Y	3.2	0.97	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	120		16	4.8	mg/Kg	Dry	3.000	EPA 8015B	EPA 3550B
alpha-Chlordane	14	C,b	9.0	2.2	ug/Kg	Dry	5.000	EPA 8081A	EPA 3550B
gamma-Chlordane	3.4	J	9.0	2.8	ug/Kg	Dry	5.000	EPA 8081A	EPA 3550B
Antimony	2.7		2.1	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.7		0.28	0.080	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	170		0.28	0.059	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.52		0.11	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.3		0.28	0.028	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	29		0.28	0.070	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.7		0.28	0.033	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	10		0.28	0.092	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	8.3		0.28	0.077	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.19		0.019	0.0057	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.5		0.28	0.054	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	31		0.28	0.073	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.54	J	0.55	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	37		0.28	0.063	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	61		1.1	0.22	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	6		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-36 Laboratory Sample ID : 281516-016

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
alpha-Chlordane	5.5	J	18	2.7	ug/Kg	Dry	10.00	EPA 8081A	EPA 3550B
Antimony	1.7	J	2.1	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.3		0.29	0.085	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	160		0.29	0.063	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.49		0.12	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.2		0.29	0.030	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	29		0.29	0.074	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	8.1		0.29	0.035	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	12		0.29	0.097	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	11		0.29	0.081	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.15		0.017	0.0052	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.4		0.29	0.057	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	35		0.29	0.077	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.42	J	0.58	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	39		0.29	0.067	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	91		1.2	0.23	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	6		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

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Client Sample ID : HA-37 Laboratory Sample ID : 281516-017

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
beta-BHC	1.7	C,J	2.0	0.48	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
4,4'-DDE	1.6	J	4.0	0.53	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
4,4'-DDT	0.56	C,J	4.0	0.52	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
Antimony	2.3	J	2.4	0.19	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	8.4		0.32	0.093	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	230		0.32	0.069	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.77		0.13	0.016	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.1		0.32	0.033	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	39		0.32	0.081	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	9.5		0.32	0.038	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	10		0.32	0.11	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	8.0		0.32	0.089	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.10		0.021	0.0062	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.3		0.32	0.063	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	40		0.32	0.084	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	45		0.32	0.073	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	55		1.3	0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	17		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-38 Laboratory Sample ID : 281516-018

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.2	J	1.2	0.36	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	5.6	J	5.9	1.8	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Antimony	2.3	J	2.4	0.19	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	5.3		0.32	0.094	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	180		0.32	0.069	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.51		0.13	0.016	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.63		0.32	0.033	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	30		0.32	0.081	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	13		0.32	0.039	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	9.6		0.32	0.11	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	8.2		0.32	0.090	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.056		0.021	0.0064	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	0.85		0.32	0.063	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	23		0.32	0.085	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	43		0.32	0.074	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	29		1.3	0.26	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	16		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

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Client Sample ID : HA-39 Laboratory Sample ID : 281516-019

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	0.65	J	1.1	0.33	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	3.8	J	5.4	1.6	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
4,4'-DDE	1.3	J	3.6	0.81	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
4,4'-DDT	1.4	C,J	3.6	0.94	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
Antimony	1.7	J	2.1	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.9		0.26	0.074	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	190		0.26	0.055	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.55		0.10	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.99		0.26	0.026	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	33		0.26	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	9.5		0.26	0.031	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	12		0.26	0.085	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	6.2		0.26	0.071	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.095		0.019	0.0057	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.4		0.26	0.050	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	37		0.26	0.067	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	1.0		0.51	0.14	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	43		0.26	0.058	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	43		1.0	0.21	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	8		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-40 Laboratory Sample ID : 281516-020

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.2	Y	1.1	0.32	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	21		5.3	1.6	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
4,4'-DDE	1.1	C,J	3.5	0.78	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
Antimony	4.0		1.9	0.14	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.3		0.24	0.070	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	170		0.24	0.052	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.49		0.097	0.012	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.86		0.24	0.025	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	30		0.24	0.061	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	10		0.24	0.029	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	11		0.24	0.081	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	8.2		0.24	0.067	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.069		0.016	0.0049	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.0		0.24	0.047	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	30		0.24	0.064	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.20	J	0.48	0.14	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	38		0.24	0.055	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	38		0.97	0.19	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	5		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

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Client Sample ID : HA-41 Laboratory Sample ID : 281516-021

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	2.4	Y	1.1	0.33	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	8.5		5.4	1.6	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Antimony	1.3	J	2.2	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.7		0.29	0.083	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	210		0.29	0.061	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.59		0.11	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.0		0.29	0.029	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	32		0.29	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.29	0.034	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	13		0.29	0.095	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	8.0		0.29	0.080	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.081		0.018	0.0053	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.4		0.29	0.056	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	41		0.29	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.33	J	0.57	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	44		0.29	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	57		1.1	0.23	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	8		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-42 Laboratory Sample ID : 281516-022

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.5	Y	1.1	0.33	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	16		5.4	1.6	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
4,4'-DDE	1.5	J	3.6	0.79	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
4,4'-DDT	1.1	C,J	3.6	0.92	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
Antimony	1.3	J	2.1	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.7		0.26	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	190		0.26	0.056	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.55		0.10	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.91		0.26	0.026	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	30		0.26	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	11		0.26	0.031	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	11		0.26	0.086	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	8.6		0.26	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.18		0.018	0.0054	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.1		0.26	0.051	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	31		0.26	0.068	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	39		0.26	0.059	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	41		1.0	0.21	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	7		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

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Client Sample ID : HA-43 Laboratory Sample ID : 281516-023

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	0.88	J	1.1	0.34	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	35		5.6	1.7	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Antimony	4.2		2.2	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	6.1		0.29	0.083	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	170		0.29	0.061	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.51		0.11	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	0.96		0.29	0.029	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	28		0.29	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.8		0.29	0.034	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	9.2		0.29	0.095	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	6.4		0.29	0.080	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.16		0.017	0.0052	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.2		0.29	0.056	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	31		0.29	0.075	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.50	J	0.57	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	35		0.29	0.065	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	41		1.1	0.23	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	10		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-44 Laboratory Sample ID : 281516-024

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	0.60	J	1.2	0.36	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	4.7	J	5.8	1.8	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Antimony	4.9		2.2	0.17	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.2		0.28	0.081	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	190		0.28	0.060	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.55		0.11	0.014	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.0		0.28	0.029	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	29		0.28	0.070	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	8.5		0.28	0.033	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	10		0.28	0.093	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	12		0.28	0.078	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.14		0.020	0.0060	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.4		0.28	0.055	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	32		0.28	0.074	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.23	J	0.56	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	36		0.28	0.064	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	45		1.1	0.22	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	14		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

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Client Sample ID : HA-45 Laboratory Sample ID : 281516-025

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
beta-BHC	0.90	J	1.8	0.43	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
delta-BHC	0.57	J	1.8	0.22	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
Heptachlor epoxide	0.28	C,J	1.8	0.27	ug/Kg	Dry	1.000	EPA 8081A	EPA 3550B
Antimony	4.6		2.1	0.16	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	7.2		0.26	0.077	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	200		0.26	0.057	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.53		0.11	0.013	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.2		0.26	0.027	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	30		0.26	0.067	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	7.6		0.26	0.032	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	9.6		0.26	0.088	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	6.4		0.26	0.074	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.16		0.017	0.0052	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.6		0.26	0.052	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	33		0.26	0.070	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.33	J	0.53	0.15	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	39		0.26	0.060	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	45		1.1	0.21	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	9		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

Client Sample ID : HA-46 Laboratory Sample ID : 281516-026

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	48	Y	1.2	0.37	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Motor Oil C24-C36	14		6.0	1.8	mg/Kg	Dry	1.000	EPA 8015B	EPA 3550B
Antimony	4.7		2.4	0.19	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Arsenic	8.2		0.32	0.092	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Barium	190		0.32	0.068	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Beryllium	0.65		0.13	0.016	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cadmium	1.1		0.32	0.032	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Chromium	37		0.32	0.080	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Cobalt	8.8		0.32	0.038	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Copper	12		0.32	0.11	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Lead	7.1		0.32	0.088	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Mercury	0.14		0.019	0.0057	mg/Kg	Dry	1.000	EPA 7471A	METHOD
Molybdenum	1.3		0.32	0.062	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Nickel	39		0.32	0.083	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Thallium	0.59	J	0.63	0.18	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Vanadium	45		0.32	0.072	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Zinc	48		1.3	0.25	mg/Kg	Dry	1.000	EPA 6010B	EPA 3050B
Moisture, Percent	17		1		%	As Recd	1.000	ASTM D2216/CLP	METHOD

C = Presence confirmed, but RPD between columns exceeds 40%

J = Estimated value

Y = Sample exhibits chromatographic pattern which does not resemble standard

b = See narrative

Laboratory Job Number 281516

ANALYTICAL REPORT

TPH-Extractables by GC

Matrix: Soil

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	239567
Units:	mg/Kg	Received:	09/27/16
Basis:	dry	Prepared:	09/28/16

Field ID:	HA-23	Diln Fac:	3.000
Type:	SAMPLE	Sampled:	09/26/16
Lab ID:	281516-003	Analyzed:	09/29/16
Moisture:	10%		

Analyte	Result	RL	MDL
Diesel C10-C24	29 Y	3.3	1.0
Motor Oil C24-C36	290	17	5.0

Surrogate	%REC	Limits
o-Terphenyl	65	59-140

Field ID:	HA-28	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	09/26/16
Lab ID:	281516-008	Analyzed:	09/29/16
Moisture:	8%		

Analyte	Result	RL	MDL
Diesel C10-C24	1.6 Y	1.1	0.33
Motor Oil C24-C36	12	5.4	1.6

Surrogate	%REC	Limits
o-Terphenyl	68	59-140

Field ID:	HA-32	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	09/27/16
Lab ID:	281516-012	Analyzed:	09/29/16
Moisture:	7%		

Analyte	Result	RL	MDL
Diesel C10-C24	0.93 J	1.1	0.33
Motor Oil C24-C36	3.3 J	5.4	1.6

Surrogate	%REC	Limits
o-Terphenyl	72	59-140

J= Estimated value
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	239567
Units:	mg/Kg	Received:	09/27/16
Basis:	dry	Prepared:	09/28/16

Field ID:	HA-35	Diln Fac:	3.000
Type:	SAMPLE	Sampled:	09/27/16
Lab ID:	281516-015	Analyzed:	09/29/16
Moisture:	6%		

Analyte	Result	RL	MDL
Diesel C10-C24	5.9 Y	3.2	0.97
Motor Oil C24-C36	120	16	4.8

Surrogate	%REC	Limits
o-Terphenyl	77	59-140

Field ID:	HA-38	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	09/27/16
Lab ID:	281516-018	Analyzed:	09/29/16
Moisture:	16%		

Analyte	Result	RL	MDL
Diesel C10-C24	1.2 J	1.2	0.36
Motor Oil C24-C36	5.6 J	5.9	1.8

Surrogate	%REC	Limits
o-Terphenyl	83	59-140

Field ID:	HA-39	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	09/27/16
Lab ID:	281516-019	Analyzed:	09/29/16
Moisture:	8%		

Analyte	Result	RL	MDL
Diesel C10-C24	0.65 J	1.1	0.33
Motor Oil C24-C36	3.8 J	5.4	1.6

Surrogate	%REC	Limits
o-Terphenyl	75	59-140

J= Estimated value
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	239567
Units:	mg/Kg	Received:	09/27/16
Basis:	dry	Prepared:	09/28/16

Field ID:	HA-40	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	09/27/16
Lab ID:	281516-020	Analyzed:	09/29/16
Moisture:	5%		

Analyte	Result	RL	MDL
Diesel C10-C24	4.2 Y	1.1	0.32
Motor Oil C24-C36	21	5.3	1.6

Surrogate	%REC	Limits
o-Terphenyl	76	59-140

Field ID:	HA-41	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	09/27/16
Lab ID:	281516-021	Analyzed:	09/29/16
Moisture:	8%		

Analyte	Result	RL	MDL
Diesel C10-C24	2.4 Y	1.1	0.33
Motor Oil C24-C36	8.5	5.4	1.6

Surrogate	%REC	Limits
o-Terphenyl	67	59-140

Field ID:	HA-42	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	09/27/16
Lab ID:	281516-022	Analyzed:	09/29/16
Moisture:	7%		

Analyte	Result	RL	MDL
Diesel C10-C24	1.5 Y	1.1	0.33
Motor Oil C24-C36	16	5.4	1.6

Surrogate	%REC	Limits
o-Terphenyl	65	59-140

J= Estimated value
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Total Extractable Hydrocarbons

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	239567
Units:	mg/Kg	Received:	09/27/16
Basis:	dry	Prepared:	09/28/16

Field ID:	HA-43	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	09/27/16
Lab ID:	281516-023	Analyzed:	09/29/16
Moisture:	10%		

Analyte	Result	RL	MDL
Diesel C10-C24	0.88 J	1.1	0.34
Motor Oil C24-C36	35	5.6	1.7

Surrogate	%REC	Limits
o-Terphenyl	75	59-140

Field ID:	HA-44	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	09/27/16
Lab ID:	281516-024	Analyzed:	09/29/16
Moisture:	14%		

Analyte	Result	RL	MDL
Diesel C10-C24	0.60 J	1.2	0.36
Motor Oil C24-C36	4.7 J	5.8	1.8

Surrogate	%REC	Limits
o-Terphenyl	92	59-140

Field ID:	HA-46	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	09/27/16
Lab ID:	281516-026	Analyzed:	09/30/16
Moisture:	17%		

Analyte	Result	RL	MDL
Diesel C10-C24	48 Y	1.2	0.37
Motor Oil C24-C36	14	6.0	1.8

Surrogate	%REC	Limits
o-Terphenyl	95	59-140

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC853363	Analyzed:	09/28/16

Analyte	Result	RL	MDL
Diesel C10-C24	ND	1.0	0.31
Motor Oil C24-C36	ND	5.0	1.5

Surrogate	%REC	Limits
o-Terphenyl	98	59-140

J= Estimated value
Y= Sample exhibits chromatographic pattern which does not resemble standard
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

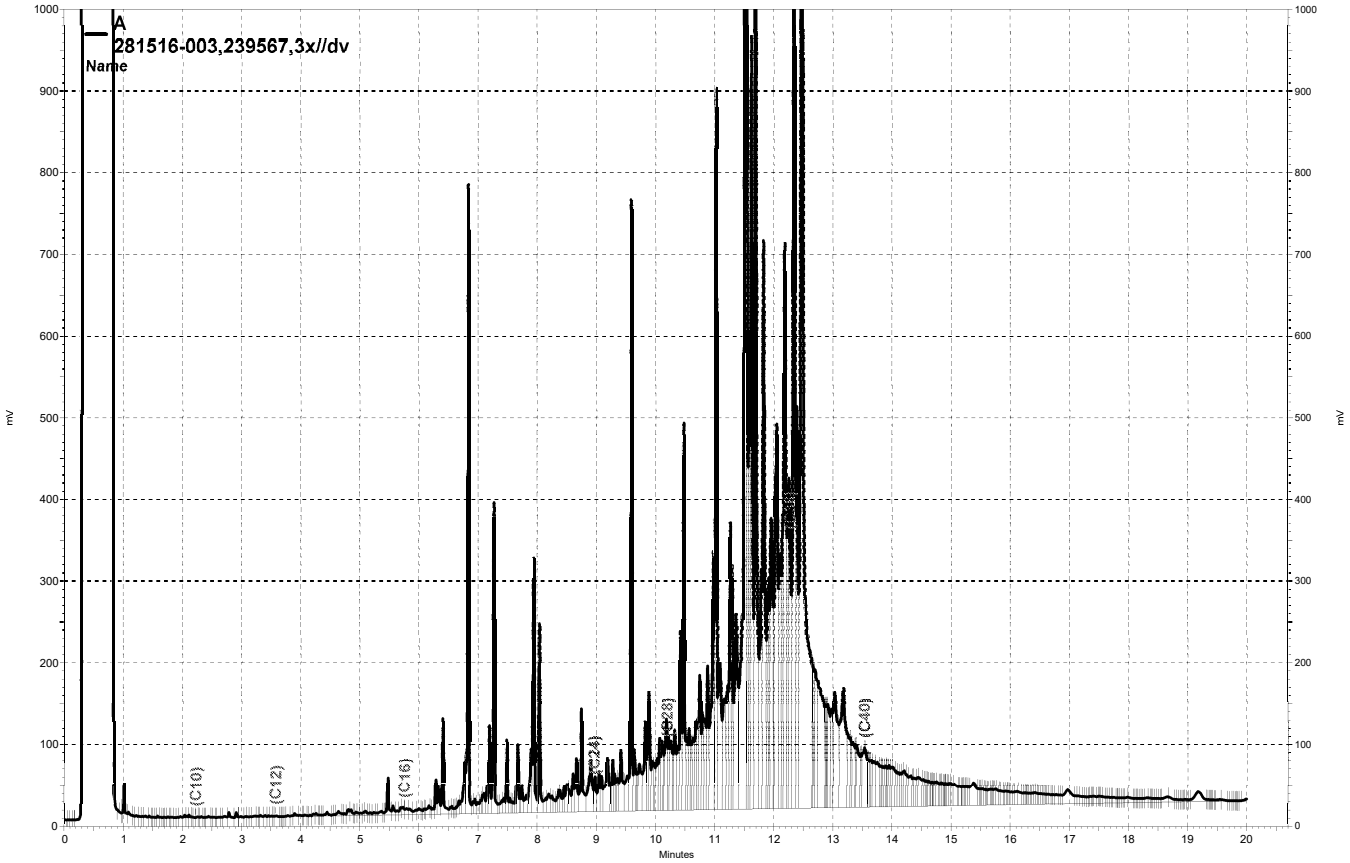
Batch QC Report

Total Extractable Hydrocarbons

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC853364	Batch#:	239567
Matrix:	Soil	Prepared:	09/28/16
Units:	mg/Kg	Analyzed:	09/28/16

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.80	40.43	81	58-137

Surrogate	%REC	Limits
o-Terphenyl	93	59-140



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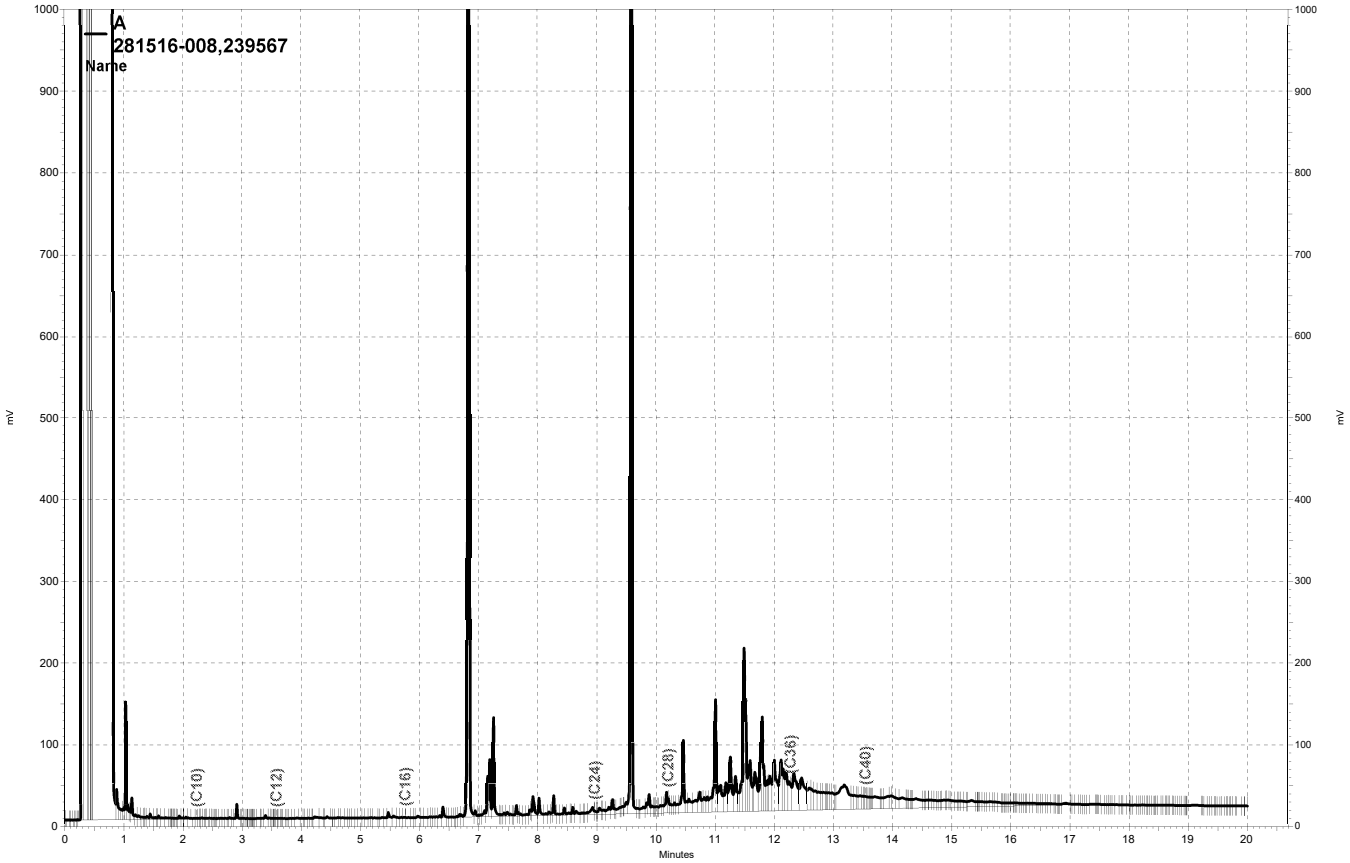

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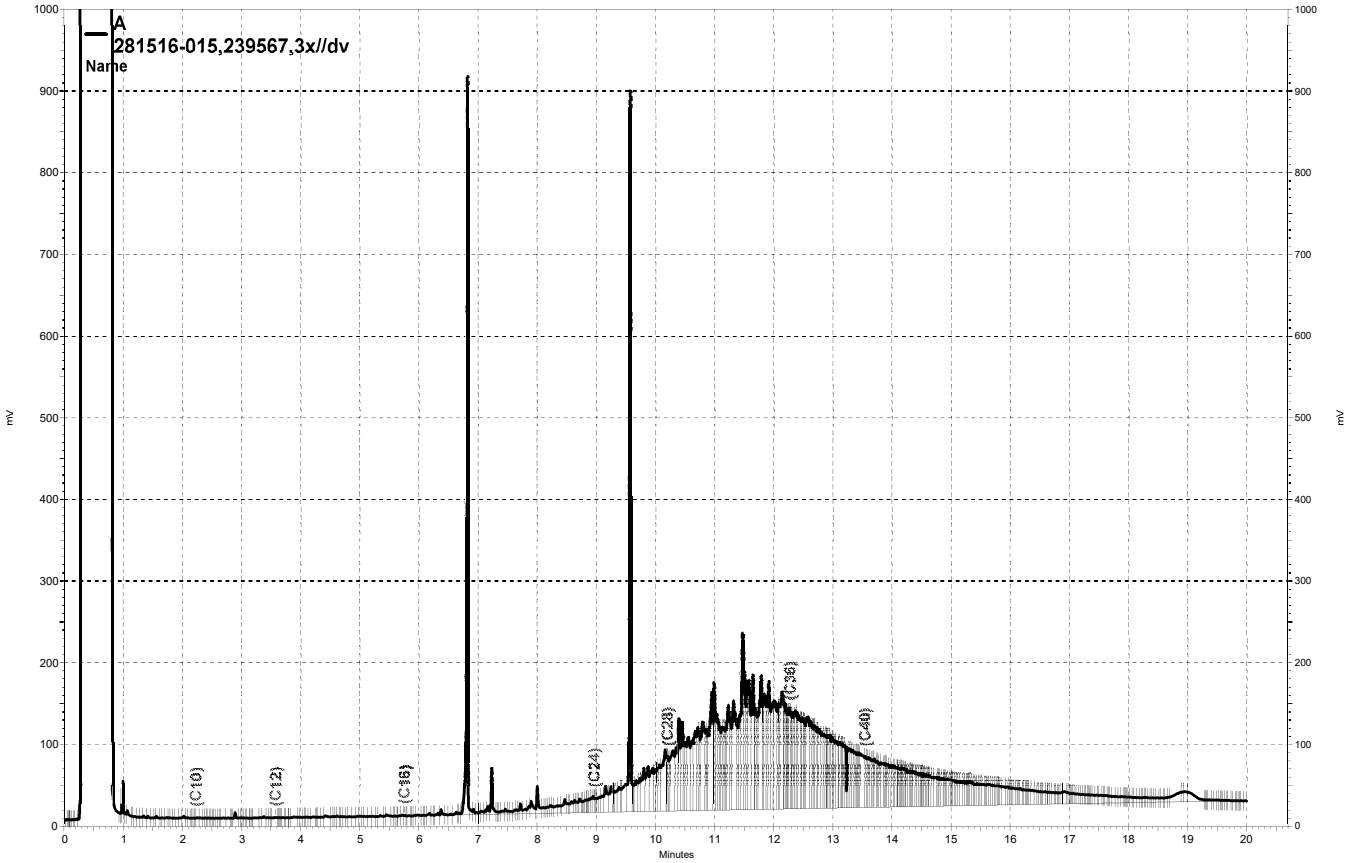

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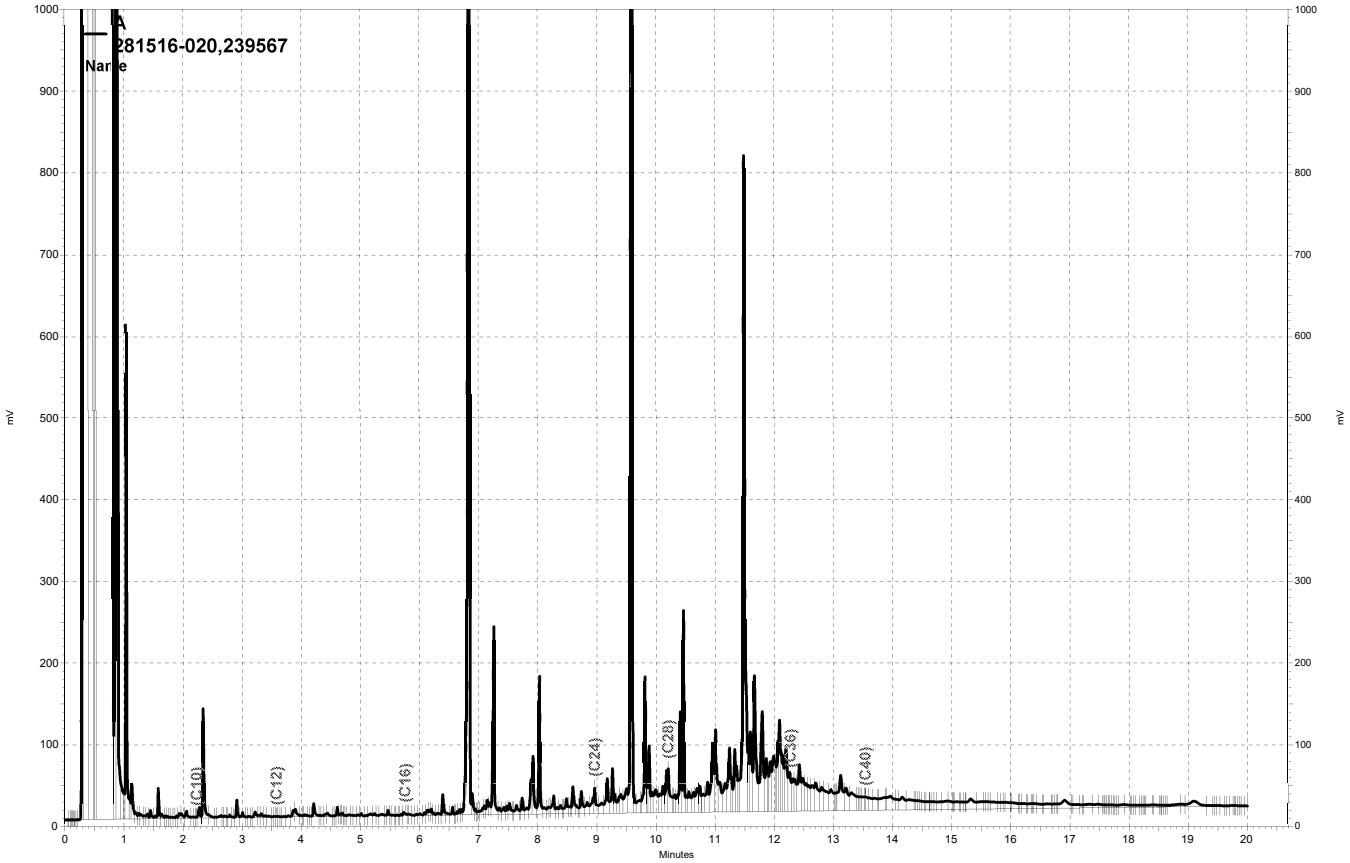

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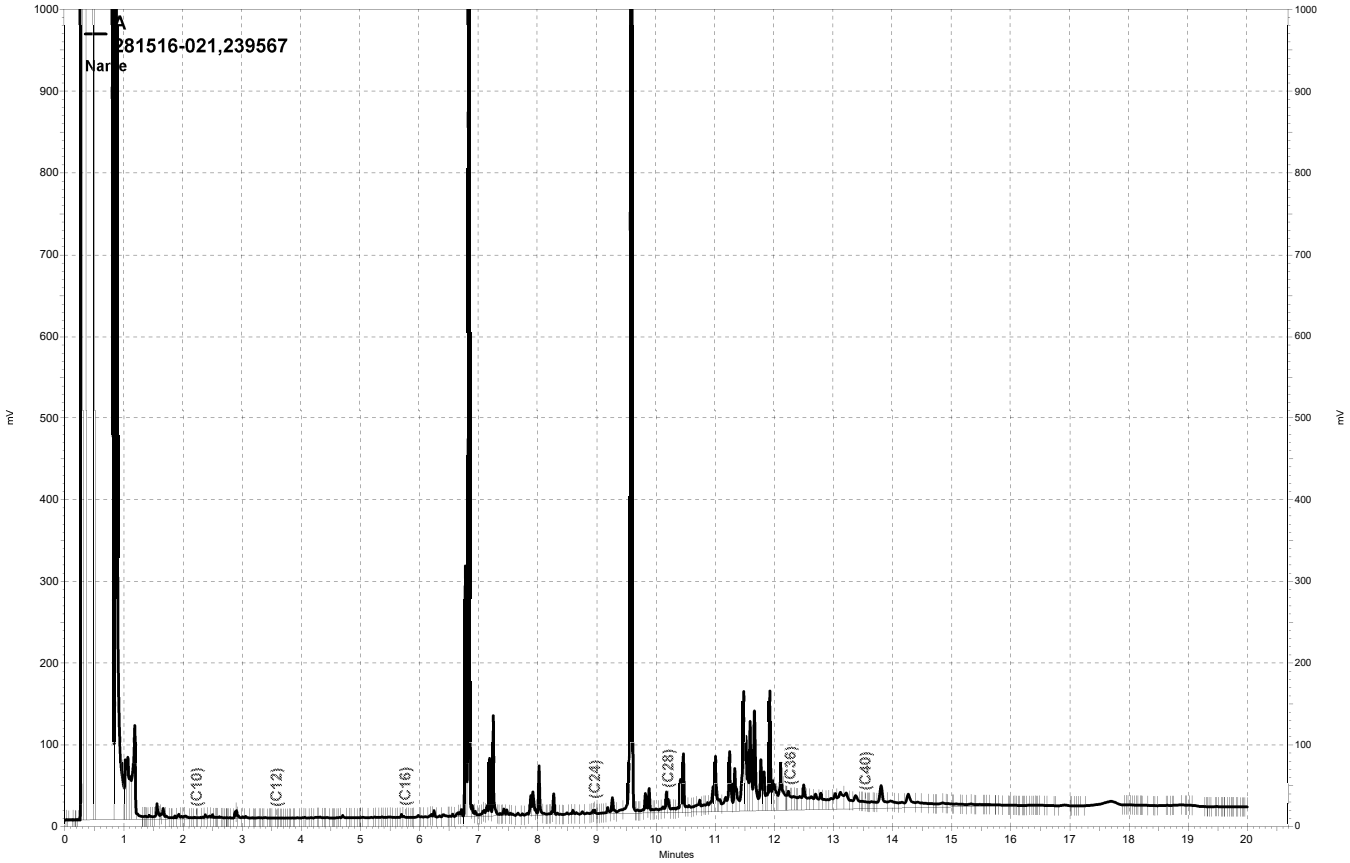

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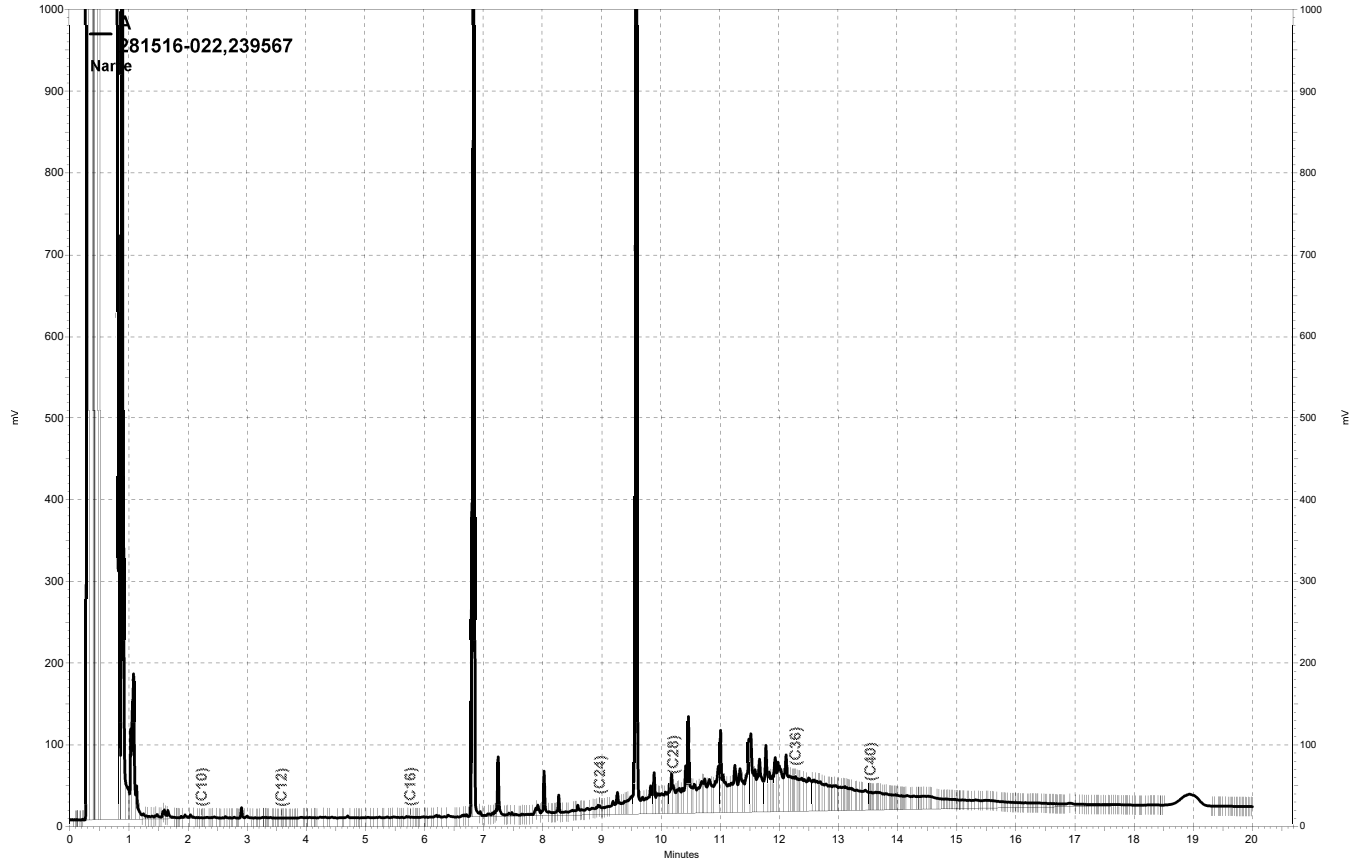

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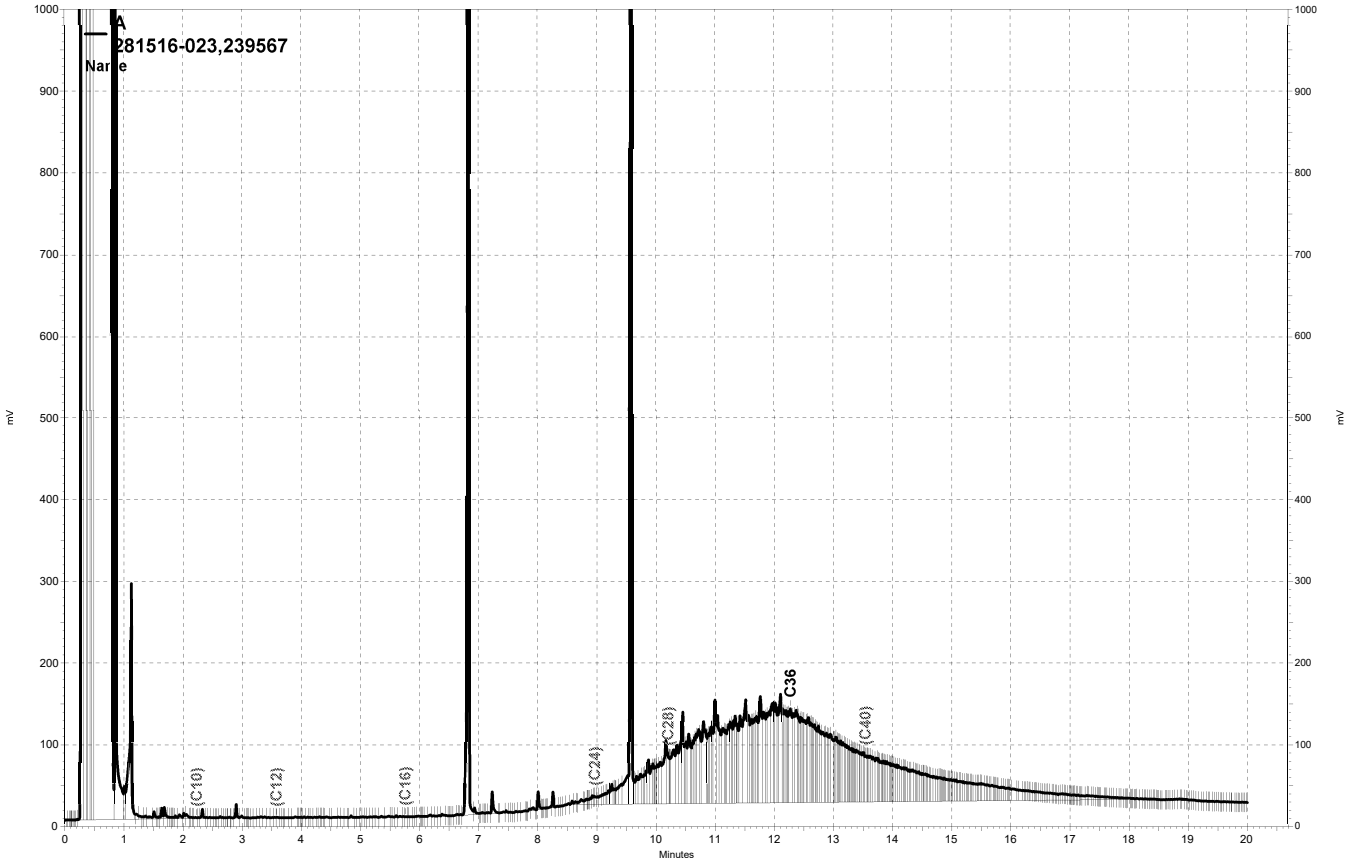

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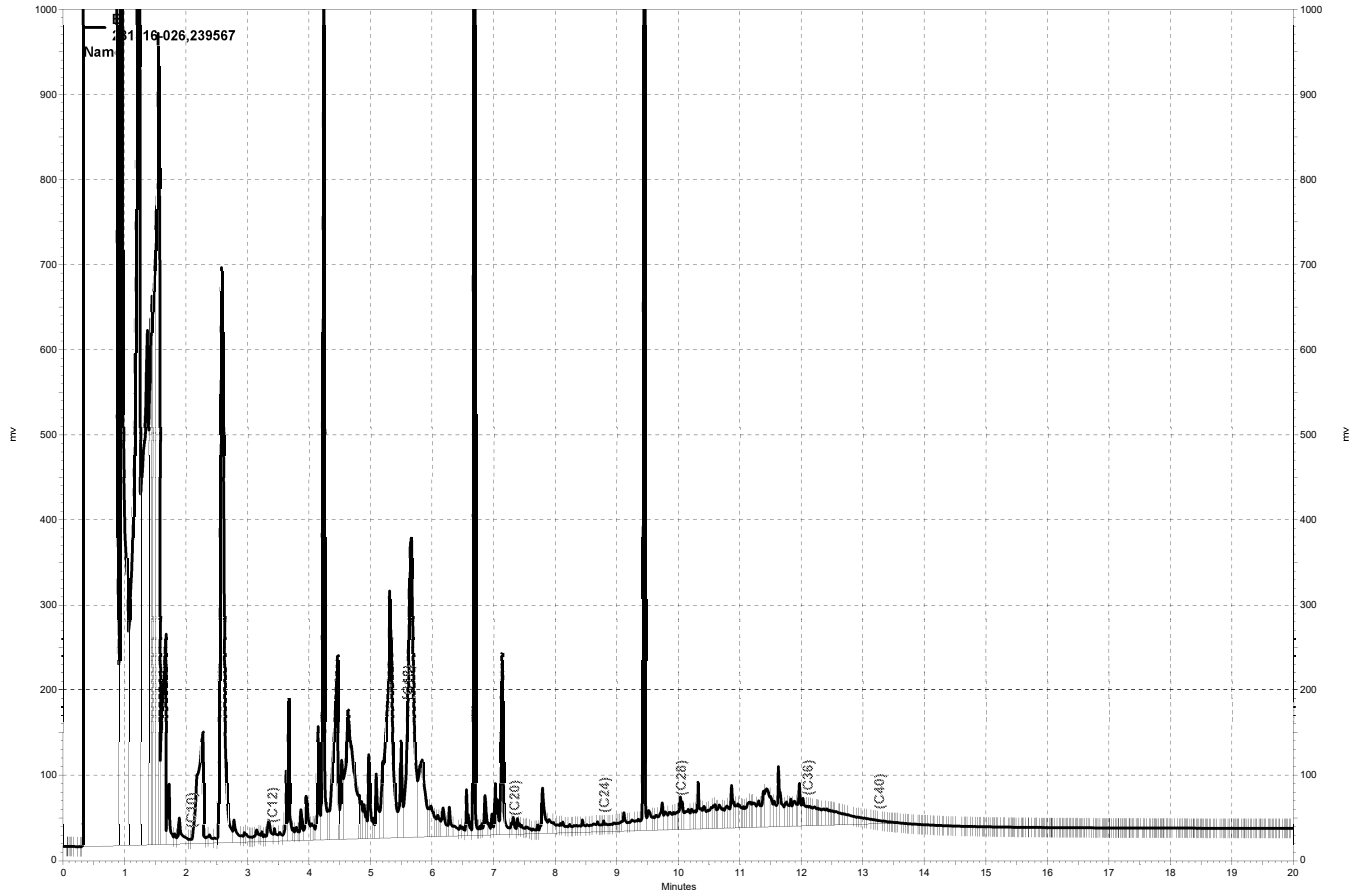

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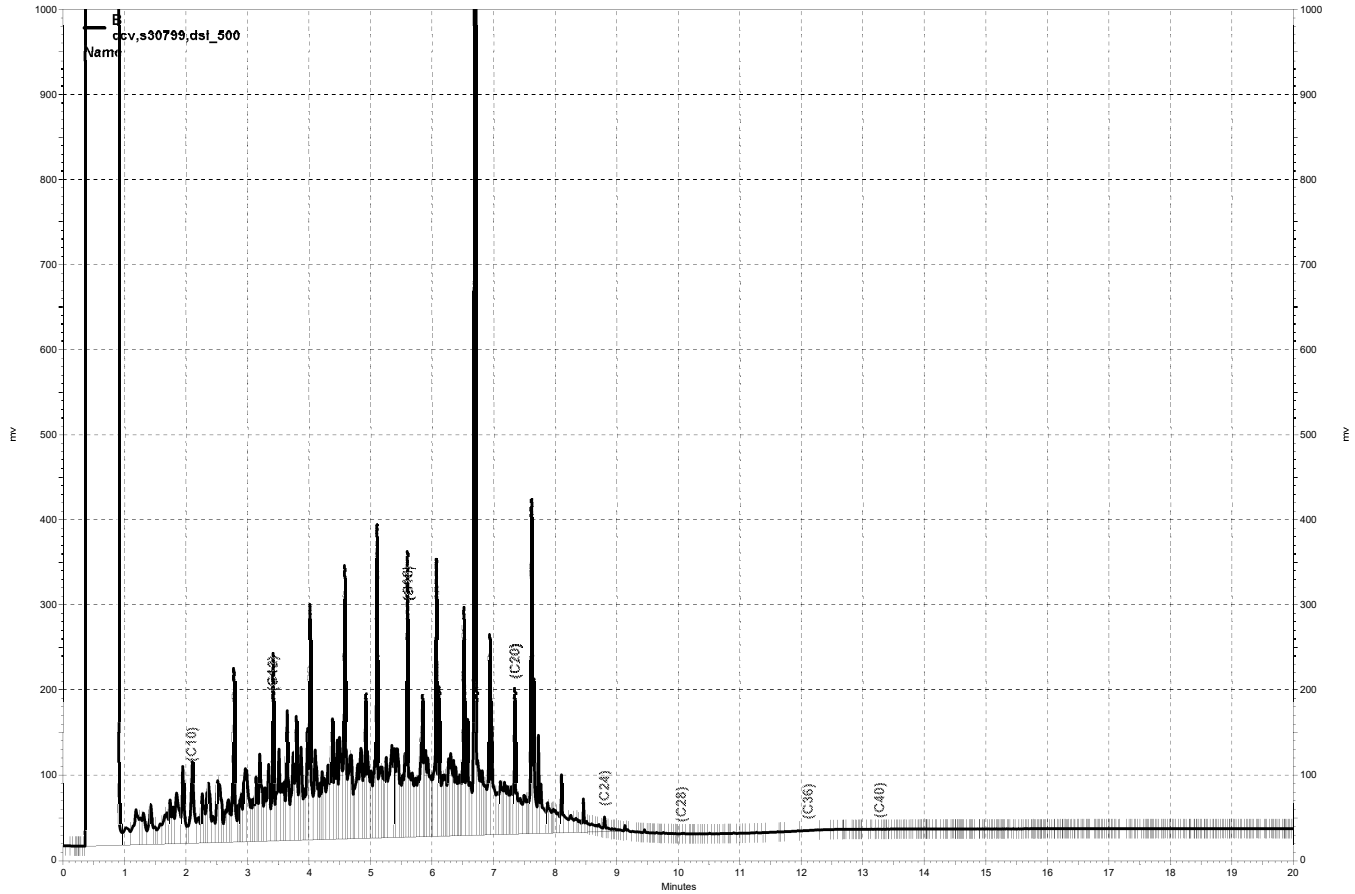

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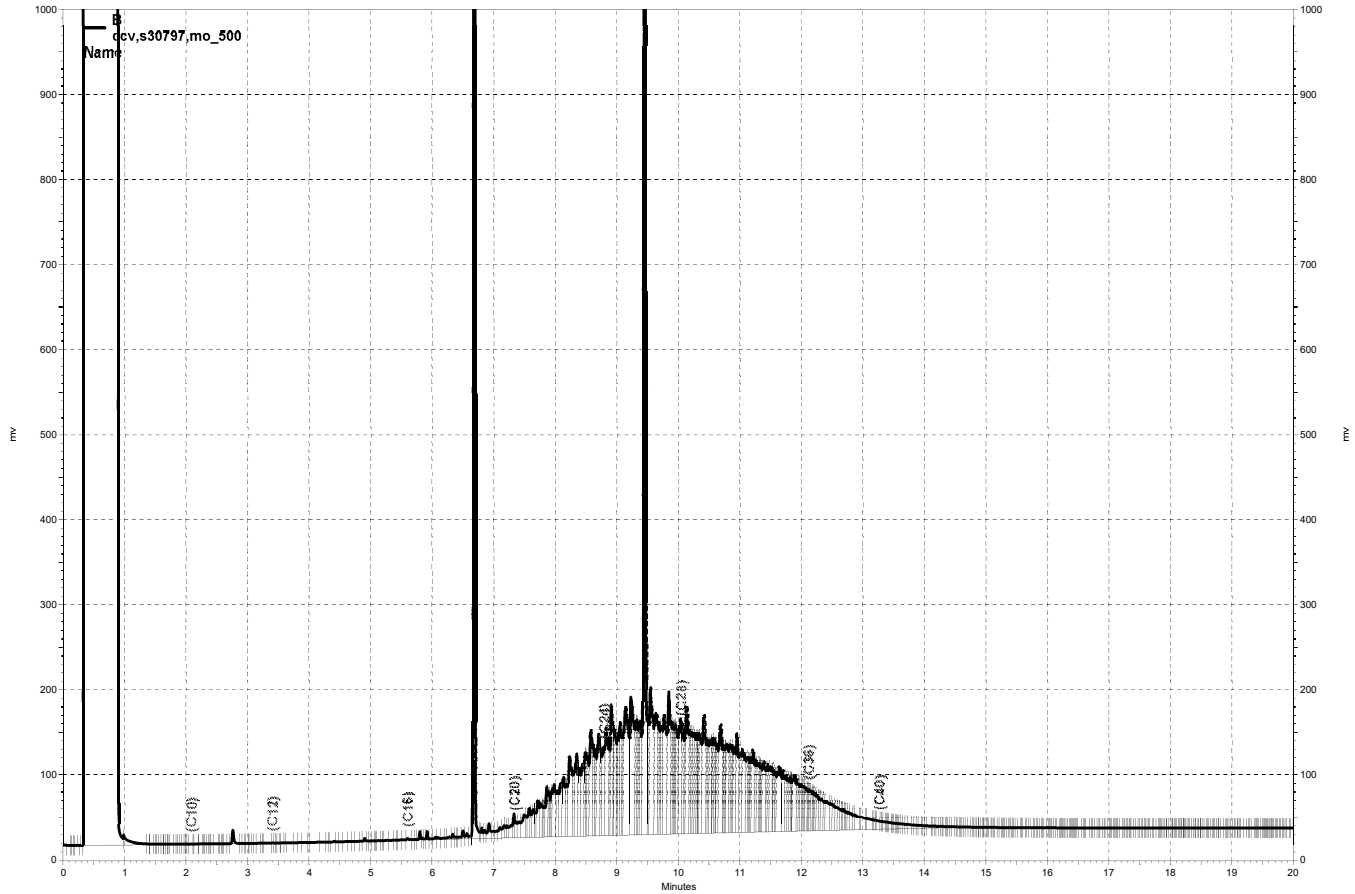

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Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 166308614001
Units : mg/L

Name : OTP_214
Date : 01-AUG-2016 14:59
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	214a006	166308614006	HEXOTP_5	01-AUG-2016 14:59	S29899
L2	214a007	166308614007	HEXOTP_10	01-AUG-2016 15:26	S29900
L3	214a008	166308614008	HEXOTP_25	01-AUG-2016 15:54	S29901
L4	214a009	166308614009	HEXOTP_50	01-AUG-2016 16:22	S29902
L5	214a010	166308614010	HEXOTP_100	01-AUG-2016 16:49	S29903
L6	214a011	166308614011	HEXOTP_200	01-AUG-2016 17:17	S29904

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	59744	59669	59698	60619	61732	59478	AVRG		1.66E-5		60157	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	-1	10.000	-1	25.000	-1	50.000	1	100.00	3	200.00	-1

RDG 08/02/16 : Corrected automatically drawn baseline in all levels.

RDG 08/02/16 : Hexacosane ICAL are not being use.

Analyst: RDG Date: 08/02/16 Reviewer: EAH Date: 08/02/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 166308614002
Units : mg/L

Name : MO_214
Date : 01-AUG-2016 22:23
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	214a022	166308614022	MO_50	01-AUG-2016 22:23	S30319
L2	214a023	166308614023	MO_250	01-AUG-2016 22:51	S30320
L3	214a024	166308614024	MO_500	01-AUG-2016 23:19	S30321
L4	214a025	166308614025	MO_1000	01-AUG-2016 23:47	S30322
L5	214a026	166308614026	MO_2500	02-AUG-2016 00:15	S30318 (2X)
L6	214a027	166308614027	MO_5000	02-AUG-2016 00:43	S30318

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	50207	39795	38891	37866	35314	33491	AVRG		2.55E-5		39261	15	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	**28**	250.00	1	500.00	-1	1000.0	-4	2500.0	-10	5000.0	-15

RDG 08/02/16 : Corrected automatically drawn baseline in all levels.

Analyst: RDG Date: 08/02/16 Reviewer: EAH Date: 08/02/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 GCSV Soil: EPA 8015B

Inst : GC15B
Calnum : 166380592001
Units : mg/L

Name : DSL_264
Date : 20-SEP-2016 13:25
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	264b012	166380592012	DSL_10	20-SEP-2016 13:25	S30713
L2	264b013	166380592013	DSL_100	20-SEP-2016 13:53	S30714
L3	264b014	166380592014	DSL_500	20-SEP-2016 14:21	S30715
L4	264b015	166380592015	DSL_1000	20-SEP-2016 14:48	S30716
L5	264b016	166380592016	DSL_5000	20-SEP-2016 15:16	S29858

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	41438	45207	48738	49151	48605	AVRG		2.14E-5		46628	7	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	-11	100.00	-3	500.00	5	1000.0	5	5000.0	4

RDG 09/21/16 : Corrected automatically drawn baseline in multiple levels.

RDG: 09/21/16 BOY: 09/21/16 EAH: 09/21/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281516 GCSV Soil
EPA 8015B

Inst : GC15B
Calnum : 166380592001

Name : DSL_264
Cal Date : 20-SEP-2016

ICV 166380592018 (264b018 20-SEP-2016) stds: S30513

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	493.9	mg/L	-1	15	

Analyst: RDG Date: 09/21/16 Reviewer: EAH Date: 09/21/16

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 176342071001
Units : mg/L

Name : DSL_237
Date : 24-AUG-2016 21:59
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	237015	176342071015	DSL_10	24-AUG-2016 21:59	S30713
L2	237016	176342071016	DSL_100	24-AUG-2016 22:27	S30714
L3	237017	176342071017	DSL_500	24-AUG-2016 22:55	S30715
L4	237018	176342071018	DSL_1000	24-AUG-2016 23:24	S30716
L5	237019	176342071019	DSL_5000	24-AUG-2016 23:52	S29858

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	65206	64202	65743	65539	66403	AVRG		1.53E-5		65419	1	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	0	100.00	-2	500.00	0	1000.0	0	5000.0	2

RDG 08/29/16 : Corrected automatically drawn baseline in all levels.

RDG: 08/29/16 * NLL: 08/29/16 EAH: 08/29/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281516 GCSV Soil
EPA 8015B

Inst : GC17A Name : DSL_237
Calnum : 176342071001 Cal Date : 24-AUG-2016

ICV 176342071021 (237021 25-AUG-2016) stds: S30513

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	492.1	mg/L	-2	15	

Analyst: NLL Date: 08/29/16 Reviewer: EAH Date: 08/29/16

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 176342071002
Units : mg/L

Name : MO_237
Date : 25-AUG-2016 02:13
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	237024	176342071024	MO_50	25-AUG-2016 02:13	S30319
L2	237025	176342071025	MO_250	25-AUG-2016 02:42	S30320
L3	237026	176342071026	MO_500	25-AUG-2016 03:10	S30321
L4	237027	176342071027	MO_1000	25-AUG-2016 03:38	S30322
L5	237028	176342071028	MO_2500	25-AUG-2016 04:06	S30318 (2X)
L6	237029	176342071029	MO_5000	25-AUG-2016 04:34	S30318

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	42232	47515	50566	49226	44118	42089	AVRG		2.18E-5		45958	8	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	-8	250.00	3	500.00	10	1000.0	7	2500.0	-4	5000.0	-8

NLL 08/29/16 : Corrected automatically drawn baseline in all levels.

Analyst: NLL Date: 08/29/16 Reviewer: EAH Date: 08/29/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 GCSV Soil: EPA 8015B

Inst : GC17A
Calnum : 176345099003
Units : mg/L

Name : 239 bothsurrcal
Date : 26-AUG-2016 18:28
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	239005	176345099005	HEXOTP_5	26-AUG-2016 18:28	S29899
L2	239006	176345099006	HEXOTP_10	26-AUG-2016 18:56	S29900
L3	239007	176345099007	HEXOTP_25	26-AUG-2016 19:23	S29901
L4	239008	176345099008	HEXOTP_50	26-AUG-2016 19:51	S29902
L5	239009	176345099009	HEXOTP_100	26-AUG-2016 20:19	S30744
L6	239010	176345099010	HEXOTP_200	26-AUG-2016 20:47	S30745

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	114129	86594	82000	83161	78394	91598	AVRG		1.12E-5		89313	15	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	**28**	10.000	-3	25.000	-8	50.000	-7	100.00	-12	200.00	3

RDG 08/29/16 : Corrected automatically drawn baseline in all levels.

Analyst: RDG Date: 08/29/16 Reviewer: EAH Date: 08/29/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 GCSV Soil: EPA 8015B

Inst : GC26A
Calnum : 866308612001
Units : mg/L

Name : OTPHEX_214
Date : 01-AUG-2016 15:22
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	214a011	866308612011	HEXOTP_5	01-AUG-2016 15:22	S29899
L2	214a012	866308612012	HEXOTP_10	01-AUG-2016 15:50	S29900
L3	214a013	866308612013	HEXOTP_25	01-AUG-2016 16:19	S29901
L4	214a014	866308612014	HEXOTP_50	01-AUG-2016 16:47	S29902
L5	214a015	866308612015	HEXOTP_100	01-AUG-2016 17:15	S29903
L6	214a016	866308612016	HEXOTP_200	01-AUG-2016 17:44	S29904

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
o-Terphenyl	78524	80573	80967	84072	88593	87716	AVRG		1.20E-5		83408	5	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
o-Terphenyl	5.0000	-6	10.000	-3	25.000	-3	50.000	1	100.00	6	200.00	5

JDG 08/02/16 : Corrected automatically drawn baseline in multiple levels.

Analyst: JDG Date: 08/02/16 Reviewer: EAH Date: 08/02/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 GCSV Soil: EPA 8015B

Inst : GC26A
Calnum : 866321635001
Units : mg/L

Name : DSL_223
Date : 10-AUG-2016 13:05
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	223a007	866321635007	DSL_10	10-AUG-2016 13:05	S29863
L2	223a008	866321635008	DSL_100	10-AUG-2016 13:33	S29864
L3	223a009	866321635009	DSL_500	10-AUG-2016 14:02	S29865
L4	223a010	866321635010	DSL_1000	10-AUG-2016 14:30	S29866
L5	223a011	866321635011	DSL_5000	10-AUG-2016 14:58	S29858

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Diesel C10-C24	96382	88849	76336	83350	82900	AVRG		1.17E-5		85563	9	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Diesel C10-C24	10.000	13	100.00	4	500.00	-11	1000.0	-3	5000.0	-3

BJP 08/10/16 : Corrected automatically drawn baseline in all levels.

Analyst: RDG Date: 08/12/16 Reviewer: EAH Date: 08/12/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281516 GCSV Soil
EPA 8015B

Inst : GC26A
Calnum : 866321635001

Name : DSL_223
Cal Date : 10-AUG-2016

ICV 866321635013 (223a013 10-AUG-2016) stds: S30513

Analyte	Spiked	Quant	Units	%D	Max	Flags
Diesel C10-C24	500.0	434.0	mg/L	-13	15	

Analyst: RDG Date: 08/12/16 Reviewer: EAH Date: 08/12/16

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 GCSV Soil: EPA 8015B

Inst : GC26A
Calnum : 866383764001
Units : mg/L

Name : MO_266
Date : 22-SEP-2016 17:34
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	266a009	866383764009	MO_50	22-SEP-2016 17:34	S30319
L2	266a010	866383764010	MO_250	22-SEP-2016 18:02	S30320
L3	266a011	866383764011	MO_500	22-SEP-2016 18:31	S30321
L4	266a012	866383764012	MO_1000	22-SEP-2016 18:59	S30322
L5	266a013	866383764013	MO_2500	22-SEP-2016 19:27	S30318 (2X)
L6	266a014	866383764014	MO_5000	22-SEP-2016 19:56	S30318

Analyte	L1	L2	L3	L4	L5	L6	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Motor Oil C24-C36	50370	50954	52033	44107	37891	43344	AVRG		2.15E-5		46450	12	0.995	20	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D
Motor Oil C24-C36	50.000	8	250.00	10	500.00	12	1000.0	-5	2500.0	-18	5000.0	-7

Analyst: NLL Date: 09/27/16 Reviewer: EAH Date: 09/27/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

866383764001

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 166392773048 File : 273b048 Time : 30-SEP-2016 03:12
Standards: S30797

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	166308614002	01-AUG-2016	39261	42121	500.0	536.4	mg/L	7	15	
o-Terphenyl	166308614001	01-AUG-2016	60157	69345	50.00	57.64	mg/L	15	15	

RDG 09/30/16 : Corrected automatically drawn baseline.

Analyst: RDG Date: 09/30/16 Reviewer: EAH Date: 10/03/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : DSL_500 IDF : 1.0
Seqnum : 166392773049 File : 273b049 Time : 30-SEP-2016 03:40
Standards: S30799

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	166380592001	20-SEP-2016	46628	52979	500.0	568.1	mg/L	14	15	
o-Terphenyl	166308614001	01-AUG-2016	60157	68503	50.00	56.94	mg/L	14	15	

RDG 09/30/16 : Corrected automatically drawn baseline.

Analyst: RDG Date: 09/30/16 Reviewer: EAH Date: 10/03/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : MO_500 IDF : 1.0
Seqnum : 166392773064 File : 273b064 Time : 30-SEP-2016 10:51
Standards: S30797

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	166308614002	01-AUG-2016	39261	40151	500.0	511.3	mg/L	2	15	
o-Terphenyl	166308614001	01-AUG-2016	60157	65174	50.00	54.17	mg/L	8	15	

BOY 09/30/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/30/16 Reviewer: EAH Date: 09/30/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC15B Run Name : DSL_250 IDF : 1.0
Seqnum : 166392773065 File : 273b065 Time : 30-SEP-2016 11:19
Standards: S30512

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	166380592001	20-SEP-2016	46628	52057	250.0	279.1	mg/L	12	15	
o-Terphenyl	166308614001	01-AUG-2016	60157	66247	50.00	55.06	mg/L	10	15	

BOY 09/30/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/30/16 Reviewer: EAH Date: 09/30/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 176393506003.1 File : 273a003 Time : 29-SEP-2016 07:22
Standards: S30797

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	176342071002	25-AUG-2016	45958	46915	500.0	510.4	mg/L	2	15	
o-Terphenyl	176345099003	26-AUG-2016	89313	77066	50.00	43.14	mg/L	-14	15	

BOY 09/29/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/29/16 Reviewer: TKM Date: 10/06/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_500 IDF : 1.0
Seqnum : 176393506004 File : 273a004 Time : 29-SEP-2016 07:50
Standards: S30799

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	176342071001	24-AUG-2016	65419	62716	500.0	479.3	mg/L	-4	15	
o-Terphenyl	176345099003	26-AUG-2016	89313	78793	50.00	44.11	mg/L	-12	15	

BOY 09/29/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/29/16 Reviewer: EAH Date: 10/05/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : MO_500 IDF : 1.0
Seqnum : 176393506016 File : 273a016 Time : 29-SEP-2016 13:51
Standards: S30797

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	176342071002	25-AUG-2016	45958	48583	500.0	528.6	mg/L	6	15	
o-Terphenyl	176345099003	26-AUG-2016	89313	79724	50.00	44.63	mg/L	-11	15	

BOY 09/29/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/29/16 Reviewer: EAH Date: 10/05/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC17A Run Name : DSL_1000 IDF : 1.0
Seqnum : 176393506017 File : 273a017 Time : 29-SEP-2016 14:19
Standards: S30800

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	176342071001	24-AUG-2016	65419	63559	1000	971.6	mg/L	-3	15	
o-Terphenyl	176345099003	26-AUG-2016	89313	83439	50.00	46.71	mg/L	-7	15	

BOY 09/29/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/29/16 Reviewer: EAH Date: 10/05/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC26A Run Name : MO_500 IDF : 1.0
Seqnum : 866392075003 File : 272a003 Time : 28-SEP-2016 07:32
Standards: S30797

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	866383764001	22-SEP-2016	46450	43377	500.0	466.9	mg/L	-7	15	
o-Terphenyl	866308612001	01-AUG-2016	83408	83247	50.00	49.90	mg/L	0	15	

RDG 09/28/16 : Corrected automatically drawn baseline.

Analyst: RDG Date: 09/28/16 Reviewer: EAH Date: 09/28/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC26A Run Name : DSL_500 IDF : 1.0
Seqnum : 866392075004 File : 272a004 Time : 28-SEP-2016 08:00
Standards: S30799

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	866321635001	10-AUG-2016	85563	74794	500.0	437.1	mg/L	-13	15	
o-Terphenyl	866308612001	01-AUG-2016	83408	84295	50.00	50.53	mg/L	1	15	

RDG 09/28/16 : Corrected automatically drawn baseline.

Analyst: RDG Date: 09/28/16 Reviewer: EAH Date: 09/28/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC26A Run Name : MO_500 IDF : 1.0
Seqnum : 866392075016 File : 272a016 Time : 28-SEP-2016 14:19
Standards: S30797

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	866383764001	22-SEP-2016	46450	43612	500.0	469.4	mg/L	-6	15	
o-Terphenyl	866308612001	01-AUG-2016	83408	84201	50.00	50.48	mg/L	1	15	

BOY 09/28/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/28/16 Reviewer: EAH Date: 09/28/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC26A Run Name : DSL_250 IDF : 1.0
Seqnum : 866392075017 File : 272a017 Time : 28-SEP-2016 14:47
Standards: S30512

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	866321635001	10-AUG-2016	85563	77110	250.0	225.3	mg/L	-10	15	
o-Terphenyl	866308612001	01-AUG-2016	83408	83744	50.00	50.20	mg/L	0	15	

BOY 09/28/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/28/16 Reviewer: EAH Date: 09/28/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC26A Run Name : MO_500 IDF : 1.0
Seqnum : 866392075059 File : 272a059 Time : 29-SEP-2016 11:17
Standards: S30797

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	866383764001	22-SEP-2016	46450	43254	500.0	465.6	mg/L	-7	15	
o-Terphenyl	866308612001	01-AUG-2016	83408	81276	50.00	48.72	mg/L	-3	15	

BOY 09/29/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/29/16 Reviewer: EAH Date: 09/29/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC26A Run Name : DSL_500 IDF : 1.0
Seqnum : 866392075060 File : 272a060 Time : 29-SEP-2016 11:46
Standards: S30799

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	866321635001	10-AUG-2016	85563	74359	500.0	434.5	mg/L	-13	15	
o-Terphenyl	866308612001	01-AUG-2016	83408	85531	50.00	51.27	mg/L	3	15	

BOY 09/29/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/29/16 Reviewer: EAH Date: 09/29/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC26A Run Name : MO_500 IDF : 1.0
Seqnum : 866392075073 File : 272a073 Time : 29-SEP-2016 17:57
Standards: S30797

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Motor Oil C24-C36	866383764001	22-SEP-2016	46450	43280	500.0	465.9	mg/L	-7	15	
o-Terphenyl	866308612001	01-AUG-2016	83408	81497	50.00	48.85	mg/L	-2	15	

BOY 09/29/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/29/16 Reviewer: EAH Date: 09/29/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 GCSV Soil
EPA 8015B

Inst : GC26A Run Name : DSL_1000 IDF : 1.0
Seqnum : 866392075074 File : 272a074 Time : 29-SEP-2016 18:25
Standards: S30800

Analyte	Cal	Caldate	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Diesel C10-C24	866321635001	10-AUG-2016	85563	73605	1000	860.2	mg/L	-14	15	
o-Terphenyl	866308612001	01-AUG-2016	83408	83410	50.00	50.00	mg/L	0	15	

BOY 09/29/16 : Corrected automatically drawn baseline.

Analyst: BOY Date: 09/29/16 Reviewer: EAH Date: 09/29/16

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 166308614

Instrument : GC15B Begun : 08/01/16 07:34
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	214a001	X	IB			08/01/16 07:34	1.0		
002	214a002	X	CMARKER			08/01/16 08:02	1.0	1	
003	214a003	X	CCV			08/01/16 08:37	1.0	2	
004	214a004	X	CCV			08/01/16 09:05	1.0	3	
005	214a005	IB	CALIB			08/01/16 14:31	1.0		
006	214a006	ICAL	HEXOTP_5			08/01/16 14:59	1.0	4	
007	214a007	ICAL	HEXOTP_10			08/01/16 15:26	1.0	5	
008	214a008	ICAL	HEXOTP_25			08/01/16 15:54	1.0	6	
009	214a009	ICAL	HEXOTP_50			08/01/16 16:22	1.0	7	
010	214a010	ICAL	HEXOTP_100			08/01/16 16:49	1.0	8	
011	214a011	ICAL	HEXOTP_200			08/01/16 17:17	1.0	9	
012	214a012	IB	CALIB			08/01/16 17:45	1.0		
013	214a013	X	DSL_10			08/01/16 18:13	1.0	10	
014	214a014	ICAL	DSL_100			08/01/16 18:40	1.0	11	
015	214a015	ICAL	DSL_500			08/01/16 19:08	1.0	12	
016	214a016	ICAL	DSL_1000			08/01/16 19:36	1.0	13	
017	214a017	ICAL	DSL_5000			08/01/16 20:04	1.0	14	
018	214a018	IB	CALIB			08/01/16 20:31	1.0		
019	214a019	ICV	DSL_500			08/01/16 20:59	1.0	15	
020	214a020	X	ICV			08/01/16 21:27	1.0	15	
021	214a021	IB	CALIB			08/01/16 21:55	1.0		
022	214a022	ICAL	MO_50			08/01/16 22:23	1.0	16	
023	214a023	ICAL	MO_250			08/01/16 22:51	1.0	17	
024	214a024	ICAL	MO_500			08/01/16 23:19	1.0	18	
025	214a025	ICAL	MO_1000			08/01/16 23:47	1.0	19	
026	214a026	ICAL	MO_2500			08/02/16 00:15	1.0	20	
027	214a027	ICAL	MO_5000			08/02/16 00:43	1.0	20	
028	214a028	IB	CALIB			08/02/16 01:11	1.0		
029	214a029	ICAL	JP5_10			08/02/16 01:39	1.0	21	
030	214a030	ICAL	JP5_100			08/02/16 02:07	1.0	22	
031	214a031	ICAL	JP5_500			08/02/16 02:35	1.0	23	
032	214a032	ICAL	JP5_1500			08/02/16 03:03	1.0	24	
033	214a033	ICAL	JP5_2500			08/02/16 03:31	1.0	25	
034	214a034	X	JP5_5000			08/02/16 03:59	1.0	26	
035	214a035	IB	CALIB			08/02/16 04:27	1.0		
036	214a036	CMARKER	C8-C50			08/02/16 04:55	1.0	1	
037	214a037	IB	CALIB			08/02/16 05:23	1.0		
038	214a038	ICAL	DSL_10			08/02/16 12:12	1.0	10	
039	214a039	IB	CALIB			08/02/16 12:39	1.0		

RDG 08/02/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 39.

Standards used: 1=S29702 2=S29874 3=S30068 4=S29899 5=S29900 6=S29901 7=S29902 8=S29903 9=S29904 10=S29863 11=S29864 12=S29865 13=S29866 14=S29858 15=S30130 16=S30319 17=S30320 18=S30321 19=S30322 20=S30318 21=S30505 22=S30506 23=S30507 24=S30508 25=S30509 26=S30199

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 166380592

Instrument : GC15B Begun : 09/20/16 07:12
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	264b001	X	IB			09/20/16 07:12	1.0		
002	264b002	X	CMARKER			09/20/16 07:40	1.0	1	
003	264b003	X	CCV			09/20/16 08:08	1.0	2	
004	264b004	X	CCV			09/20/16 08:36	1.0	3	
005	264b005	X	CCV			09/20/16 09:04	1.0	3	
006	264b006	X	CCV			09/20/16 09:33	1.0	4	
007	264b007	CHECK	GRANULAR			09/20/16 11:05	1.0		
008	264b008	CHECK	POWDER			09/20/16 11:33	1.0		
009	264b009	X	IB			09/20/16 12:01	1.0		
010	264b010	X	IB			09/20/16 12:29	1.0		
011	264b011	IB	CALIB			09/20/16 12:57	1.0		
012	264b012	ICAL	DSL_10			09/20/16 13:25	1.0	5	
013	264b013	ICAL	DSL_100			09/20/16 13:53	1.0	6	
014	264b014	ICAL	DSL_500			09/20/16 14:21	1.0	7	
015	264b015	ICAL	DSL_1000			09/20/16 14:48	1.0	8	
016	264b016	ICAL	DSL_5000			09/20/16 15:16	1.0	9	
017	264b017	IB	CALIB			09/20/16 15:44	1.0		
018	264b018	ICV	DSL_500			09/20/16 16:12	1.0	10	
019	264b019	X	ICV			09/20/16 16:40	1.0	10	
020	264b020	IB	CALIB			09/20/16 17:08	1.0		
021	264b021	CMARKER	C8-C50			09/20/16 17:35	1.0	1	
022	264b022	IB	CALIB			09/20/16 18:03	1.0		

RDG 09/21/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 22.

Standards used: 1=S30168 2=S30797 3=S30799 4=S30514 5=S30713 6=S30714 7=S30715 8=S30716 9=S29858 10=S30513

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 166392773

Instrument : GC15B Begun : 09/28/16 18:13
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	273b001	X	IB				09/28/16 18:13	1.0		
002	273b002	X	IB				09/28/16 18:41	1.0		
003	273b003	CMARKER	C8-C50				09/28/16 19:09	1.0	1	
004	273b004	CCV	MO_500				09/28/16 19:37	1.0	2	
005	273b005	CCV	DSL_500				09/28/16 20:05	1.0	3	
006	273b006	LOD	207488-036		Soil	239567	09/29/16 06:49	1.0		
007	273b007	SAMPLE	281442-001	S	Soil	239567	09/29/16 07:40	1.0		
008	273b008	SAMPLE	281321-007	S	Water	239491	09/29/16 08:08	1.0		
009	273b009	SAMPLE	281322-001	S	Water	239491	09/29/16 08:37	1.0		
010	273b010	SAMPLE	281511-006		Soil	239567	09/29/16 09:05	1.0		
011	273b011	SAMPLE	281421-001	S	Soil	239567	09/29/16 09:33	1.0		
012	273b012	SAMPLE	281460-003		Soil	239567	09/29/16 10:01	1.0		
013	273b013	SAMPLE	281460-008		Soil	239567	09/29/16 10:29	1.0		
014	273b014	SAMPLE	281460-013		Soil	239567	09/29/16 10:57	1.0		
015	273b015	SAMPLE	281460-020		Soil	239567	09/29/16 11:25	2.0		
016	273b016	X	IB				09/29/16 11:53	1.0		
017	273b017	X	MO_500				09/29/16 12:21	1.0	2	
018	273b018	CCV	DSL_250				09/29/16 12:49	1.0	4	
019	273b019	CCV	MO_500				09/29/16 13:17	1.0	2	
020	273b020	X	CMARKER				09/29/16 13:45	1.0	1	
021	273b021	SAMPLE	281321-002		Water	239491	09/29/16 14:38	1.0		
022	273b022	SAMPLE	281321-003		Water	239491	09/29/16 15:05	1.0		
023	273b023	SAMPLE	281321-004		Water	239491	09/29/16 15:33	1.0		
024	273b024	SAMPLE	281321-005		Water	239491	09/29/16 16:01	1.0		
025	273b025	SAMPLE	281321-006		Water	239491	09/29/16 16:29	1.0		
026	273b026	SAMPLE	281321-007		Water	239491	09/29/16 16:56	1.0		
027	273b027	SAMPLE	280903-002		Water	239189	09/29/16 17:24	1.0		
028	273b028	SAMPLE	281285-002		Water	239451	09/29/16 17:52	1.0		
029	273b029	SAMPLE	281243-014		Water	239409	09/29/16 18:20	1.0		
030	273b030	SAMPLE	280839-010		Water	239187	09/29/16 18:47	10.0		
031	273b031	X	IB				09/29/16 19:15	1.0		
032	273b032	CCV	MO_500				09/29/16 19:43	1.0	2	
033	273b033	CCV	DSL_1000				09/29/16 20:11	1.0	5	
034	273b034	X	CCV				09/29/16 20:39	1.0	2	
035	273b035	X	CCV				09/29/16 21:07	1.0	5	
036	273b036	X	CMARKER				09/29/16 21:35	1.0	1	
037	273b037	SAMPLE	281459-001	S	Soil	239556	09/29/16 22:04	1.0		
038	273b038	SAMPLE	281459-002	S	Soil	239556	09/29/16 22:32	1.0		
039	273b039	SAMPLE	281459-003	S	Soil	239556	09/29/16 23:00	1.0		
040	273b040	SAMPLE	281459-004	S	Soil	239556	09/29/16 23:28	1.0		
041	273b041	SAMPLE	281459-005	S	Soil	239556	09/29/16 23:56	1.0		
042	273b042	SAMPLE	281459-006	S	Soil	239556	09/30/16 00:24	1.0		
043	273b043	SAMPLE	280996-004		Soil	239556	09/30/16 00:52	1.0		sh
044	273b044	SAMPLE	281451-001		Soil	239556	09/30/16 01:20	1.0		
045	273b045	SAMPLE	281453-001		Soil	239556	09/30/16 01:48	1.0		
046	273b046	SAMPLE	281455-001		Soil	239556	09/30/16 02:16	1.0		
047	273b047	X	IB				09/30/16 02:44	1.0		
048	273b048	CCV	MO_500				09/30/16 03:12	1.0	2	
049	273b049	CCV	DSL_500				09/30/16 03:40	1.0	3	
050	273b050	X	CCV				09/30/16 04:08	1.0	2	
051	273b051	X	CCV				09/30/16 04:35	1.0	3	
052	273b052	X	CMARKER				09/30/16 05:03	1.0	1	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 166392773

Instrument : GC15B
Method : EPA 8015B

Begun : 09/28/16 18:13
SOP Version : TEH_rv19

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
053	273b053	SAMPLE	281277-002		Water	239491	09/30/16 05:31	1.0		
054	273b054	SAMPLE	281277-003		Water	239491	09/30/16 05:59	1.0		
055	273b055	SAMPLE	281277-004		Water	239491	09/30/16 06:27	1.0		
056	273b056	SAMPLE	281277-005		Water	239491	09/30/16 06:56	1.0		
057	273b057	SAMPLE	281277-006		Water	239491	09/30/16 07:24	1.0		
058	273b058	SAMPLE	281277-007		Water	239491	09/30/16 07:52	1.0		
059	273b059	SAMPLE	281278-001		Water	239491	09/30/16 08:20	1.0		
060	273b060	SAMPLE	281322-001		Water	239491	09/30/16 08:48	1.0		
061	273b061	SAMPLE	281516-026		Soil	239567	09/30/16 09:16	1.0		
062	273b062	SAMPLE	281568-009		Soil	239614	09/30/16 09:45	1.0		9:BUNKC:10-40=47000
063	273b063	X	IB				09/30/16 10:13	1.0		
064	273b064	CCV	MO_500				09/30/16 10:51	1.0	2	
065	273b065	CCV	DSL_250				09/30/16 11:19	1.0	4	
066	273b066	X	CMARKER				09/30/16 11:47	1.0	1	
067	273b067	CHECK	CCV				09/30/16 12:15	1.0	3	
068	273b068	CHECK	CCV				09/30/16 12:43	1.0	5	
069	273b069	SAMPLE	281297-001		Water	239609	09/30/16 13:24	1.0		
070	273b070	SAMPLE	281562-005	S	Water	239609	09/30/16 13:52	1.0		
071	273b071	BS	QC853525	S	Water	239609	09/30/16 14:32	1.0		
072	273b072	BSD	QC853526	S	Water	239609	09/30/16 15:00	1.0		
073	273b073	SAMPLE	281297-001		Water	239609	09/30/16 15:27	1.0		
074	273b074	CCV	MO_500				09/30/16 15:56	1.0	2	
075	273b075	CCV	DSL_500				09/30/16 16:24	1.0	3	

RDG 09/29/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 5.

BOY 09/30/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 6 through 75.

Standards used: 1=S30168 2=S30797 3=S30799 4=S30512 5=S30800

Flags used: sh=out of sample hold

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 176342071

Instrument : GC17A Begun : 08/24/16 13:11
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	237001	X	IB			08/24/16 13:11	1.0		
002	237002	X	CMARKER			08/24/16 13:38	1.0	1	
003	237003	X	IB			08/24/16 16:17	1.0		
005	237005	X	IB			08/24/16 16:45	1.0		
006	237006	X	CMARKER			08/24/16 17:13	1.0	1	
007	237007	IB	CALIB			08/24/16 18:14	1.0		
008	237008	ICAL	HEXOTP_5			08/24/16 18:42	1.0	2	
009	237009	ICAL	HEXOTP_10			08/24/16 19:10	1.0	3	
010	237010	ICAL	HEXOTP_25			08/24/16 19:38	1.0	4	
011	237011	ICAL	HEXOTP_50			08/24/16 20:06	1.0	5	
012	237012	ICAL	HEXOTP_100			08/24/16 20:34	1.0	6	
013	237013	ICAL	HEXOTP_200			08/24/16 21:02	1.0	7	
014	237014	IB	CALIB			08/24/16 21:30	1.0		
015	237015	ICAL	DSL_10			08/24/16 21:59	1.0	8	
016	237016	ICAL	DSL_100			08/24/16 22:27	1.0	9	
017	237017	ICAL	DSL_500			08/24/16 22:55	1.0	10	
018	237018	ICAL	DSL_1000			08/24/16 23:24	1.0	11	
019	237019	ICAL	DSL_5000			08/24/16 23:52	1.0	12	
020	237020	IB	CALIB			08/25/16 00:20	1.0		
021	237021	ICV	DSL_500			08/25/16 00:49	1.0	13	
022	237022	X	ICV			08/25/16 01:17	1.0	13	
023	237023	IB	CALIB			08/25/16 01:45	1.0		
024	237024	ICAL	MO_50			08/25/16 02:13	1.0	14	
025	237025	ICAL	MO_250			08/25/16 02:42	1.0	15	
026	237026	ICAL	MO_500			08/25/16 03:10	1.0	16	
027	237027	ICAL	MO_1000			08/25/16 03:38	1.0	17	
028	237028	ICAL	MO_2500			08/25/16 04:06	1.0	18	
029	237029	ICAL	MO_5000			08/25/16 04:34	1.0	18	
030	237030	IB	CALIB			08/25/16 05:02	1.0		
031	237031	CMARKER	C8-C50			08/25/16 05:30	1.0	1	
032	237032	IB	CALIB			08/25/16 05:59	1.0		

NLL 08/26/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 32.

Standards used: 1=S30168 2=S29899 3=S29900 4=S29901 5=S29902 6=S29903 7=S29904 8=S30713 9=S30714 10=S30715 11=S30716 12=S29858 13=S30513 14=S30319 15=S30320 16=S30321 17=S30322 18=S30318

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 176345099

Instrument : GC17A Begun : 08/26/16 15:39
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	239001	X	IB			08/26/16 15:39	1.0		
002	239002	X	SURR 100			08/26/16 16:07	1.0		
003	239003	X	SURR 200			08/26/16 16:35	1.0		
004	239004	IB	CALIB			08/26/16 18:00	1.0		
005	239005	ICAL	HEXOTP_5			08/26/16 18:28	1.0	1	
006	239006	ICAL	HEXOTP_10			08/26/16 18:56	1.0	2	
007	239007	ICAL	HEXOTP_25			08/26/16 19:23	1.0	3	
008	239008	ICAL	HEXOTP_50			08/26/16 19:51	1.0	4	
009	239009	ICAL	HEXOTP_100			08/26/16 20:19	1.0	5	
010	239010	ICAL	HEXOTP_200			08/26/16 20:47	1.0	6	
011	239011	IB	CALIB			08/26/16 21:14	1.0		
012	239012	CMARKER	C8-C50			08/26/16 21:43	1.0	7	

NLL 08/29/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 12.

Standards used: 1=S29899 2=S29900 3=S29901 4=S29902 5=S30744 6=S30745 7=S30168

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 176393506

Instrument : GC17A Begun : 09/29/16 06:26
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	273a001	X	IB			09/29/16 06:26	1.0	
002	273a002	X	CMARKER			09/29/16 06:53	1.0	1
003	273a003	CCV	MO_500			09/29/16 07:22	1.0	2
004	273a004	CCV	DSL_500			09/29/16 07:50	1.0	3
005	273a005	SAMPLE	281516-003	Soil	239567	09/29/16 09:09	3.0	
007	273a007	SAMPLE	281516-012	Soil	239567	09/29/16 09:37	1.0	
008	273a008	SAMPLE	281516-015	Soil	239567	09/29/16 10:05	3.0	
009	273a009	SAMPLE	281516-018	Soil	239567	09/29/16 10:34	1.0	
010	273a010	SAMPLE	281516-019	Soil	239567	09/29/16 11:02	1.0	
011	273a011	SAMPLE	281516-020	Soil	239567	09/29/16 11:31	1.0	
012	273a012	SAMPLE	281516-021	Soil	239567	09/29/16 11:59	1.0	
013	273a013	SAMPLE	281516-022	Soil	239567	09/29/16 12:27	1.0	
014	273a014	SAMPLE	281516-023	Soil	239567	09/29/16 12:55	1.0	
015	273a015	SAMPLE	281516-008	Soil	239567	09/29/16 13:23	1.0	
016	273a016	CCV	MO_500			09/29/16 13:51	1.0	2
017	273a017	CCV	DSL_1000			09/29/16 14:19	1.0	4
018	273a018	X	CMARKER			09/29/16 14:47	1.0	1

BOY 09/29/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 5.

BOY 09/29/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 7 through 17.

Standards used: 1=S30168 2=S30797 3=S30799 4=S30800

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 866308612

Instrument : GC26A Begun : 08/01/16 07:32
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	214a001	X	IB				08/01/16 07:32	1.0		
002	214a002	X	CMARKER				08/01/16 08:01	1.0	1	
003	214a003	CCV	MO_500				08/01/16 08:29	1.0	2	
004	214a004	CCV	DSL_1000				08/01/16 08:58	1.0	3	
005	214a005	BS	QC845175	S	Water	237524	08/01/16 12:16	1.0		
006	214a006	BSD	QC845176	S	Water	237524	08/01/16 12:44	1.0		
007	214a007	SAMPLE	279130-002	S	Water	237524	08/01/16 13:12	1.0		
008	214a008	CCV	MO_500				08/01/16 13:41	1.0	2	
009	214a009	CCV	DSL_500				08/01/16 14:09	1.0	4	
010	214a010	IB	CALIB				08/01/16 14:53	1.0		
011	214a011	ICAL	HEXOTP_5				08/01/16 15:22	1.0	5	
012	214a012	ICAL	HEXOTP_10				08/01/16 15:50	1.0	6	
013	214a013	ICAL	HEXOTP_25				08/01/16 16:19	1.0	7	
014	214a014	ICAL	HEXOTP_50				08/01/16 16:47	1.0	8	
015	214a015	ICAL	HEXOTP_100				08/01/16 17:15	1.0	9	
016	214a016	ICAL	HEXOTP_200				08/01/16 17:44	1.0	10	
017	214a017	IB	CALIB				08/01/16 18:12	1.0		
018	214a018	X	CMARKER				08/01/16 18:41	1.0	1	

JDG 08/01/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 9.

JDG 08/02/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 10 through 18.

Standards used: 1=S29702 2=S30068 3=S29874 4=S30130 5=S29899 6=S29900 7=S29901 8=S29902 9=S29903 10=S29904

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 866321635

Instrument : GC26A Begun : 08/10/16 08:35
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	223a001	X	IB			08/10/16 08:35	1.0		
002	223a002	X	CMARKER			08/10/16 09:03	1.0	1	
003	223a003	CCV	MO_500			08/10/16 09:32	1.0	2	
004	223a004	CCV	DSL_1000			08/10/16 10:01	1.0	3	
005	223a005	X	IB			08/10/16 12:08	1.0		
006	223a006	IB	CALIB			08/10/16 12:37	1.0		
007	223a007	ICAL	DSL_10			08/10/16 13:05	1.0	4	
008	223a008	ICAL	DSL_100			08/10/16 13:33	1.0	5	
009	223a009	ICAL	DSL_500			08/10/16 14:02	1.0	6	
010	223a010	ICAL	DSL_1000			08/10/16 14:30	1.0	7	
011	223a011	ICAL	DSL_5000			08/10/16 14:58	1.0	8	
012	223a012	IB	CALIB			08/10/16 15:26	1.0		
013	223a013	ICV	DSL_500			08/10/16 15:55	1.0	9	
014	223a014	X	ICV			08/10/16 16:23	1.0	9	
015	223a015	IB	CALIB			08/10/16 16:52	1.0		
016	223a016	ICAL	MO_50			08/10/16 17:20	1.0	10	
017	223a017	ICAL	MO_250			08/10/16 17:48	1.0	11	
018	223a018	ICAL	MO_500			08/10/16 18:17	1.0	12	
019	223a019	ICAL	MO_1000			08/10/16 18:45	1.0	13	
020	223a020	ICAL	MO_2500			08/10/16 19:14	1.0	14	
021	223a021	ICAL	MO_5000			08/10/16 19:42	1.0	14	
022	223a022	IB	CALIB			08/10/16 20:11	1.0		
023	223a023	CMARKER	C8-C50			08/10/16 20:39	1.0	1	
024	223a024	IB	CALIB			08/11/16 15:26	1.0		
025	223a025	CHECK	TANK			08/11/16 15:54	1.0		
026	223a026	CHECK	TANK			08/11/16 16:22	1.0		

RDG 08/12/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 26.

Standards used: 1=S29702 2=S30068 3=S29874 4=S29863 5=S29864 6=S29865 7=S29866 8=S29858 9=S30513 10=S30319 11=S30320 12=S30321 13=S30322 14=S30318

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 866383764

Instrument : GC26A Begun : 09/22/16 12:04
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	266a001	X	IB			09/22/16 12:04	1.0		
002	266a002	X	IB			09/22/16 12:33	1.0		
003	266a003	X	C8-C50			09/22/16 13:01	1.0	1	
004	266a004	CCV	MO_500			09/22/16 13:29	1.0	2	
005	266a005	CCV	DSL_1000			09/22/16 13:58	1.0	3	
006	266a006	CCV	MO_500			09/22/16 14:50	1.0	2	
007	266a007	IB	CALIB			09/22/16 16:37	1.0		
008	266a008	X	IB			09/22/16 17:05	1.0		
009	266a009	ICAL	MO_50			09/22/16 17:34	1.0	4	
010	266a010	ICAL	MO_250			09/22/16 18:02	1.0	5	
011	266a011	ICAL	MO_500			09/22/16 18:31	1.0	6	
012	266a012	ICAL	MO_1000			09/22/16 18:59	1.0	7	
013	266a013	ICAL	MO_2500			09/22/16 19:27	1.0	8	
014	266a014	ICAL	MO_5000			09/22/16 19:56	1.0	8	
015	266a015	X	IB			09/22/16 20:24	1.0		
016	266a016	CMARKER	C8-C50			09/22/16 20:53	1.0	1	

NLL 09/22/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 5.

NLL 09/23/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 6 through 16.

Standards used: 1=S30168 2=S30797 3=S30514 4=S30319 5=S30320 6=S30321 7=S30322 8=S30318

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 866392075

Instrument : GC26A Begun : 09/28/16 06:35
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
001	272a001	X	IB				09/28/16 06:35	1.0		
002	272a002	X	CMARKER				09/28/16 07:03	1.0	1	
003	272a003	CCV	MO_500				09/28/16 07:32	1.0	2	
004	272a004	CCV	DSL_500				09/28/16 08:00	1.0	3	
005	272a005	CHECK	TANK				09/28/16 08:37	1.0		
006	272a006	CHECK	TANK				09/28/16 09:05	1.0		
007	272a007	CHECK	TANK				09/28/16 09:34	1.0		
008	272a008	X	CCV				09/28/16 10:03	1.0	4	
009	272a009	LOD	203815-027		Water	237611	09/28/16 10:32	1.0		eh
010	272a010	LCS	QC851885		Water	239189	09/28/16 11:04	1.0		1:BUNKC:12-40=5100
011	272a011	LCS	QC852184		Water	239261	09/28/16 11:33	1.0		
012	272a012	BLANK	QC853363		Soil	239567	09/28/16 12:19	1.0		
013	272a013	LCS	QC853364		Soil	239567	09/28/16 12:48	1.0		
014	272a014	LOD	207488-036		Soil	239567	09/28/16 13:16	1.0		
015	272a015	SAMPLE	280922-002	S	Water	239309	09/28/16 13:45	1.0		
016	272a016	CCV	MO_500				09/28/16 14:19	1.0	2	
017	272a017	CCV	DSL_250				09/28/16 14:47	1.0	5	
018	272a018	CCV	JP5_250				09/28/16 15:16	1.0	4	
019	272a019	X	CMARKER				09/28/16 16:01	1.0	1	
020	272a020	CHECK	TEHSURR				09/28/16 16:29	1.0	6	
021	272a021	SAMPLE	281459-007	S	Soil	239556	09/28/16 16:57	1.0		
022	272a022	SAMPLE	281459-008	S	Soil	239556	09/28/16 17:26	1.0		2:BUNKC:12-40=5400
023	272a023	SAMPLE	281459-009	S	Soil	239556	09/28/16 17:55	1.0		
024	272a024	SAMPLE	281459-010	S	Soil	239556	09/28/16 18:23	1.0		
025	272a025	SAMPLE	281459-011	S	Soil	239556	09/28/16 18:52	1.0		
026	272a026	SAMPLE	281459-012	S	Soil	239556	09/28/16 19:20	1.0		
027	272a027	SAMPLE	281459-013	S	Soil	239556	09/28/16 19:49	1.0		
028	272a028	SAMPLE	281459-014	S	Soil	239556	09/28/16 20:18	1.0		
029	272a029	SAMPLE	281277-002	S	Water	239491	09/28/16 20:46	1.0		
030	272a030	SAMPLE	281277-003	S	Water	239491	09/28/16 21:15	1.0		
031	272a031	X	IB				09/28/16 21:44	1.0		
032	272a032	CCV	MO_500				09/28/16 22:12	1.0	2	
033	272a033	CCV	DSL_500				09/28/16 22:41	1.0	3	
034	272a034	X	CCV				09/28/16 23:10	1.0	2	
035	272a035	X	CCV				09/28/16 23:38	1.0	3	
036	272a036	X	CMARKER				09/29/16 00:07	1.0	1	
037	272a037	SAMPLE	281277-004	S	Water	239491	09/29/16 00:35	1.0		
038	272a038	SAMPLE	281277-005	S	Water	239491	09/29/16 01:03	1.0		
039	272a039	SAMPLE	281277-006	S	Water	239491	09/29/16 01:32	1.0		
040	272a040	SAMPLE	281277-007	S	Water	239491	09/29/16 02:00	1.0		
041	272a041	SAMPLE	281278-001	S	Water	239491	09/29/16 02:28	1.0		
042	272a042	SAMPLE	281321-002	S	Water	239491	09/29/16 02:56	1.0		
043	272a043	SAMPLE	281321-003	S	Water	239491	09/29/16 03:25	1.0		
044	272a044	SAMPLE	281321-004	S	Water	239491	09/29/16 03:53	1.0		
045	272a045	SAMPLE	281321-005	S	Water	239491	09/29/16 04:21	1.0		
046	272a046	SAMPLE	281321-006	S	Water	239491	09/29/16 04:50	1.0		
047	272a047	X	IB				09/29/16 05:18	1.0		
048	272a048	CCV	MO_500				09/29/16 05:46	1.0	2	
049	272a049	CCV	DSL_1000				09/29/16 06:15	1.0	7	
050	272a050	X	CMARKER				09/29/16 06:58	1.0	1	
051	272a051	BLANK	QC853541		Soil	239614	09/29/16 07:27	1.0		
052	272a052	LCS	QC853542		Soil	239614	09/29/16 07:55	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 866392075

Instrument : GC26A Begun : 09/28/16 06:35
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
053	272a053	MSS	281539-001		Soil	239614	09/29/16 08:24	1.0		
054	272a054	MS	QC853543		Soil	239614	09/29/16 08:53	1.0		
055	272a055	MSD	QC853544		Soil	239614	09/29/16 09:22	1.0		
056	272a056	MSS	281496-001		Soil	239567	09/29/16 09:50	1.0		
057	272a057	SAMPLE	281538-001		Soil	239614	09/29/16 10:19	1.0		2:BUNKC:12-40=8500
058	272a058	X	IB				09/29/16 10:48	1.0		
059	272a059	CCV	MO_500				09/29/16 11:17	1.0	2	
060	272a060	CCV	DSL_500				09/29/16 11:46	1.0	3	
061	272a061	X	CMARKER				09/29/16 12:15	1.0	1	
062	272a062	SAMPLE	280922-016	S	Water	239145	09/29/16 12:43	1.0		
063	272a063	MS	QC853411		Soil	239567	09/29/16 13:12	1.0		
064	272a064	MSD	QC853412		Soil	239567	09/29/16 13:41	1.0		
065	272a065	SAMPLE	281528-001		Soil	239614	09/29/16 14:09	1.0		3:BUNKC:12-40=11000
066	272a066	SAMPLE	281528-002		Soil	239614	09/29/16 14:38	1.0		11:BUNKC:12-40=280000
067	272a067	SAMPLE	281536-001		Soil	239614	09/29/16 15:06	1.0		2:BUNKC:12-40=6500
068	272a068	SAMPLE	281243-014	S	Water	239409	09/29/16 15:35	1.0		
069	272a069	SAMPLE	281254-009	S	Water	239451	09/29/16 16:03	1.0		
070	272a070	SAMPLE	281285-002	S	Water	239451	09/29/16 16:32	1.0		
071	272a071	SAMPLE	281516-024		Soil	239567	09/29/16 17:00	1.0		
072	272a072	X	IB				09/29/16 17:28	1.0		
073	272a073	CCV	MO_500				09/29/16 17:57	1.0	2	
074	272a074	CCV	DSL_1000				09/29/16 18:25	1.0	7	
075	272a075	X	CMARKER				09/29/16 18:55	1.0	1	
076	272a076	BLANK	QC853541	S	Soil	239614	09/29/16 19:24	1.0		
077	272a077	LCS	QC853542	S	Soil	239614	09/29/16 19:52	1.0		
078	272a078	SAMPLE	281563-001	S	Miscell.	239614	09/29/16 20:21	1.0		
079	272a079	SAMPLE	281528-002		Soil	239614	09/29/16 20:50	20.0		3:BUNKC:12-40=13000
080	272a080	SAMPLE	281563-002	S	Soil	239614	09/29/16 21:18	3.0		
081	272a081	SAMPLE	281563-003	S	Soil	239614	09/29/16 21:47	3.0		
082	272a082	SAMPLE	281563-002		Soil	239614	09/29/16 22:15	3.0		
083	272a083	SAMPLE	281563-003		Soil	239614	09/29/16 22:44	3.0		
084	272a084	X	IB				09/29/16 23:13	1.0		
085	272a085	SAMPLE	281567-001	S	Soil	239614	09/29/16 23:41	2.0		
086	272a086	SAMPLE	281567-002	S	Soil	239614	09/30/16 00:10	2.0		
087	272a087	SAMPLE	281567-003	S	Soil	239614	09/30/16 00:38	5.0		
088	272a088	SAMPLE	281567-004	S	Soil	239614	09/30/16 01:06	5.0		
089	272a089	X	IB				09/30/16 01:35	1.0		
090	272a090	CCV	MO_500				09/30/16 02:03	1.0	2	
091	272a091	CCV	DSL_500				09/30/16 02:31	1.0	3	
092	272a092	X	CCV				09/30/16 02:59	1.0	2	
093	272a093	X	CCV				09/30/16 03:28	1.0	3	
094	272a094	X	CMARKER				09/30/16 03:56	1.0	1	
095	272a095	MS	QC853411		Soil	239567	09/30/16 04:24	1.0		
096	272a096	MSD	QC853412		Soil	239567	09/30/16 04:52	1.0		
097	272a097	SAMPLE	281564-005		Soil	239652	09/30/16 05:21	1.0		2:BUNKC:10-40=11000
098	272a098	SAMPLE	281564-006		Soil	239652	09/30/16 05:49	1.0		
099	272a099	SAMPLE	281564-007		Soil	239652	09/30/16 06:17	1.0		
100	272a100	SAMPLE	281564-008		Soil	239652	09/30/16 06:46	1.0		1:BUNKC:10-40=5000
101	272a101	SAMPLE	281564-009		Soil	239652	09/30/16 07:15	1.0		
102	272a102	SAMPLE	281564-010		Soil	239652	09/30/16 07:44	1.0		
103	272a103	SAMPLE	281564-011		Soil	239652	09/30/16 08:12	1.0		
104	272a104	SAMPLE	281564-012		Soil	239652	09/30/16 08:41	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 866392075

Instrument : GC26A Begun : 09/28/16 06:35
Method : EPA 8015B SOP Version : TEH_rv19

#	File	Type	Sample ID	P	Matrix	Batch	Analyzed	IDF	Stds Used	
105	272a105	X	IB				09/30/16 09:10	1.0		
106	272a106	CCV	MO_500				09/30/16 09:38	1.0	2	
107	272a107	CCV	DSL_1000				09/30/16 10:07	1.0	7	
108	272a108	X	CMARKER				09/30/16 10:35	1.0	1	
109	272a109	SAMPLE	280670-002		Water	239056	09/30/16 11:04	1.0		
110	272a110	SAMPLE	281563-001	S	Miscell.	239614	09/30/16 11:36	1.0		
111	272a111	SAMPLE	281500-001		Water	239609	09/30/16 12:20	1.0		
112	272a112	CCV	MO_500				09/30/16 13:11	1.0	2	
113	272a113	CCV	DSL_500				09/30/16 13:39	1.0	3	
114	272a114	SAMPLE	281564-001	S	Soil	239652	09/30/16 14:24	1.0		
115	272a115	SAMPLE	281564-002	S	Soil	239652	09/30/16 14:52	1.0		
116	272a116	SAMPLE	281564-003	S	Soil	239652	09/30/16 15:20	1.0		
117	272a117	SAMPLE	281564-004	S	Soil	239652	09/30/16 15:48	1.0		
118	272a118	SAMPLE	281564-005	S	Soil	239652	09/30/16 16:16	1.0		2:BUNKC:10-40=7900
119	272a119	SAMPLE	281564-006	S	Soil	239652	09/30/16 16:45	1.0		
120	272a120	SAMPLE	281564-007	S	Soil	239652	09/30/16 17:13	1.0		
121	272a121	SAMPLE	281564-008	S	Soil	239652	09/30/16 17:41	1.0		
122	272a122	SAMPLE	281564-009	S	Soil	239652	09/30/16 18:09	1.0		
123	272a123	SAMPLE	281564-010	S	Soil	239652	09/30/16 18:37	1.0		
124	272a124	X	IB				09/30/16 19:06	1.0		
125	272a125	CCV	MO_500				09/30/16 19:34	1.0	2	
126	272a126	CCV	DSL_1000				09/30/16 20:03	1.0	7	
127	272a127	X	CCV				09/30/16 20:31	1.0	2	
128	272a128	X	CCV				09/30/16 21:00	1.0	7	
129	272a129	X	CMARKER				09/30/16 21:28	1.0	1	
130	272a130	BLANK	QC853695	S	Soil	239652	09/30/16 21:57	1.0		
131	272a131	LCS	QC853696	S	Soil	239652	09/30/16 22:25	1.0		
132	272a132	SAMPLE	281254-001	S	Water	239609	09/30/16 22:54	1.0		
133	272a133	SAMPLE	281254-002	S	Water	239609	09/30/16 23:22	1.0		
134	272a134	SAMPLE	281564-011	S	Soil	239652	09/30/16 23:50	1.0		
135	272a135	SAMPLE	281564-012	S	Soil	239652	10/01/16 00:19	1.0		
136	272a136	SAMPLE	281564-013	S	Soil	239652	10/01/16 00:47	1.0		
137	272a137	SAMPLE	281564-014	S	Soil	239652	10/01/16 01:15	1.0		
138	272a138	SAMPLE	281564-015	S	Soil	239652	10/01/16 01:44	1.0		
139	272a139	SAMPLE	281564-016	S	Soil	239652	10/01/16 02:12	1.0		
140	272a140	SAMPLE	281408-002		Water	239491	10/01/16 02:41	1.0		
141	272a141	X	IB				10/01/16 03:09	1.0		
142	272a142	CCV	MO_500				10/01/16 03:37	1.0	2	
143	272a143	CCV	DSL_500				10/01/16 04:06	1.0	3	
144	272a144	X	CCV				10/01/16 04:34	1.0	2	
145	272a145	X	CCV				10/01/16 05:02	1.0	3	
146	272a146	X	CMARKER				10/01/16 05:31	1.0	1	

RDG 09/28/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

RDG 09/29/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 19 through 55.

BOY 09/29/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 55 through 74.

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 866392075

Instrument : GC26A Begun : 09/28/16 06:35
Method : EPA 8015B SOP Version : TEH_rv19

RDG 09/30/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 75 through 104.

BOY 09/30/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 105 through 113.

RDG 10/03/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 114 through 146.

Standards used: 1=S30168 2=S30797 3=S30799 4=S30457 5=S30512 6=S30988 7=S30800

Flags used: eh=out of extract hold

SAMPLE PREPARATION SUMMARY

Batch # : 239567
Started By : BJH
Method : 3550B
Spike #1 ID : S30717

Prep Date : 28-SEP-2016 08:45
Spike #2 ID : S30912

Analysis : TEHM
Finished By : BJH
Units : g
Spike #3 ID : S30321

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
207488-036		Soil	49.94	5	1	0.1001		1		.32		TEHM	See comment 1 below
281421-001		Soil	50.24	5	1	0.09952		1			3630C	TEHM	
281442-001		Soil	50.16	5	1	0.09968		1			3630C	TEHM	
281460-003		Soil	50	5	1	0.1000		1				TEHM	
281460-008		Soil	50.18	5	1	0.09964		1				TEHM	
281460-013		Soil	49.99	5	1	0.1000		1				TEHM	
281460-020		Soil	49.91	5	1	0.1002		1				TEHM	
281496-001		Soil	50.1	5	1	0.0998		1				TEHM	
281511-006		Soil	50.16	5	1	0.09968		1				TEH	
281516-003		Soil	50.18	5	1	0.09964		1				TEHM	
281516-008		Soil	49.97	5	1	0.1001		1				TEHM	
281516-012		Soil	50	5	1	0.1000		1				TEHM	
281516-015		Soil	50.15	5	1	0.0997		1				TEHM	
281516-018		Soil	50.22	5	1	0.09956		1				TEHM	
281516-019		Soil	50.1	5	1	0.0998		1				TEHM	
281516-020		Soil	50.11	5	1	0.09978		1				TEHM	
281516-021		Soil	50.29	5	1	0.09942		1				TEHM	
281516-022		Soil	50.04	5	1	0.09992		1				TEHM	
281516-023		Soil	49.96	5	1	0.1001		1				TEHM	
281516-024		Soil	50.05	5	1	0.0999		1				TEHM	
281516-026		Soil	49.95	5	1	0.1001		1				TEHM	
QC853363	BLANK	Soil	50.02	5	1	0.09996		1			3630C	TEHM	
QC853364	LCS	Soil	50.2	5	1	0.0996		1	1		3630C	TEHM	
QC853411	MS	Soil	50.3	5	1	0.0994		1	1			TEHM	
QC853412	MSD	Soil	50.22	5	1	0.09956		1	1			TEHM	

Comment 1: Prepped 28-SEP-2016 10:23; add on 9/28/16 @1023

Analyst: BOY Date: 09/30/16 Reviewer: EAH Date: 09/30/16

Curtis & Tompkins, Ltd. **Silica Gel Cleanup** **EPA 3630c**

Prep Chemist: BJH
Cleanup Date: 9/28/16

Benchbook # **BK 3946**
Page 3

Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
281421-001	279567	☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
281442-001		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MB QC853363		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
LCS 1 4		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
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		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	AR6 9/28/16

☑ Extracts were cleaned up using C&T assembled 1.0 g columns
☐ Extracts were cleaned up using ___ g cartridges
Extracts were eluted with 4.0 mL CH_2Cl_2
Concentrated to volumes as noted above

Mfg & Lot # / Time / Program	Initials / Date
Y14A041	BJH 9/28/16
N/A	
EM560176	
✓	

BJH 9/28/16
Extraction Chemist / Date

Continued from page ____
Continued on page ____

AR 9/28/16
Reviewed by / Date

TEH (8015) Soil Prep Log

Curtis & Tompkins, Ltd.

BK 3909 Page 86

LIMS Batch No: 2395567
LIMS Analysis TEH
Date Extracted: 9/28/16

Extraction Method:
☑ EPA 3550 Sonication
☐ _____

Cleanup Method (if necessary):
☑ EPA 3630 Silica Gel

Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Cleanup (x if needed)	Comments
281421-001	B	50.24	☑5.0 ☐	X	
281442-001	C	50.16	☑5.0 ☐	X	
281460-003	A	50.00	☑5.0 ☐		organic matter rocks
8		50.18	☑5.0 ☐		
13		49.99	☑5.0 ☐		
20		49.91	☑5.0 ☐		
281496-001	A	50.10	☑5.0 ☐		MSS
281516-003	A	50.18	☑5.0 ☐		organic material rocks
8		49.97	☑5.0 ☐		
12		50.00	☑5.0 ☐		
15		50.15	☑5.0 ☐		
18		50.22	☑5.0 ☐		
19		50.10	☑5.0 ☐		
20		50.11	☑5.0 ☐		
21		50.29	☑5.0 ☐		
22		50.04	☑5.0 ☐		
23		49.96	☑5.0 ☐		
24		50.05	☑5.0 ☐		
26		49.95	☑5.0 ☐		
MB QC853363		50.02	☑5.0 ☐	X	
LCS 4		50.20	☑5.0 ☐	X	
MS QC853411	A	50.30	☑5.0 ☐		Mid light color
MSD 2		50.22	☑5.0 ☐		Dark color.
281511-006	comp	50.16	☑5.0 ☐		comp of 281315 #1,2,8,11,13 @ 20g each
2807488-036	N/A	49.94	☑5.0 ☐		* Ab @ 1023 9/28/16 BJH

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

☑ Balance ID: Dish1 Has been calibrated? ☑ Yes ☐ No

	Mfg & Lot # / LIMS # / Time	Date/Initials
Baked, solvent-rinsed granular Na2SO4 weighed out for QC samples	EM816M	BJH 9/28/16
Samples were dried with CH2Cl2-rinsed powdered Na2SO4	EM0835C506	
1.0 mL of Surrogate solution was added to all samples	330717C	
1.0 mL of Spike solution was added to all spikes	320912A	
1:1 CH_2Cl_2 (lot# EM561716):Acetone(lot# FC163343) was added to all	✓	
Solvent added at (time)	0845	
Sonicated 3 times w/ ≥100mL 1:1 DCM:Acetone	✓	BJH 9/28/16
Extracts filtered through baked, rinsed powdered Na_2SO_4	EM0835C506	
Concentrated to final volume in boiling H2O bath	100°	
Relinquished to TEH Department	✓	

*Spike w/ MO520 530321A @ 0.32mL

BJH 9/28/16
Extraction Chemist / Date

Continued from page ____
Continued on page ____

9/28/16
Reviewed by / Date

Laboratory Job Number 281516

ANALYTICAL REPORT

Pesticides

Matrix: Soil

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-21	Batch#:	239605
Lab ID:	281516-001	Sampled:	09/26/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	10.00		

Moisture: 3%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	17	2.0
beta-BHC	ND	17	3.1
gamma-BHC	ND	17	1.8
delta-BHC	ND	17	2.1
Heptachlor	ND	17	2.2
Aldrin	ND	17	1.8
Heptachlor epoxide	ND	17	2.0
Endosulfan I	ND	17	1.4
Dieldrin	ND	17	5.8
4,4'-DDE	ND	34	3.1
Endrin	ND	34	5.3
Endosulfan II	ND	34	6.2
Endosulfan sulfate	ND	34	5.5
4,4'-DDD	ND	34	6.9
Endrin aldehyde	ND	34	8.7
4,4'-DDT	ND	34	7.3
alpha-Chlordane	ND	17	2.2
gamma-Chlordane	ND	17	1.5
Methoxychlor	ND	170	26
Toxaphene	ND	620	100

Surrogate	%REC	Limits
TCMX	DO	44-125
Decachlorobiphenyl	DO	39-121

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-22	Batch#:	239670
Lab ID:	281516-002	Sampled:	09/26/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/30/16
Basis:	dry	Analyzed:	10/04/16
Diln Fac:	1.000		

Moisture: 16%

Analyte	Result	RL	MDL
alpha-BHC	ND	2.0	0.29
beta-BHC	ND	2.0	0.47
gamma-BHC	ND	2.0	0.46
delta-BHC	0.79 J	2.0	0.24
Heptachlor	ND	2.0	0.43
Aldrin	ND	2.0	0.49
Heptachlor epoxide	ND	2.0	0.29
Endosulfan I	ND	2.0	0.37
Dieldrin	ND	2.0	0.55
4,4'-DDE	ND	3.9	0.52
Endrin	ND	3.9	0.68
Endosulfan II	ND	3.9	0.57
Endosulfan sulfate	ND	3.9	0.56
4,4'-DDD	ND	3.9	0.55
Endrin aldehyde	ND	3.9	0.46
4,4'-DDT	ND	3.9	0.51
alpha-Chlordane	ND	2.0	0.30
gamma-Chlordane	ND	2.0	0.42
Methoxychlor	ND	20	3.1
Toxaphene	ND	70	17

Surrogate	%REC	Limits
TCMX	56	44-125
Decachlorobiphenyl	79	39-121

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-23	Batch#:	239605
Lab ID:	281516-003	Sampled:	09/26/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	20.00		

Moisture: 10%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	38	4.3
beta-BHC	ND	38	6.8
gamma-BHC	ND	38	4.0
delta-BHC	ND	38	4.7
Heptachlor	ND	38	4.8
Aldrin	ND	38	4.0
Heptachlor epoxide	ND	38	4.4
Endosulfan I	ND	38	3.2
Dieldrin	ND	38	13
4,4'-DDE	ND	74	6.8
Endrin	ND	74	12
Endosulfan II	ND	74	14
Endosulfan sulfate	ND	74	12
4,4'-DDD	ND	74	15
Endrin aldehyde	ND	74	19
4,4'-DDT	ND	74	16
alpha-Chlordane	ND	38	4.8
gamma-Chlordane	ND	38	3.3
Methoxychlor	ND	380	58
Toxaphene	ND	1,300	220

Surrogate	%REC	Limits
TCMX	DO	44-125
Decachlorobiphenyl	DO	39-121

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-24	Batch#:	239605
Lab ID:	281516-004	Sampled:	09/26/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	2.000		

Moisture: 9%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	3.8	0.43
beta-BHC	ND	3.8	0.67
gamma-BHC	ND	3.8	0.40
delta-BHC	ND	3.8	0.47
Heptachlor	ND	3.8	0.48
Aldrin	ND	3.8	0.40
Heptachlor epoxide	ND	3.8	0.44
Endosulfan I	ND	3.8	0.31
Dieldrin	ND	3.8	1.3
4,4'-DDE	ND	7.4	0.68
Endrin	ND	7.4	1.2
Endosulfan II	ND	7.4	1.4
Endosulfan sulfate	ND	7.4	1.2
4,4'-DDD	ND	7.4	1.5
Endrin aldehyde	ND	7.4	1.9
4,4'-DDT	ND	7.4	1.6
alpha-Chlordane	ND	3.8	0.47
gamma-Chlordane	ND	3.8	0.33
Methoxychlor	ND	38	5.7
Toxaphene	ND	130	22

Surrogate	%REC	Limits
TCMX	86	44-125
Decachlorobiphenyl	85	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-25	Batch#:	239605
Lab ID:	281516-005	Sampled:	09/26/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	50.00		

Moisture: 7%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	91	10
beta-BHC	ND	91	16
gamma-BHC	ND	91	9.5
delta-BHC	ND	91	11
Heptachlor	ND	91	11
Aldrin	ND	91	9.5
Heptachlor epoxide	18 J	91	10
Endosulfan I	ND	91	7.5
Dieldrin	ND	91	30
4,4'-DDE	ND	180	16
Endrin	ND	180	28
Endosulfan II	ND	180	32
Endosulfan sulfate	ND	180	28
4,4'-DDD	ND	180	36
Endrin aldehyde	ND	180	46
4,4'-DDT	ND	180	38
alpha-Chlordane	ND	91	11
gamma-Chlordane	10 C J	91	7.9
Methoxychlor	ND	910	140
Toxaphene	ND	3,200	530

Surrogate	%REC	Limits
TCMX	DO	44-125
Decachlorobiphenyl	DO	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-26	Batch#:	239605
Lab ID:	281516-006	Sampled:	09/26/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	20.00		

Moisture: 7%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	37	4.1
beta-BHC	ND	37	6.5
gamma-BHC	ND	37	3.9
delta-BHC	ND	37	4.5
Heptachlor	ND	37	4.6
Aldrin	ND	37	3.9
Heptachlor epoxide	28 C J	37	4.2
Endosulfan I	ND	37	3.0
Dieldrin	ND	37	12
4,4'-DDE	ND	71	6.6
Endrin	ND	71	11
Endosulfan II	ND	71	13
Endosulfan sulfate	ND	71	11
4,4'-DDD	ND	71	15
Endrin aldehyde	ND	71	18
4,4'-DDT	ND	71	15
alpha-Chlordane	ND	37	4.6
gamma-Chlordane	8.3 C J	37	3.2
Methoxychlor	ND	370	56
Toxaphene	ND	1,300	210

Surrogate	%REC	Limits
TCMX	DO	44-125
Decachlorobiphenyl	DO	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-27	Batch#:	239670
Lab ID:	281516-007	Sampled:	09/26/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/30/16
Basis:	dry	Analyzed:	10/04/16
Diln Fac:	10.00		

Moisture: 10%

Analyte	Result	RL	MDL
alpha-BHC	ND	19	2.7
beta-BHC	ND	19	4.5
gamma-BHC	ND	19	4.4
delta-BHC	ND	19	2.3
Heptachlor	ND	19	4.1
Aldrin	ND	19	4.7
Heptachlor epoxide	ND	19	2.7
Endosulfan I	ND	19	3.5
Dieldrin	ND	19	5.2
4,4'-DDE	ND	37	4.9
Endrin	ND	37	6.5
Endosulfan II	ND	37	5.4
Endosulfan sulfate	ND	37	5.4
4,4'-DDD	ND	37	5.2
Endrin aldehyde	ND	37	4.4
4,4'-DDT	ND	37	4.8
alpha-Chlordane	ND	19	2.8
gamma-Chlordane	ND	19	4.0
Methoxychlor	ND	190	30
Toxaphene	ND	670	160

Surrogate	%REC	Limits
TCMX	DO	44-125
Decachlorobiphenyl	DO	39-121

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-28	Batch#:	239605
Lab ID:	281516-008	Sampled:	09/26/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	1.000		

Moisture: 8%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.9	0.21
beta-BHC	ND	1.9	0.33
gamma-BHC	ND	1.9	0.20
delta-BHC	ND	1.9	0.23
Heptachlor	ND	1.9	0.23
Aldrin	ND	1.9	0.19
Heptachlor epoxide	ND	1.9	0.21
Endosulfan I	ND	1.9	0.15
Dieldrin	ND	1.9	0.62
4,4'-DDE	ND	3.6	0.33
Endrin	ND	3.6	0.56
Endosulfan II	ND	3.6	0.66
Endosulfan sulfate	ND	3.6	0.58
4,4'-DDD	ND	3.6	0.74
Endrin aldehyde	ND	3.6	0.93
4,4'-DDT	ND	3.6	0.77
alpha-Chlordane	ND	1.9	0.23
gamma-Chlordane	ND	1.9	0.16
Methoxychlor	ND	19	2.8
Toxaphene	ND	66	11

Surrogate	%REC	Limits
TCMX	62	44-125
Decachlorobiphenyl	66	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-29	Batch#:	239605
Lab ID:	281516-009	Sampled:	09/26/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	1.000		

Moisture: 9%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.9	0.21
beta-BHC	ND	1.9	0.34
gamma-BHC	ND	1.9	0.20
delta-BHC	ND	1.9	0.23
Heptachlor	ND	1.9	0.24
Aldrin	ND	1.9	0.20
Heptachlor epoxide	ND	1.9	0.22
Endosulfan I	ND	1.9	0.16
Dieldrin	ND	1.9	0.63
4,4'-DDE	ND	3.7	0.34
Endrin	ND	3.7	0.57
Endosulfan II	ND	3.7	0.67
Endosulfan sulfate	ND	3.7	0.59
4,4'-DDD	ND	3.7	0.75
Endrin aldehyde	ND	3.7	0.95
4,4'-DDT	ND	3.7	0.79
alpha-Chlordane	ND	1.9	0.24
gamma-Chlordane	ND	1.9	0.16
Methoxychlor	ND	19	2.9
Toxaphene	ND	67	11

Surrogate	%REC	Limits
TCMX	82	44-125
Decachlorobiphenyl	88	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-30	Batch#:	239670
Lab ID:	281516-010	Sampled:	09/26/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/30/16
Basis:	dry	Analyzed:	10/04/16
Diln Fac:	2.000		

Moisture: 11%

Analyte	Result	RL	MDL
alpha-BHC	ND	3.8	0.55
beta-BHC	3.4 C J	3.8	0.89
gamma-BHC	ND	3.8	0.87
delta-BHC	0.83 C J	3.8	0.45
Heptachlor	ND	3.8	0.82
Aldrin	ND	3.8	0.93
Heptachlor epoxide	ND	3.8	0.55
Endosulfan I	ND	3.8	0.71
Dieldrin	ND	3.8	1.0
4,4'-DDE	ND	7.3	0.98
Endrin	ND	7.3	1.3
Endosulfan II	ND	7.3	1.1
Endosulfan sulfate	ND	7.3	1.1
4,4'-DDD	ND	7.3	1.0
Endrin aldehyde	ND	7.3	0.87
4,4'-DDT	ND	7.3	0.97
alpha-Chlordane	ND	3.8	0.57
gamma-Chlordane	ND	3.8	0.80
Methoxychlor	ND	38	5.9
Toxaphene	ND	130	32

Surrogate	%REC	Limits
TCMX	58	44-125
Decachlorobiphenyl	71	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-31	Batch#:	239670
Lab ID:	281516-011	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/30/16
Basis:	dry	Analyzed:	10/04/16
Diln Fac:	10.00		

Moisture: 8%

Analyte	Result	RL	MDL
alpha-BHC	ND	18	2.7
beta-BHC	ND	18	4.3
gamma-BHC	ND	18	4.3
delta-BHC	ND	18	2.2
Heptachlor	ND	18	4.0
Aldrin	ND	18	4.5
Heptachlor epoxide	ND	18	2.7
Endosulfan I	ND	18	3.4
Dieldrin	ND	18	5.1
4,4'-DDE	ND	36	4.8
Endrin	ND	36	6.3
Endosulfan II	ND	36	5.3
Endosulfan sulfate	ND	36	5.2
4,4'-DDD	ND	36	5.1
Endrin aldehyde	ND	36	4.3
4,4'-DDT	ND	36	4.7
alpha-Chlordane	ND	18	2.8
gamma-Chlordane	8.6 J	18	3.9
Methoxychlor	ND	180	29
Toxaphene	ND	650	160

Surrogate	%REC	Limits
TCMX	DO	44-125
Decachlorobiphenyl	DO	39-121

J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

53.1

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-32	Batch#:	239605
Lab ID:	281516-012	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	1.000		

Moisture: 7%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.8	0.20
beta-BHC	ND	1.8	0.32
gamma-BHC	ND	1.8	0.19
delta-BHC	ND	1.8	0.22
Heptachlor	ND	1.8	0.23
Aldrin	ND	1.8	0.19
Heptachlor epoxide	ND	1.8	0.21
Endosulfan I	ND	1.8	0.15
Dieldrin	ND	1.8	0.61
4,4'-DDE	ND	3.5	0.32
Endrin	ND	3.5	0.55
Endosulfan II	ND	3.5	0.65
Endosulfan sulfate	ND	3.5	0.57
4,4'-DDD	ND	3.5	0.72
Endrin aldehyde	ND	3.5	0.91
4,4'-DDT	ND	3.5	0.75
alpha-Chlordane	0.65 J	1.8	0.23
gamma-Chlordane	0.89 J	1.8	0.16
Methoxychlor	ND	18	2.7
Toxaphene	ND	64	11

Surrogate	%REC	Limits
TCMX	85	44-125
Decachlorobiphenyl	94	39-121

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-33	Batch#:	239670
Lab ID:	281516-013	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/30/16
Basis:	dry	Analyzed:	10/04/16
Diln Fac:	20.00		

Moisture: 7%

Analyte	Result	RL	MDL
alpha-BHC	ND	36	5.2
beta-BHC	ND	36	8.5
gamma-BHC	ND	36	8.3
delta-BHC	ND	36	4.3
Heptachlor	ND	36	7.8
Aldrin	ND	36	8.9
Heptachlor epoxide	8.7 C J	36	5.2
Endosulfan I	ND	36	6.7
Dieldrin	ND	36	9.9
4,4'-DDE	ND	70	9.4
Endrin	ND	70	12
Endosulfan II	ND	70	10
Endosulfan sulfate	ND	70	10
4,4'-DDD	ND	70	10
Endrin aldehyde	ND	70	8.4
4,4'-DDT	ND	70	9.2
alpha-Chlordane	71 C	36	5.4
gamma-Chlordane	56 C	36	7.7
Methoxychlor	ND	360	56
Toxaphene	ND	1,300	310

Surrogate	%REC	Limits
TCMX	DO	44-125
Decachlorobiphenyl	DO	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-34	Batch#:	239670
Lab ID:	281516-014	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/30/16
Basis:	dry	Analyzed:	10/04/16
Diln Fac:	5.000		

Moisture: 7%

Analyte	Result	RL	MDL
alpha-BHC	ND	9.1	1.3
beta-BHC	ND	9.1	2.1
gamma-BHC	ND	9.1	2.1
delta-BHC	ND	9.1	1.1
Heptachlor	ND	9.1	2.0
Aldrin	ND	9.1	2.2
Heptachlor epoxide	ND	9.1	1.3
Endosulfan I	ND	9.1	1.7
Dieldrin	ND	9.1	2.5
4,4'-DDE	ND	18	2.4
Endrin	ND	18	3.1
Endosulfan II	ND	18	2.6
Endosulfan sulfate	ND	18	2.6
4,4'-DDD	ND	18	2.5
Endrin aldehyde	ND	18	2.1
4,4'-DDT	ND	18	2.3
alpha-Chlordane	33 C	9.1	1.4
gamma-Chlordane	24	9.1	1.9
Methoxychlor	ND	91	14
Toxaphene	ND	320	78

Surrogate	%REC	Limits
TCMX	57	44-125
Decachlorobiphenyl	81	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-35	Batch#:	239605
Lab ID:	281516-015	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	5.000		

Moisture: 6%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	9.0	2.4
beta-BHC	ND	9.0	2.4
gamma-BHC	ND	9.0	2.5
delta-BHC	ND	9.0	2.1
Heptachlor	ND	9.0	2.7
Aldrin	ND	9.0	2.7
Heptachlor epoxide	ND	9.0	2.1
Endosulfan I	ND	9.0	2.3
Dieldrin	ND	9.0	1.5
4,4'-DDE	ND	18	3.9
Endrin	ND	18	5.0
Endosulfan II	ND	18	4.3
Endosulfan sulfate	ND	18	5.2
4,4'-DDD	ND	18	3.9
Endrin aldehyde	ND	18	4.0
4,4'-DDT	ND	18	4.5
alpha-Chlordane	14 C b	9.0	2.2
gamma-Chlordane	3.4 J	9.0	2.8
Methoxychlor	ND	90	27
Toxaphene	ND	320	89

Surrogate	%REC	Limits
TCMX	93	44-125
Decachlorobiphenyl	57	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-36	Batch#:	239670
Lab ID:	281516-016	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/30/16
Basis:	dry	Analyzed:	10/04/16
Diln Fac:	10.00		

Moisture: 6%

Analyte	Result	RL	MDL
alpha-BHC	ND	18	2.6
beta-BHC	ND	18	4.2
gamma-BHC	ND	18	4.2
delta-BHC	ND	18	2.2
Heptachlor	ND	18	3.9
Aldrin	ND	18	4.4
Heptachlor epoxide	ND	18	2.6
Endosulfan I	ND	18	3.4
Dieldrin	ND	18	4.9
4,4'-DDE	ND	35	4.7
Endrin	ND	35	6.1
Endosulfan II	ND	35	5.1
Endosulfan sulfate	ND	35	5.1
4,4'-DDD	ND	35	5.0
Endrin aldehyde	ND	35	4.2
4,4'-DDT	ND	35	4.6
alpha-Chlordane	5.5 J	18	2.7
gamma-Chlordane	ND	18	3.8
Methoxychlor	ND	180	28
Toxaphene	ND	640	150

Surrogate	%REC	Limits
TCMX	DO	44-125
Decachlorobiphenyl	DO	39-121

J= Estimated value
DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

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Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-37	Batch#:	239670
Lab ID:	281516-017	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/30/16
Basis:	dry	Analyzed:	10/04/16
Diln Fac:	1.000		

Moisture: 17%

Analyte	Result	RL	MDL
alpha-BHC	ND	2.0	0.30
beta-BHC	1.7 C J	2.0	0.48
gamma-BHC	ND	2.0	0.47
delta-BHC	ND	2.0	0.25
Heptachlor	ND	2.0	0.44
Aldrin	ND	2.0	0.50
Heptachlor epoxide	ND	2.0	0.30
Endosulfan I	ND	2.0	0.38
Dieldrin	ND	2.0	0.56
4,4'-DDE	1.6 J	4.0	0.53
Endrin	ND	4.0	0.70
Endosulfan II	ND	4.0	0.58
Endosulfan sulfate	ND	4.0	0.58
4,4'-DDD	ND	4.0	0.56
Endrin aldehyde	ND	4.0	0.47
4,4'-DDT	0.56 C J	4.0	0.52
alpha-Chlordane	ND	2.0	0.31
gamma-Chlordane	ND	2.0	0.43
Methoxychlor	ND	20	3.2
Toxaphene	ND	72	17

Surrogate	%REC	Limits
TCMX	57	44-125
Decachlorobiphenyl	66	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-38	Batch#:	239605
Lab ID:	281516-018	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	1.000		

Moisture: 16%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	2.0	0.54
beta-BHC	ND	2.0	0.53
gamma-BHC	ND	2.0	0.56
delta-BHC	ND	2.0	0.48
Heptachlor	ND	2.0	0.61
Aldrin	ND	2.0	0.60
Heptachlor epoxide	ND	2.0	0.47
Endosulfan I	ND	2.0	0.53
Dieldrin	ND	2.0	0.35
4,4'-DDE	ND	4.0	0.88
Endrin	ND	4.0	1.1
Endosulfan II	ND	4.0	0.97
Endosulfan sulfate	ND	4.0	1.2
4,4'-DDD	ND	4.0	0.89
Endrin aldehyde	ND	4.0	0.90
4,4'-DDT	ND	4.0	1.0
alpha-Chlordane	ND	2.0	0.49
gamma-Chlordane	ND	2.0	0.64
Methoxychlor	ND	20	6.1
Toxaphene	ND	72	20

Surrogate	%REC	Limits
TCMX	86	44-125
Decachlorobiphenyl	70	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-39	Batch#:	239605
Lab ID:	281516-019	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	1.000		

Moisture: 8%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.9	0.50
beta-BHC	ND	1.9	0.49
gamma-BHC	ND	1.9	0.51
delta-BHC	ND	1.9	0.44
Heptachlor	ND	1.9	0.55
Aldrin	ND	1.9	0.55
Heptachlor epoxide	ND	1.9	0.43
Endosulfan I	ND	1.9	0.48
Dieldrin	ND	1.9	0.32
4,4'-DDE	1.3 J	3.6	0.81
Endrin	ND	3.6	1.0
Endosulfan II	ND	3.6	0.89
Endosulfan sulfate	ND	3.6	1.1
4,4'-DDD	ND	3.6	0.81
Endrin aldehyde	ND	3.6	0.82
4,4'-DDT	1.4 C J	3.6	0.94
alpha-Chlordane	ND	1.9	0.45
gamma-Chlordane	ND	1.9	0.59
Methoxychlor	ND	19	5.5
Toxaphene	ND	66	18

Surrogate	%REC	Limits
TCMX	96	44-125
Decachlorobiphenyl	67	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-40	Batch#:	239605
Lab ID:	281516-020	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	1.000		

Moisture: 5%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.8	0.48
beta-BHC	ND	1.8	0.47
gamma-BHC	ND	1.8	0.49
delta-BHC	ND	1.8	0.42
Heptachlor	ND	1.8	0.53
Aldrin	ND	1.8	0.53
Heptachlor epoxide	ND	1.8	0.41
Endosulfan I	ND	1.8	0.46
Dieldrin	ND	1.8	0.30
4,4'-DDE	1.1 C J	3.5	0.78
Endrin	ND	3.5	0.99
Endosulfan II	ND	3.5	0.85
Endosulfan sulfate	ND	3.5	1.0
4,4'-DDD	ND	3.5	0.78
Endrin aldehyde	ND	3.5	0.79
4,4'-DDT	ND	3.5	0.90
alpha-Chlordane	ND	1.8	0.43
gamma-Chlordane	ND	1.8	0.57
Methoxychlor	ND	18	5.3
Toxaphene	ND	64	18

Surrogate	%REC	Limits
TCMX	83	44-125
Decachlorobiphenyl	54	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-41	Batch#:	239605
Lab ID:	281516-021	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	1.000		

Moisture: 8%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.9	0.21
beta-BHC	ND	1.9	0.33
gamma-BHC	ND	1.9	0.20
delta-BHC	ND	1.9	0.23
Heptachlor	ND	1.9	0.24
Aldrin	ND	1.9	0.20
Heptachlor epoxide	ND	1.9	0.22
Endosulfan I	ND	1.9	0.16
Dieldrin	ND	1.9	0.63
4,4'-DDE	ND	3.6	0.33
Endrin	ND	3.6	0.57
Endosulfan II	ND	3.6	0.67
Endosulfan sulfate	ND	3.6	0.59
4,4'-DDD	ND	3.6	0.74
Endrin aldehyde	ND	3.6	0.94
4,4'-DDT	ND	3.6	0.78
alpha-Chlordane	ND	1.9	0.23
gamma-Chlordane	ND	1.9	0.16
Methoxychlor	ND	19	2.8
Toxaphene	ND	66	11

Surrogate	%REC	Limits
TCMX	60	44-125
Decachlorobiphenyl	67	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-42	Batch#:	239605
Lab ID:	281516-022	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	1.000		

Moisture: 7%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.8	0.49
beta-BHC	ND	1.8	0.48
gamma-BHC	ND	1.8	0.50
delta-BHC	ND	1.8	0.43
Heptachlor	ND	1.8	0.54
Aldrin	ND	1.8	0.54
Heptachlor epoxide	ND	1.8	0.42
Endosulfan I	ND	1.8	0.47
Dieldrin	ND	1.8	0.31
4,4'-DDE	1.5 J	3.6	0.79
Endrin	ND	3.6	1.0
Endosulfan II	ND	3.6	0.87
Endosulfan sulfate	ND	3.6	1.0
4,4'-DDD	ND	3.6	0.80
Endrin aldehyde	ND	3.6	0.80
4,4'-DDT	1.1 C J	3.6	0.92
alpha-Chlordane	ND	1.8	0.44
gamma-Chlordane	ND	1.8	0.57
Methoxychlor	ND	18	5.4
Toxaphene	ND	65	18

Surrogate	%REC	Limits
TCMX	89	44-125
Decachlorobiphenyl	48	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-43	Batch#:	239605
Lab ID:	281516-023	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	10.00		

Moisture: 10%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	19	5.0
beta-BHC	ND	19	4.9
gamma-BHC	ND	19	5.1
delta-BHC	ND	19	4.4
Heptachlor	ND	19	5.6
Aldrin	ND	19	5.5
Heptachlor epoxide	ND	19	4.3
Endosulfan I	ND	19	4.9
Dieldrin	ND	19	3.2
4,4'-DDE	ND	37	8.1
Endrin	ND	37	10
Endosulfan II	ND	37	8.9
Endosulfan sulfate	ND	37	11
4,4'-DDD	ND	37	8.2
Endrin aldehyde	ND	37	8.2
4,4'-DDT	ND	37	9.4
alpha-Chlordane	ND	19	4.5
gamma-Chlordane	ND	19	5.9
Methoxychlor	ND	190	56
Toxaphene	ND	660	180

Surrogate	%REC	Limits
TCMX	DO	44-125
Decachlorobiphenyl	DO	39-121

DO= Diluted Out
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-44	Batch#:	239605
Lab ID:	281516-024	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	2.000		

Moisture: 14%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	4.0	1.1
beta-BHC	ND	4.0	1.0
gamma-BHC	ND	4.0	1.1
delta-BHC	ND	4.0	0.94
Heptachlor	ND	4.0	1.2
Aldrin	ND	4.0	1.2
Heptachlor epoxide	ND	4.0	0.92
Endosulfan I	ND	4.0	1.0
Dieldrin	ND	4.0	0.68
4,4'-DDE	ND	7.8	1.7
Endrin	ND	7.8	2.2
Endosulfan II	ND	7.8	1.9
Endosulfan sulfate	ND	7.8	2.3
4,4'-DDD	ND	7.8	1.7
Endrin aldehyde	ND	7.8	1.8
4,4'-DDT	ND	7.8	2.0
alpha-Chlordane	ND	4.0	0.96
gamma-Chlordane	ND	4.0	1.3
Methoxychlor	ND	40	12
Toxaphene	ND	140	39

Surrogate	%REC	Limits
TCMX	80	44-125
Decachlorobiphenyl	57	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-45	Batch#:	239670
Lab ID:	281516-025	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/30/16
Basis:	dry	Analyzed:	10/04/16
Diln Fac:	1.000		

Moisture: 9%

Analyte	Result	RL	MDL
alpha-BHC	ND	1.8	0.27
beta-BHC	0.90 J	1.8	0.43
gamma-BHC	ND	1.8	0.43
delta-BHC	0.57 J	1.8	0.22
Heptachlor	ND	1.8	0.40
Aldrin	ND	1.8	0.45
Heptachlor epoxide	0.28 C J	1.8	0.27
Endosulfan I	ND	1.8	0.34
Dieldrin	ND	1.8	0.51
4,4'-DDE	ND	3.6	0.48
Endrin	ND	3.6	0.63
Endosulfan II	ND	3.6	0.53
Endosulfan sulfate	ND	3.6	0.52
4,4'-DDD	ND	3.6	0.51
Endrin aldehyde	ND	3.6	0.43
4,4'-DDT	ND	3.6	0.47
alpha-Chlordane	ND	1.8	0.28
gamma-Chlordane	ND	1.8	0.39
Methoxychlor	ND	18	2.9
Toxaphene	ND	65	16

Surrogate	%REC	Limits
TCMX	63	44-125
Decachlorobiphenyl	81	39-121

C= Presence confirmed, but RPD between columns exceeds 40%
J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-46	Batch#:	239605
Lab ID:	281516-026	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	2.000		

Moisture: 17%

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	4.0	1.1
beta-BHC	ND	4.0	1.1
gamma-BHC	ND	4.0	1.1
delta-BHC	ND	4.0	0.95
Heptachlor	ND	4.0	1.2
Aldrin	ND	4.0	1.2
Heptachlor epoxide	ND	4.0	0.93
Endosulfan I	ND	4.0	1.0
Dieldrin	ND	4.0	0.68
4,4'-DDE	ND	7.8	1.7
Endrin	ND	7.8	2.2
Endosulfan II	ND	7.8	1.9
Endosulfan sulfate	ND	7.8	2.3
4,4'-DDD	ND	7.8	1.8
Endrin aldehyde	ND	7.8	1.8
4,4'-DDT	ND	7.8	2.0
alpha-Chlordane	ND	4.0	0.96
gamma-Chlordane	ND	4.0	1.3
Methoxychlor	ND	40	12
Toxaphene	ND	140	40

Surrogate	%REC	Limits
TCMX	80	44-125
Decachlorobiphenyl	45	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC853511	Batch#:	239605
Matrix:	Soil	Prepared:	09/28/16
Units:	ug/Kg	Analyzed:	09/30/16

Cleanup Method: EPA 3620B

Analyte	Result	RL	MDL
alpha-BHC	ND	1.7	0.19
beta-BHC	ND	1.7	0.30
gamma-BHC	ND	1.7	0.18
delta-BHC	ND	1.7	0.21
Heptachlor	ND	1.7	0.22
Aldrin	ND	1.7	0.18
Heptachlor epoxide	ND	1.7	0.20
Endosulfan I	ND	1.7	0.14
Dieldrin	ND	1.7	0.57
4,4'-DDE	ND	3.3	0.31
Endrin	ND	3.3	0.52
Endosulfan II	ND	3.3	0.61
Endosulfan sulfate	ND	3.3	0.53
4,4'-DDD	ND	3.3	0.68
Endrin aldehyde	ND	3.3	0.86
4,4'-DDT	ND	3.3	0.71
alpha-Chlordane	ND	1.7	0.21
gamma-Chlordane	ND	1.7	0.15
Methoxychlor	ND	17	2.6
Toxaphene	ND	60	9.9

Surrogate	%REC	Limits
TCMX	73	44-125
Decachlorobiphenyl	88	39-121

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC853515	Batch#:	239605
Matrix:	Soil	Prepared:	09/28/16
Units:	ug/Kg	Analyzed:	09/30/16

Cleanup Method: EPA 3620B

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	13.34	11.39	85	44-121
Heptachlor	13.34	11.58	87	45-129
Aldrin	13.34	11.29	85	45-120
Dieldrin	13.34	13.11 #	98	49-131
Endrin	13.34	14.05 #	105	43-135
4,4'-DDT	13.34	12.79	96	37-141

Surrogate	%REC	Limits
TCMX	68	44-125
Decachlorobiphenyl	86	39-121

#= CCV drift outside limits; average CCV drift within limits per method requirements

Curtis & Tompkins, Ltd.

Batch QC Report

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Field ID:	HA-41	Batch#:	239605
MSS Lab ID:	281516-021	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/30/16
Diln Fac:	1.000		

Type:	MS	Moisture:	8%
Lab ID:	QC853516	Cleanup Method:	EPA 3620B

Analyte	MSS Result	Spiked	Result	%REC	Limits
gamma-BHC	<0.1969	14.60	12.87	88	51-126
Heptachlor	<0.2356	14.60	13.56	93	53-135
Aldrin	<0.1964	14.60	13.02	89	52-121
Dieldrin	<0.6275	14.60	15.06 #	103	50-138
Endrin	<0.5689	14.60	16.54 #	113	41-156
4,4'-DDT	<0.7788	14.60	14.82	101	30-156

Surrogate	%REC	Limits
TCMX	67	44-125
Decachlorobiphenyl	78	39-121

Type:	MSD	Moisture:	8%
Lab ID:	QC853535	Cleanup Method:	EPA 3620B

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
gamma-BHC	14.59	11.38	78	51-126	12	40
Heptachlor	14.59	11.78	81	53-135	14	34
Aldrin	14.59	11.55	79	52-121	12	44
Dieldrin	14.59	13.70 #	94	50-138	9	38
Endrin	14.59	14.76 #	101	41-156	11	38
4,4'-DDT	14.59	13.68	94	30-156	8	58

Surrogate	%REC	Limits
TCMX	62	44-125
Decachlorobiphenyl	71	39-121

#= CCV drift outside limits; average CCV drift within limits per method requirements
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC853765	Batch#:	239670
Matrix:	Soil	Prepared:	09/30/16
Units:	ug/Kg	Analyzed:	09/30/16

Analyte	Result	RL	MDL
alpha-BHC	ND	0.86	0.10
beta-BHC	ND	0.86	0.21
gamma-BHC	ND	0.86	0.11
delta-BHC	ND	0.86	0.14
Heptachlor	ND	0.86	0.096
Aldrin	ND	0.86	0.10
Heptachlor epoxide	ND	0.86	0.11
Endosulfan I	ND	0.86	0.088
Dieldrin	ND	0.86	0.20
4,4'-DDE	ND	1.7	0.30
Endrin	ND	1.7	0.28
Endosulfan II	ND	1.7	0.25
Endosulfan sulfate	ND	1.7	0.26
4,4'-DDD	ND	1.7	0.37
Endrin aldehyde	ND #	1.7	0.17
4,4'-DDT	ND	1.7	0.24
alpha-Chlordane	ND	0.86	0.10
gamma-Chlordane	ND	0.86	0.12
Methoxychlor	ND	8.6	1.6
Toxaphene	ND	30	4.6

Surrogate	%REC	Limits
TCMX	59	44-125
Decachlorobiphenyl	46	39-121

#= CCV drift outside limits; average CCV drift within limits per method requirements
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Organochlorine Pesticides

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8081A
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC853771	Batch#:	239670
Matrix:	Soil	Prepared:	09/30/16
Units:	ug/Kg	Analyzed:	09/30/16

Analyte	Spiked	Result	%REC	Limits
gamma-BHC	13.53	10.88	80	44-121
Heptachlor	13.53	10.80	80	45-129
Aldrin	13.53	10.17	75	45-120
Dieldrin	13.53	11.82 #	87	49-131
Endrin	13.53	12.77 #	94	43-135
4,4'-DDT	13.53	11.55	85	37-141

Surrogate	%REC	Limits
TCMX	66	44-125
Decachlorobiphenyl	76	39-121

#= CCV drift outside limits; average CCV drift within limits per method requirements

Confirmation Report for 281516 PEST Soil
Curtis & Tompkins Laboratories

Units: ug/Kg

Lab ID	Client ID	Analyte	Result	Confirmation	RPD	%D
281516-013	HA-33	alpha-Chlordane	70.71 C	339.7	131	380
281516-013	HA-33	gamma-Chlordane	56.02 C	118.5	72	111
281516-014	HA-34	alpha-Chlordane	32.61 C	96.02	99	194
281516-014	HA-34	gamma-Chlordane	23.97	27.08	12	13

C=RPD between columns exceeds 40%

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 PEST Soil: EPA 8081A

Inst : GC21
Calnum : 246290041001
Units : pg/uL

Name : gc21_isopest_201
Date : 19-JUL-2016 19:13

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	201_009	246290041009	ISOPEST_1/2	19-JUL-2016 19:13	S29540 (2X)
L2	201_010	246290041010	ISOPEST_1	19-JUL-2016 19:34	S29540
L3	201_011	246290041011	ISOPEST_2	19-JUL-2016 19:56	S29541
L4	201_012	246290041012	ISOPEST_3	19-JUL-2016 20:18	S29542
L5	201_013	246290041013	ISOPEST_4	19-JUL-2016 20:40	S29543
L6	201_014	246290041014	ISOPEST_5	19-JUL-2016 21:02	S29544
L7	201_015	246290041015	ISOPEST_6	19-JUL-2016 21:24	S29545
L8	201_016	246290041016	ISOPEST_7	19-JUL-2016 21:45	S29546

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	X	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
alpha-BHC	A	32660	32393	31493	29863	29034	31145	23408	17471	AVRG	R		3.52E-5		28434	19	0.990	20	
gamma-BHC	A	31150	29319	29143	27855	26868	28990	21902	16053	AVRG	R		3.79E-5		26410	19	0.990	20	
beta-BHC	A	12564	12015	11722	10981	10604	11750	10196	8909.1	AVRG	R		9.02E-5		11093	11	0.990	20	
delta-BHC	A	26973	26438	26032	26709	24814	26219	19922	14667	AVRG	R		4.17E-5		23972	18	0.990	20	
Heptachlor	A	29341	27677	26985	25544	24649	26575	20007	14478	AVRG	R		4.10E-5		24407	20	0.990	20	
Aldrin	A	28695	27776	26563	25606	24636	26686	19836	14308	AVRG	R		4.12E-5		24263	20	0.990	20	
Heptachlor epoxide	A	25839	24553	23547	22449	21560	23230	17672	12861	AVRG	R		4.66E-5		21464	20	0.990	20	
gamma-Chlordane	A	25858	25172	23970	23114	22540	24610	18500	13435	AVRG	R		4.51E-5		22150	19	0.990	20	
alpha-Chlordane	A	25092	23553	22792	21894	21417	23410	17637	13239	AVRG	R		4.73E-5		21129	18	0.990	20	
4,4'-DDE	A	24083	22945	22327	21448	19037	19043	12826		AVRG	R		4.94E-5		20244	19	0.990	20	
Endosulfan I	A	24116	23137	22231	21188	20245	22287	16957	12548	AVRG	R		4.92E-5		20339	19	0.990	20	
Dieldrin	A	25030	24512	23942	22704	19940	19984	13255		AVRG	R		4.69E-5		21338	19	0.990	20	
Endrin	A	20058	19634	18679	18411	16726	17064	11860		AVRG	R		5.72E-5		17490	16	0.990	20	
4,4'-DDD	A	19418	18784	18313	17922	16345	16903	11624		AVRG	R		5.87E-5		17044	15	0.990	20	
Endosulfan II	A	20679	20040	19549	18888	17230	17415	12018		AVRG	R		5.56E-5		17974	16	0.990	20	
4,4'-DDT	A	19880	19594	19057	18871	17111	17449	11838		AVRG	R		5.65E-5		17685	16	0.990	20	
Endrin aldehyde	A	16211	15312	14524	14302	13848	14292	10424		AVRG	R		7.08E-5		14130	13	0.990	20	
Methoxychlor	A	8531.6	8412.5	8016.8	6962.7	5297.5	4940.4	3053.2		QUAD	A	54018.2	6639.30	-7.41087	6459.2	0.997	0.990	20	
Endosulfan sulfate	A	18645	17872	16956	16240	14941	15638	11081		AVRG	R		6.29E-5		15910	16	0.990	20	
TCMX	A	15817	15311	14427	19191	17275	18452	13788	10623	AVRG	R		6.41E-5		15610	18	0.990	20	
Decachlorobiphenyl	A	15623	14912	14144	13730	13017	14007	10751	7821.2	AVRG	R		7.69E-5		13001	20	0.990	20	
alpha-BHC	B	6604.0	8005.0	7699.2	7231.4	6041.4	5922.8	4015.8		QUAD	A	861.176	7640.77	-72.8657	6502.8	0.999	0.990	20	
gamma-BHC	B	6526.0	7405.0	7268.8	6692.0	5466.0	5516.2	3696.0		QUAD	A	1244.22	7004.54	-66.6477	6081.4	0.998	0.990	20	
beta-BHC	B	2862.0	2982.5	2853.4	2672.2	2528.7	2744.3	2150.4	1611.3	AVRG	R		3.92E-4		2550.6	18	0.990	20	
delta-BHC	B	6913.0	7297.0	7112.4	6656.1	5313.6	5319.9	3511.4		QUAD	A	1744.92	6821.69	-66.9207	6017.6	0.998	0.990	20	

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	X	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Heptachlor	B	6968.0	7050.0	6885.0	6430.8	5157.2	5211.2	3463.3		QUAD	A	1660.91	6616.16	-63.7105	5880.8	0.998	0.990	20	
Aldrin	B	6626.0	7136.5	6791.4	6480.1	5401.6	5234.8	3423.6		QUAD	A	786.071	6896.61	-69.7900	5870.6	0.999	0.990	20	
Heptachlor epoxide	B	6241.0	6317.0	6033.6	5682.8	4695.2	4587.8	3086.4		QUAD	A	1345.03	5909.72	-57.0241	5234.8	0.999	0.990	20	
gamma-Chlordane	B	6412.0	6515.5	6096.0	5728.1	4842.9	4733.4	3129.1		QUAD	A	900.482	6141.20	-60.5765	5351.0	0.999	0.990	20	
alpha-Chlordane	B	5752.0	5877.0	5645.4	5363.5	4417.1	4338.0	2977.3		QUAD	A	1233.48	5529.91	-51.5704	4910.0	0.999	0.990	20	
4,4'-DDE	B	5681.5	5936.5	5387.1	4545.3	3392.9	3199.3	1989.0		QUAD	A	8752.46	4214.40	-23.2047	4304.5	0.995	0.990	20	
Endosulfan I	B	5750.0	5869.5	5713.0	5338.2	4408.8	4402.2	2970.2		QUAD	A	1023.94	5597.02	-52.9288	4921.7	0.999	0.990	20	
Dieldrin	B	6108.5	6376.0	5704.3	4772.1	3465.4	3242.0	2006.4		QUAD	A	10648.5	4269.25	-23.7914	4525.0	0.994	0.990	20	
Endrin	B	4919.0	5100.3	4753.7	4029.9	3004.2	2866.9	1823.2		QUAD	A	7402.99	3729.39	-19.8676	3785.3	0.995	0.990	20	
4,4'-DDD	B	4764.0	4940.5	4549.6	3963.1	2997.4	2800.1	1793.1		QUAD	A	6725.65	3695.43	-19.7662	3686.8	0.996	0.990	20	
Endosulfan II	B	5028.5	5150.8	4738.4	4100.3	3102.9	2920.1	1864.7		QUAD	A	7042.40	3834.68	-20.4713	3843.7	0.996	0.990	20	
4,4'-DDT	B	4511.5	4806.0	4548.8	3996.9	3048.2	2875.2	1801.2		QUAD	A	5568.39	3836.94	-20.9747	3655.4	0.997	0.990	20	
Endrin aldehyde	B	3784.5	3815.0	3597.3	3377.0	2708.9	2595.0	1691.9		QUAD	A	2516.64	3417.26	-17.5296	3081.4	0.999	0.990	20	
Methoxychlor	B	2016.3	2014.3	1651.6	1228.2	811.33	713.02			QUAD	A	12984.5	1382.59	-2.96595	1405.8	0.990	0.990	20	
Endosulfan sulfate	B	4544.5	4682.8	4430.1	3963.0	3072.2	2923.3	1847.1		QUAD	A	4722.32	3879.93	-20.8472	3637.5	0.998	0.990	20	
TCMX	B	3962.5	4599.8	4345.1	4023.5	3322.6	3383.1			AVRG	R		2.54E-4		3939.4	13	0.990	20	
Decachlorobiphenyl	B	4229.0	4150.3	4114.2	3785.5	2968.3	2798.8	1830.7		QUAD	A	3715.04	3711.47	-19.2306	3411.0	0.998	0.990	20	
Average EPA 8081A	A														(n=23)	18		20	
Average EPA 8081A	B														(n=23)	**27**		20	arsd ***

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
alpha-BHC	A	1.0000	15	2.0000	14	5.0000	11	10.000	5	20.000	2	25.000	10	50.000	-18	100.00	**-39**
gamma-BHC	A	1.0000	18	2.0000	11	5.0000	10	10.000	5	20.000	2	25.000	10	50.000	-17	100.00	**-39**
beta-BHC	A	1.0000	13	2.0000	8	5.0000	6	10.000	-1	20.000	-4	25.000	6	50.000	-8	100.00	-20
delta-BHC	A	1.0000	13	2.0000	10	5.0000	9	10.000	11	20.000	4	25.000	9	50.000	-17	100.00	**-39**
Heptachlor	A	1.0000	20	2.0000	13	5.0000	11	10.000	5	20.000	1	25.000	9	50.000	-18	100.00	**-41**
Aldrin	A	1.0000	18	2.0000	14	5.0000	9	10.000	6	20.000	2	25.000	10	50.000	-18	100.00	**-41**
Heptachlor epoxide	A	1.0000	20	2.0000	14	5.0000	10	10.000	5	20.000	0	25.000	8	50.000	-18	100.00	**-40**
gamma-Chlordane	A	1.0000	17	2.0000	14	5.0000	8	10.000	4	20.000	2	25.000	11	50.000	-16	100.00	**-39**
alpha-Chlordane	A	1.0000	19	2.0000	11	5.0000	8	10.000	4	20.000	1	25.000	11	50.000	-17	100.00	**-37**
4,4'-DDE	A	2.0000	19	4.0000	13	10.000	10	20.000	6	40.000	-6	50.000	-6	100.00	**-37**		
Endosulfan I	A	1.0000	19	2.0000	14	5.0000	9	10.000	4	20.000	0	25.000	10	50.000	-17	100.00	**-38**
Dieldrin	A	2.0000	17	4.0000	15	10.000	12	20.000	6	40.000	-7	50.000	-6	100.00	**-38**		
Endrin	A	2.0000	15	4.0000	12	10.000	7	20.000	5	40.000	-4	50.000	-2	100.00	**-32**		
4,4'-DDD	A	2.0000	14	4.0000	10	10.000	7	20.000	5	40.000	-4	50.000	-1	100.00	**-32**		
Endosulfan II	A	2.0000	15	4.0000	11	10.000	9	20.000	5	40.000	-4	50.000	-3	100.00	**-33**		
4,4'-DDT	A	2.0000	12	4.0000	11	10.000	8	20.000	7	40.000	-3	50.000	-1	100.00	**-33**		
Endrin aldehyde	A	2.0000	15	4.0000	8	10.000	3	20.000	1	40.000	-2	50.000	1	100.00	**-26**		
Methoxychlor	A	10.000	**-53**	20.000	-12	50.000	11	100.00	10	200.00	-3	250.00	-2	500.00	**-100**		
Endosulfan sulfate	A	2.0000	17	4.0000	12	10.000	7	20.000	2	40.000	-6	50.000	-2	100.00	**-30**		
TCMX	A	2.0000	1	4.0000	-2	10.000	-8	20.000	**23**	40.000	11	50.000	18	100.00	-12	200.00	**-32**
Decachlorobiphenyl	A	2.0000	20	4.0000	15	10.000	9	20.000	6	40.000	0	50.000	8	100.00	-17	200.00	**-40**
alpha-BHC	B	1.0000	**-24**	2.0000	1	5.0000	4	10.000	4	20.000	-4	25.000	2	50.000	0		
gamma-BHC	B	1.0000	**-24**	2.0000	-1	5.0000	6	10.000	4	20.000	-6	25.000	4	50.000	0		
beta-BHC	B	1.0000	12	2.0000	17	5.0000	12	10.000	5	20.000	-1	25.000	8	50.000	-16	100.00	**-37**
delta-BHC	B	1.0000	**-24**	2.0000	-4	5.0000	5	10.000	6	20.000	-6	25.000	3	50.000	1		
Heptachlor	B	1.0000	-19	2.0000	-4	5.0000	4	10.000	5	20.000	-6	25.000	4	50.000	0		
Aldrin	B	1.0000	-15	2.0000	0	5.0000	1	10.000	4	20.000	-3	25.000	2	50.000	**-100**		
Heptachlor epoxide	B	1.0000	-16	2.0000	-3	5.0000	3	10.000	4	20.000	-4	25.000	2	50.000	1		
gamma-Chlordane	B	1.0000	-9	2.0000	1	5.0000	1	10.000	2	20.000	-4	25.000	2	50.000	-1		
alpha-Chlordane	B	1.0000	-18	2.0000	-3	5.0000	3	10.000	5	20.000	-4	25.000	2	50.000	0		
4,4'-DDE	B	2.0000	**-69**	4.0000	-9	10.000	14	20.000	11	40.000	-5	50.000	-2	100.00	**-100**		
Endosulfan I	B	1.0000	-15	2.0000	-2	5.0000	3	10.000	4	20.000	-5	25.000	3	50.000	0		
Dieldrin	B	2.0000	**-82**	4.0000	-11	10.000	16	20.000	14	40.000	-5	50.000	-3	100.00	**-100**		
Endrin	B	2.0000	**-67**	4.0000	-11	10.000	15	20.000	11	40.000	-5	50.000	-1	100.00	**-100**		
4,4'-DDD	B	2.0000	**-62**	4.0000	-10	10.000	12	20.000	11	40.000	-4	50.000	-2	100.00	**-100**		
Endosulfan II	B	2.0000	**-61**	4.0000	-10	10.000	12	20.000	11	40.000	-4	50.000	-2	100.00	**-100**		
4,4'-DDT	B	2.0000	**-55**	4.0000	-9	10.000	11	20.000	10	40.000	-4	50.000	-1	100.00	**-100**		
Endrin aldehyde	B	2.0000	**-26**	4.0000	-5	10.000	3	20.000	7	40.000	-3	50.000	0	100.00	**-100**		
Methoxychlor	B	10.000	**-47**	20.000	3	50.000	15	100.00	2	200.00	-15	250.00	**-100**				
Endosulfan sulfate	B	2.0000	**-43**	4.0000	-8	10.000	8	20.000	9	40.000	-4	50.000	0	100.00	**-100**		
TCMX	B	2.0000	1	4.0000	17	10.000	10	20.000	2	40.000	-16	50.000	-14				
Decachlorobiphenyl	B	2.0000	**-36**	4.0000	-12	10.000	7	20.000	9	40.000	-3	50.000	-1	100.00	**-100**		

RFC 07/20/16 : Corrected automatically drawn baseline for all channels in all levels.

RFC 07/20/16 : Separated from coeluting peak for all channels in all levels.

RFC 07/20/16 : Dropped various high points to achieve optimal RSD values.

Analyst: RFC Date: 07/20/16 Reviewer: EAH Date: 07/21/16

arsd=average ICAL %RSD out

X=A: Instrument response = a0 + amount * a1 + amount^2 * a2 (invert equation before quantitating); X=R: Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281516 PEST Soil
EPA 8081A

Inst : GC21 Name : gc21_isopest_201
Calnum : 246290041001 Cal Date : 19-JUL-2016

ICV 246290041018 (201_018 19-JUL-2016) stds: S29465

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
alpha-BHC	A	20.00	20.87	pg/uL	4	15	
gamma-BHC	A	20.00	20.46	pg/uL	2	15	
beta-BHC	A	20.00	19.76	pg/uL	-1	15	
delta-BHC	A	20.00	20.98	pg/uL	5	15	
Heptachlor	A	20.00	20.28	pg/uL	1	15	
Aldrin	A	20.00	20.64	pg/uL	3	15	
Heptachlor epoxide	A	20.00	20.89	pg/uL	4	15	
gamma-Chlordane	A	20.00	20.79	pg/uL	4	15	
alpha-Chlordane	A	20.00	20.64	pg/uL	3	15	
4,4'-DDE	A	20.00	21.67	pg/uL	8	15	
Endosulfan I	A	20.00	20.63	pg/uL	3	15	
Dieldrin	A	20.00	21.34	pg/uL	7	15	
Endrin	A	20.00	21.04	pg/uL	5	15	
4,4'-DDD	A	20.00	21.03	pg/uL	5	15	
Endosulfan II	A	20.00	21.66	pg/uL	8	15	
4,4'-DDT	A	20.00	21.31	pg/uL	7	15	
Endrin aldehyde	A	20.00	21.39	pg/uL	7	15	
Methoxychlor	A	200.0	191.1	pg/uL	-4	15	
Endosulfan sulfate	A	20.00	19.75	pg/uL	-1	15	
alpha-BHC	B	20.00	19.18	pg/uL	-4	15	
gamma-BHC	B	20.00	19.07	pg/uL	-5	15	
beta-BHC	B	20.00	20.66	pg/uL	3	15	
delta-BHC	B	20.00	19.23	pg/uL	-4	15	
Heptachlor	B	20.00	19.48	pg/uL	-3	15	
Aldrin	B	20.00	19.03	pg/uL	-5	15	
Heptachlor epoxide	B	20.00	18.95	pg/uL	-5	15	
gamma-Chlordane	B	20.00	19.20	pg/uL	-4	15	
alpha-Chlordane	B	20.00	19.33	pg/uL	-3	15	
4,4'-DDE	B	20.00	22.95	pg/uL	15	15	
Endosulfan I	B	20.00	19.12	pg/uL	-4	15	
Dieldrin	B	20.00	22.29	pg/uL	11	15	
Endrin	B	20.00	22.12	pg/uL	11	15	
4,4'-DDD	B	20.00	22.20	pg/uL	11	15	
Endosulfan II	B	20.00	22.59	pg/uL	13	15	
4,4'-DDT	B	20.00	22.27	pg/uL	11	15	
Endrin aldehyde	B	20.00	21.87	pg/uL	9	15	
Methoxychlor	B	200.0	170.3	pg/uL	-15	15	
Endosulfan sulfate	B	20.00	20.82	pg/uL	4	15	
Average EPA 8081A	A	n=21			5	15	
Average EPA 8081A	B	n=21			8	15	

Analyst: RFC Date: 07/20/16 Reviewer: EAH Date: 07/21/16

average ICAL %RSD out (B)

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 PEST Soil: EPA 8081A

Inst : GC30
Calnum : 356369195001
Units : pg/uL

Name : gc30_256_ICAL
Date : 12-SEP-2016 19:06

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	256_007	356369195007	ISOPEST_1/2	12-SEP-2016 19:06	S30768
L2	256_008	356369195008	ISOPEST_1	12-SEP-2016 19:22	S30769
L3	256_009	356369195009	ISOPEST_2	12-SEP-2016 19:38	S30770
L4	256_010	356369195010	ISOPEST_3	12-SEP-2016 19:54	S30771
L5	256_011	356369195011	ISOPEST_4	12-SEP-2016 20:10	S30772
L6	256_012	356369195012	ISOPEST_5	12-SEP-2016 20:26	S30773
L7	256_013	356369195013	ISOPEST_6	12-SEP-2016 20:42	S30774
L8	256_014	356369195014	ISOPEST_7	12-SEP-2016 20:58	S30775

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	X	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
alpha-BHC	A	8648.0	8748.5	10330	10342	9227.4	8404.4	6263.3		AVRG	R		1.13E-4		8852.0	16	0.990	20	
gamma-BHC	A	7978.0	7917.0	9339.0	9720.6	8823.9	8096.4	6170.8		AVRG	R		1.21E-4		8292.2	14	0.990	20	
beta-BHC	A	2797.0	2600.5	2943.2	3279.8	3726.6	3640.7	3396.9	2676.5	AVRG	R		3.19E-4		3132.6	14	0.990	20	
delta-BHC	A	8132.0	7838.5	8878.6	9682.4	8821.7	8160.6	6353.0		AVRG	R		1.21E-4		8266.7	13	0.990	20	
Heptachlor	A	7821.0	7679.5	8788.8	9570.8	8959.9	8206.6	6437.0		AVRG	R		1.22E-4		8209.1	13	0.990	20	
Aldrin	A	7356.0	7324.0	8299.0	9258.9	8825.1	8154.0	6467.9		AVRG	R		1.26E-4		7955.0	12	0.990	20	
Heptachlor epoxide	A	7332.0	6247.5	6716.2	7686.4	7805.5	7295.1	6015.9	4266.7	AVRG	R		1.50E-4		6670.7	17	0.990	20	
gamma-Chlordane	A	6976.0	6778.5	6999.0	8335.1	8507.5	7888.4	6710.7	4756.9	AVRG	R		1.40E-4		7119.0	17	0.990	20	
alpha-Chlordane	A	5118.0	5478.0	6226.4	6724.3	7903.9	7503.3	6453.5	4599.3	AVRG	R		1.60E-4		6250.8	18	0.990	20	
4,4'-DDE	A	6103.0	6118.0	7047.0	7793.0	6922.8	6233.8	4681.8		AVRG	R		1.56E-4		6414.2	15	0.990	20	
Endosulfan I	A	6017.0	5833.0	6334.2	7681.8	8177.4	7666.6	6630.0	4690.1	AVRG	R		1.51E-4		6628.8	18	0.990	20	
Dieldrin	A	5400.5	6053.8	6927.3	7022.1	6851.8	6161.3	4601.2		AVRG	R		1.63E-4		6145.4	15	0.990	20	
Endrin	A	5284.0	5341.0	5982.1	6998.6	6239.1	5735.3	4339.2		AVRG	R		1.75E-4		5702.7	15	0.990	20	
4,4'-DDD	A	4719.0	4736.8	5379.4	6749.9	6225.0	5767.1	4503.6		AVRG	R		1.84E-4		5440.1	16	0.990	20	
Endosulfan II	A	5098.0	5103.5	5646.4	6906.1	6329.8	5814.0	4540.9		AVRG	R		1.77E-4		5634.1	14	0.990	20	
4,4'-DDT	A	6045.0	5257.3	5810.7	7421.5	6715.6	6170.6	4757.4		AVRG	R		1.66E-4		6025.4	15	0.990	20	
Endrin aldehyde	A	3781.0	3743.5	4169.8	4902.6	5241.2	4864.2	4021.3	2817.7	AVRG	R		2.39E-4		4192.7	19	0.990	20	
Methoxychlor	A	2346.9	2436.3	2581.0	2540.1	1957.6	1766.8	1210.1		QUAD	A	9985.94	2401.65	-2.43566	2119.8	0.996	0.990	20	
Endosulfan sulfate	A	3882.5	4155.0	4327.7	5227.4	6080.4	5768.6	5035.4	3533.7	AVRG	R		2.10E-4		4751.3	19	0.990	20	
TCMX	A	4136.5	4611.0	5430.9	5199.1	4606.8	4144.3	3121.4		AVRG	R		2.24E-4		4464.3	17	0.990	20	
Decachlorobiphenyl	A	3747.5	3275.3	3874.2	4797.8	5557.6	5560.3	4585.9		AVRG	R		2.23E-4		4485.5	20	0.990	20	
alpha-BHC	B	3931.0	2626.0	3919.2	4191.9	4692.6	4729.2	4129.3	2892.1	AVRG	R		2.57E-4		3888.9	20	0.990	20	
gamma-BHC	B	3544.0	2458.5	3629.6	3904.8	4479.5	4505.4	3936.4		AVRG	R		2.65E-4		3779.7	18	0.990	20	
beta-BHC	B	1349.0	1011.0	1338.0	1366.1	1438.8	1505.7	1707.4	1565.4	AVRG	R		7.09E-4		1410.2	14	0.990	20	
delta-BHC	B	3412.0	2371.5	3489.0	3605.0	4375.4	4307.3	3561.0		AVRG	R		2.79E-4		3588.7	19	0.990	20	

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	L8	Type	X	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Heptachlor	B	3730.0	2370.5	3686.0	4029.7	4331.3	4468.0	3965.3		AVRG	R		2.63E-4		3797.3	18	0.990	20	
Aldrin	B	3497.0	2429.5	3510.0	3660.4	4216.2	4260.8	3811.4	2732.2	AVRG	R		2.85E-4		3514.7	18	0.990	20	
Heptachlor epoxide	B	3075.0	2272.0	3036.0	3124.4	3508.4	3580.4	3406.2	2575.9	AVRG	R		3.25E-4		3072.3	15	0.990	20	
gamma-Chlordane	B	3067.0	2165.0	3036.8	3125.1	3596.4	3755.6	3637.1	2774.3	AVRG	R		3.18E-4		3144.7	17	0.990	20	
alpha-Chlordane	B	2892.0	2102.5	2827.0	2898.9	3368.9	3588.0	3466.4	2725.1	AVRG	R		3.35E-4		2983.6	16	0.990	20	
4,4'-DDE	B	2414.0	1834.5	2592.0	2810.8	3287.0	3172.4	2640.6		AVRG	R		3.73E-4		2678.8	18	0.990	20	
Endosulfan I	B	2886.0	2001.5	2835.4	2883.3	3250.8	3295.7	3360.7	2537.4	AVRG	R		3.47E-4		2881.3	16	0.990	20	
Dieldrin	B	2960.0	2114.0	3137.2	3542.9	3647.6	3527.3	2761.4		AVRG	R		3.23E-4		3098.6	18	0.990	20	
Endrin	B	2715.0	1761.8	2626.5	2909.4	3137.3	3097.7	2525.3		AVRG	R		3.73E-4		2681.8	17	0.990	20	
4,4'-DDD	B	2009.0	1523.3	2107.1	2265.0	2641.0	2656.5	2402.8	1719.9	AVRG	R		4.62E-4		2165.6	19	0.990	20	
Endosulfan II	B	2148.5	1738.3	2272.2	2414.1	2912.9	2894.5	2433.9	1682.7	AVRG	R		4.33E-4		2312.1	20	0.990	20	
4,4'-DDT	B	2185.5	1668.8	2356.6	2587.3	2982.9	3098.0	2661.2		AVRG	R		3.99E-4		2505.7	20	0.990	20	
Endrin aldehyde	B	1710.0	1326.8	1905.7	1898.6	2310.1	2379.6	2174.7	1637.8	AVRG	R		5.21E-4		1917.9	19	0.990	20	
Methoxychlor	B	988.90	780.15	1073.8	1181.7	1078.2	1025.1	725.16		AVRG	R		0.00102		979.00	17	0.990	20	
Endosulfan sulfate	B	2005.5	1499.3	1915.4	2016.7	2287.8	2363.7	2309.0	1765.5	AVRG	R		4.95E-4		2020.4	15	0.990	20	
TCMX	B	2373.5	1681.5	2350.9	2575.5	2794.4	2787.9	2586.6	1856.0	AVRG	R		4.21E-4		2375.8	17	0.990	20	
Decachlorobiphenyl	B	2024.0	1700.0	1984.5	2031.4	2240.1	2330.6	2497.4	2046.9	AVRG	R		4.75E-4		2106.9	12	0.990	20	
Average EPA 8081A	A														(n=23)	16		20	
Average EPA 8081A	B														(n=23)	17		20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D	L8	%D
alpha-BHC	A	1.0000	-2	2.0000	-1	5.0000	17	10.000	17	20.000	4	25.000	-5	50.000	**-29**		
gamma-BHC	A	1.0000	-4	2.0000	-5	5.0000	13	10.000	17	20.000	6	25.000	-2	50.000	**-26**		
beta-BHC	A	1.0000	-11	2.0000	-17	5.0000	-6	10.000	5	20.000	19	25.000	16	50.000	8	100.00	-15
delta-BHC	A	1.0000	-2	2.0000	-5	5.0000	7	10.000	17	20.000	7	25.000	-1	50.000	**-23**		
Heptachlor	A	1.0000	-5	2.0000	-6	5.0000	7	10.000	17	20.000	9	25.000	0	50.000	**-22**		
Aldrin	A	1.0000	-8	2.0000	-8	5.0000	4	10.000	16	20.000	11	25.000	3	50.000	-19		
Heptachlor epoxide	A	1.0000	10	2.0000	-6	5.0000	1	10.000	15	20.000	17	25.000	9	50.000	-10	100.00	**-36**
gamma-Chlordane	A	1.0000	-2	2.0000	-5	5.0000	-2	10.000	17	20.000	20	25.000	11	50.000	-6	100.00	**-33**
alpha-Chlordane	A	1.0000	-18	2.0000	-12	5.0000	0	10.000	8	20.000	**26**	25.000	20	50.000	3	100.00	**-26**
4,4'-DDE	A	2.0000	-5	4.0000	-5	10.000	10	20.000	**21**	40.000	8	50.000	-3	100.00	**-27**		
Endosulfan I	A	1.0000	-9	2.0000	-12	5.0000	-4	10.000	16	20.000	**23**	25.000	16	50.000	0	100.00	**-29**
Dieldrin	A	2.0000	-12	4.0000	-1	10.000	13	20.000	14	40.000	11	50.000	0	100.00	**-25**		
Endrin	A	2.0000	-7	4.0000	-6	10.000	5	20.000	**23**	40.000	9	50.000	1	100.00	**-24**		
4,4'-DDD	A	2.0000	-13	4.0000	-13	10.000	-1	20.000	**24**	40.000	14	50.000	6	100.00	-17		
Endosulfan II	A	2.0000	-10	4.0000	-9	10.000	0	20.000	**23**	40.000	12	50.000	3	100.00	-19		
4,4'-DDT	A	2.0000	0	4.0000	-13	10.000	-4	20.000	**23**	40.000	11	50.000	2	100.00	**-21**		
Endrin aldehyde	A	2.0000	-10	4.0000	-11	10.000	-1	20.000	17	40.000	**25**	50.000	16	100.00	-4	200.00	**-33**
Methoxychlor	A	10.000	**-44**	20.000	-18	50.000	5	100.00	15	200.00	0	250.00	-5	500.00	**-100**		
Endosulfan sulfate	A	2.0000	-18	4.0000	-13	10.000	-9	20.000	10	40.000	**28**	50.000	**21**	100.00	6	200.00	**-26**
TCMX	A	2.0000	-7	4.0000	3	10.000	**22**	20.000	16	40.000	3	50.000	-7	100.00	**-30**		
Decachlorobiphenyl	A	2.0000	-16	4.0000	**-27**	10.000	-14	20.000	7	40.000	**24**	50.000	**24**	100.00	2		
alpha-BHC	B	1.0000	1	2.0000	**-32**	5.0000	1	10.000	8	20.000	**21**	25.000	**22**	50.000	6	100.00	**-26**
gamma-BHC	B	1.0000	-6	2.0000	**-35**	5.0000	-4	10.000	3	20.000	19	25.000	19	50.000	4		
beta-BHC	B	1.0000	-4	2.0000	**-28**	5.0000	-5	10.000	-3	20.000	2	25.000	7	50.000	**21**	100.00	11
delta-BHC	B	1.0000	-5	2.0000	**-34**	5.0000	-3	10.000	0	20.000	**22**	25.000	20	50.000	-1		
Heptachlor	B	1.0000	-2	2.0000	**-38**	5.0000	-3	10.000	6	20.000	14	25.000	18	50.000	4		
Aldrin	B	1.0000	-1	2.0000	**-31**	5.0000	0	10.000	4	20.000	20	25.000	**21**	50.000	8	100.00	**-22**
Heptachlor epoxide	B	1.0000	0	2.0000	**-26**	5.0000	-1	10.000	2	20.000	14	25.000	17	50.000	11	100.00	-16
gamma-Chlordane	B	1.0000	-2	2.0000	**-31**	5.0000	-3	10.000	-1	20.000	14	25.000	19	50.000	16	100.00	-12
alpha-Chlordane	B	1.0000	-3	2.0000	**-30**	5.0000	-5	10.000	-3	20.000	13	25.000	20	50.000	16	100.00	-9
4,4'-DDE	B	2.0000	-10	4.0000	**-32**	10.000	-3	20.000	5	40.000	**23**	50.000	18	100.00	-1		
Endosulfan I	B	1.0000	0	2.0000	**-31**	5.0000	-2	10.000	0	20.000	13	25.000	14	50.000	17	100.00	-12
Dieldrin	B	2.0000	-4	4.0000	**-32**	10.000	1	20.000	14	40.000	18	50.000	14	100.00	-11		
Endrin	B	2.0000	1	4.0000	**-34**	10.000	-2	20.000	8	40.000	17	50.000	16	100.00	-6		
4,4'-DDD	B	2.0000	-7	4.0000	**-30**	10.000	-3	20.000	5	40.000	**22**	50.000	**23**	100.00	11	200.00	**-21**
Endosulfan II	B	2.0000	-7	4.0000	**-25**	10.000	-2	20.000	4	40.000	**26**	50.000	**25**	100.00	5	200.00	**-27**
4,4'-DDT	B	2.0000	-13	4.0000	**-33**	10.000	-6	20.000	3	40.000	19	50.000	**24**	100.00	6		
Endrin aldehyde	B	2.0000	-11	4.0000	**-31**	10.000	-1	20.000	-1	40.000	20	50.000	**24**	100.00	13	200.00	-15
Methoxychlor	B	10.000	1	20.000	-20	50.000	10	100.00	**21**	200.00	10	250.00	5	500.00	**-26**		
Endosulfan sulfate	B	2.0000	-1	4.0000	**-26**	10.000	-5	20.000	0	40.000	13	50.000	17	100.00	14	200.00	-13
TCMX	B	2.0000	0	4.0000	**-29**	10.000	-1	20.000	8	40.000	18	50.000	17	100.00	9	200.00	**-22**
Decachlorobiphenyl	B	2.0000	-4	4.0000	-19	10.000	-6	20.000	-4	40.000	6	50.000	11	100.00	19	200.00	-3

RFC 09/14/16 : Corrected automatically drawn baseline for all channels in all levels.

RFC 09/14/16 : Separated from coeluting peak for all channels in all levels.

Analyst: RFC Date: 09/15/16 Reviewer: EAH Date: 09/15/16

X=A: Instrument response = a0 + amount * a1 + amount^2 * a2 (invert equation before quantitating); X=R: Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; QUAD=Quadratic regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281516 PEST Soil
EPA 8081A

Inst : GC30 Name : gc30_256_ICAL
Calnum : 356369195001 Cal Date : 12-SEP-2016

ICV 356369195016 (256_016 12-SEP-2016) stds: S29465

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
alpha-BHC	A	20.00	20.00	pg/uL	0	15	
gamma-BHC	A	20.00	20.14	pg/uL	1	15	
beta-BHC	A	20.00	22.66	pg/uL	13	15	
delta-BHC	A	20.00	19.99	pg/uL	0	15	
Heptachlor	A	20.00	20.56	pg/uL	3	15	
Aldrin	A	20.00	20.94	pg/uL	5	15	
Heptachlor epoxide	A	20.00	22.40	pg/uL	12	15	
gamma-Chlordane	A	20.00	22.40	pg/uL	12	15	
alpha-Chlordane	A	20.00	23.32	pg/uL	**17**	15	v+
4,4'-DDE	A	20.00	24.10	pg/uL	**20**	15	v+
Endosulfan I	A	20.00	22.18	pg/uL	11	15	
Dieldrin	A	20.00	23.90	pg/uL	**20**	15	v+
Endrin	A	20.00	23.03	pg/uL	15	15	
4,4'-DDD	A	20.00	22.95	pg/uL	15	15	
Endosulfan II	A	20.00	23.08	pg/uL	15	15	
4,4'-DDT	A	20.00	22.14	pg/uL	11	15	
Endrin aldehyde	A	20.00	24.09	pg/uL	**20**	15	v+
Methoxychlor	A	200.0	184.8	pg/uL	-8	15	
Endosulfan sulfate	A	20.00	20.12	pg/uL	1	15	
alpha-BHC	B	20.00	23.47	pg/uL	**17**	15	v+
gamma-BHC	B	20.00	22.58	pg/uL	13	15	
beta-BHC	B	20.00	19.69	pg/uL	-2	15	
delta-BHC	B	20.00	23.46	pg/uL	**17**	15	v+
Heptachlor	B	20.00	22.23	pg/uL	11	15	
Aldrin	B	20.00	23.17	pg/uL	**16**	15	v+
Heptachlor epoxide	B	20.00	22.55	pg/uL	13	15	
gamma-Chlordane	B	20.00	22.35	pg/uL	12	15	
alpha-Chlordane	B	20.00	22.06	pg/uL	10	15	
4,4'-DDE	B	20.00	21.50	pg/uL	7	15	
Endosulfan I	B	20.00	21.86	pg/uL	9	15	
Dieldrin	B	20.00	22.10	pg/uL	10	15	
Endrin	B	20.00	21.67	pg/uL	8	15	
4,4'-DDD	B	20.00	20.35	pg/uL	2	15	
Endosulfan II	B	20.00	21.62	pg/uL	8	15	
4,4'-DDT	B	20.00	20.02	pg/uL	0	15	
Endrin aldehyde	B	20.00	21.07	pg/uL	5	15	
Methoxychlor	B	200.0	222.5	pg/uL	11	15	
Endosulfan sulfate	B	20.00	18.67	pg/uL	-7	15	
Average EPA 8081A	A	n=21			11	15	
Average EPA 8081A	B	n=21			10	15	

Analyst: RFC Date: 09/14/16 Reviewer: EAH Date: 09/15/16

+=high bias v=ICV

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC21 Run Name : PEM IDF : 1.0
Seqnum : 246290041006 File : 201_006 Time : 19-JUL-2016 18:07

Standards: S29649

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	1136470	4	15	
4,4'-DDE	A	5455			
4,4'-DDD	A	36748			
Endrin	A	718734	11	15	
Endrin aldehyde	A	34222			
Endrin ketone	A	55823			
4,4'-DDT	B	185968	6	15	
4,4'-DDE	B	887			
4,4'-DDD	B	11319			
Endrin	B	140213	10	15	
Endrin aldehyde	B	4336			
Endrin ketone	B	10824			

Analyst: RFC Date: 07/20/16 Reviewer: EAH Date: 07/21/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC21 Run Name : PEM IDF : 1.0
Seqnum : 246395182003 File : 274_003 Time : 30-SEP-2016 11:05

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	978296	2	15	
4,4'-DDE	A	3588			
4,4'-DDD	A	14164			
Endrin	A	609009	9	15	
Endrin aldehyde	A	23590			
Endrin ketone	A	37980			
4,4'-DDT	B	182276	2	15	
4,4'-DDE	B	787			
4,4'-DDD	B	2325			
Endrin	B	141154	4	15	
Endrin aldehyde	B	1378			
Endrin ketone	B	4085			

Analyst: JCD Date: 09/30/16 Reviewer: EAH Date: 09/30/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC21 Run Name : PEM IDF : 1.0
Seqnum : 246395182008 File : 274_008 Time : 30-SEP-2016 13:20

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	980654	2	15	
4,4'-DDE	A	3689			
4,4'-DDD	A	14879			
Endrin	A	618602	9	15	
Endrin aldehyde	A	25847			
Endrin ketone	A	37927			
4,4'-DDT	B	180130	2	15	
4,4'-DDE	B	830			
4,4'-DDD	B	2862			
Endrin	B	137753	6	15	
Endrin aldehyde	B	2438			
Endrin ketone	B	5826			

Analyst: JCD Date: 09/30/16 Reviewer: EAH Date: 09/30/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC21 Run Name : PEM IDF : 1.0
Seqnum : 246395182018 File : 274_018 Time : 30-SEP-2016 18:52

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	944139	2	15	
4,4'-DDE	A	4798			
4,4'-DDD	A	18487			
Endrin	A	566531	13	15	
Endrin aldehyde	A	34392			
Endrin ketone	A	47670			
4,4'-DDT	B	183307	2	15	
4,4'-DDE	B	1150			
4,4'-DDD	B	3410			
Endrin	B	137809	7	15	
Endrin aldehyde	B	3578			
Endrin ketone	B	7212			

Analyst: JCD Date: 10/03/16 Reviewer: EAH Date: 10/04/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC21 Run Name : PEM IDF : 1.0
Seqnum : 246395182027 File : 274_027 Time : 30-SEP-2016 22:08

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	982895	4	15	
4,4'-DDE	A	3260			
4,4'-DDD	A	32458			
Endrin	A	634792	9	15	
Endrin aldehyde	A	24410			
Endrin ketone	A	40962			
4,4'-DDT	B	174156	4	15	
4,4'-DDE	B	1067			
4,4'-DDD	B	5957			
Endrin	B	132506	7	15	
Endrin aldehyde	B	3545			
Endrin ketone	B	6980			

Analyst: JCD Date: 10/03/16 Reviewer: TKM Date: 10/06/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC30 Run Name : PEM IDF : 1.0
Seqnum : 356369195003 File : 256_003 Time : 12-SEP-2016 09:46

Standards: S29649

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	436062	3	15	
4,4'-DDE	A	891			
4,4'-DDD	A	11713			
Endrin	A	261183	3	15	
Endrin aldehyde	A	1861			
Endrin ketone	A	7157			
4,4'-DDT	B	270132	2	15	
4,4'-DDE	B	201			
4,4'-DDD	B	4537			
Endrin	B	156377	5	15	
Endrin aldehyde	B	3084			
Endrin ketone	B	4620			

Analyst: RFC Date: 09/15/16 Reviewer: EAH Date: 09/15/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC30 Run Name : PEM IDF : 1.0
Seqnum : 356395166022 File : 274_022 Time : 30-SEP-2016 17:45

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	419864	8	15	
4,4'-DDE	A	2922			
4,4'-DDD	A	34062			
Endrin	A	270803	7	15	
Endrin aldehyde	A	6412			
Endrin ketone	A	14752			
4,4'-DDT	B	140896	6	15	
4,4'-DDE	B	1049			
4,4'-DDD	B	7520			
Endrin	B	67821	10	15	
Endrin aldehyde	B	2935			
Endrin ketone	B	4207			

Analyst: JCD Date: 10/03/16 Reviewer: TKM Date: 10/06/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC30 Run Name : PEM IDF : 1.0
Seqnum : 356395166031 File : 274_031 Time : 30-SEP-2016 20:08

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	458835	6	15	
4,4'-DDE	A	1690			
4,4'-DDD	A	27006			
Endrin	A	296807	5	15	
Endrin aldehyde	A	4228			
Endrin ketone	A	12161			
4,4'-DDT	B	259454	4	15	
4,4'-DDE	B	872			
4,4'-DDD	B	8967			
Endrin	B	152478	6	15	
Endrin aldehyde	B	3221			
Endrin ketone	B	6136			

Analyst: JCD Date: 10/03/16 Reviewer: TKM Date: 10/06/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC30 Run Name : PEM IDF : 1.0
Seqnum : 356400818002 File : 278_002 Time : 04-OCT-2016 08:34

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	471415	7	15	
4,4'-DDE	A	2384			
4,4'-DDD	A	30905			
Endrin	A	289208	7	15	
Endrin aldehyde	A	5429			
Endrin ketone	A	16003			
4,4'-DDT	B	288195	3	15	
4,4'-DDE	B	1115			
4,4'-DDD	B	7681			
Endrin	B	169765	6	15	
Endrin aldehyde	B	4467			
Endrin ketone	B	6949			

Analyst: JCD Date: 10/04/16 Reviewer: TKM Date: 10/06/16

CURTIS & TOMPKINS PERFORMANCE EVALUATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC30 Run Name : PEM IDF : 1.0
Seqnum : 356400818015 File : 278_015 Time : 04-OCT-2016 12:15

Standards: S30902

Analyte	Ch	Area	% Breakdown	Limit	Flags
4,4'-DDT	A	448384	7	15	
4,4'-DDE	A	1940			
4,4'-DDD	A	32458			
Endrin	A	281890	7	15	
Endrin aldehyde	A	5206			
Endrin ketone	A	15260			
4,4'-DDT	B	267579	3	15	
4,4'-DDE	B	900			
4,4'-DDD	B	7780			
Endrin	B	156904	6	15	
Endrin aldehyde	B	3719			
Endrin ketone	B	6567			

Analyst: JCD Date: 10/04/16 Reviewer: TKM Date: 10/06/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC21 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 246395182004 File : 274_004 Time : 30-SEP-2016 11:27
Cal : 246290041001 Caldate : 19-JUL-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	28434	29772	10.00	10.47	pg/uL	5	15	
gamma-BHC	A	26410	27435	10.00	10.39	pg/uL	4	15	
beta-BHC	A	11093	10710	10.00	9.655	pg/uL	-3	15	
delta-BHC	A	23972	24491	10.00	10.22	pg/uL	2	15	
Heptachlor	A	24407	25053	10.00	10.26	pg/uL	3	15	
Aldrin	A	24263	24318	10.00	10.02	pg/uL	0	15	
Heptachlor epoxide	A	21464	21147	10.00	9.852	pg/uL	-1	15	
gamma-Chlordane	A	22150	22131	10.00	9.991	pg/uL	0	15	
alpha-Chlordane	A	21129	20218	10.00	9.569	pg/uL	-4	15	
4,4'-DDE	A	20244	19900	20.00	19.66	pg/uL	-2	15	
Endosulfan I	A	20339	19629	10.00	9.651	pg/uL	-3	15	
Dieldrin	A	21338	21101	20.00	19.78	pg/uL	-1	15	
Endrin	A	17490	17366	20.00	19.86	pg/uL	-1	15	
4,4'-DDD	A	17044	15916	20.00	18.68	pg/uL	-7	15	
Endosulfan II	A	17974	16448	20.00	18.30	pg/uL	-8	15	
4,4'-DDT	A	17685	16611	20.00	18.79	pg/uL	-6	15	
Endrin aldehyde	A	14130	11891	20.00	16.83	pg/uL	**-16**	15	c- ***
Methoxychlor	A	6459.2	6084.6	100.0	93.21	pg/uL	-7	15	
Endosulfan sulfate	A	15910	14002	20.00	17.60	pg/uL	-12	15	
TCMX	A	15610	13996	20.00	17.93	pg/uL	-10	15	
Decachlorobiphenyl	A	13001	10169	20.00	15.64	pg/uL	**-22**	15	c-
alpha-BHC	B	6502.8	7118.7	10.00	10.20	pg/uL	2	15	
gamma-BHC	B	6081.4	6544.5	10.00	10.14	pg/uL	1	15	
beta-BHC	B	2550.6	2517.5	10.00	9.870	pg/uL	-1	15	
delta-BHC	B	6017.6	6133.7	10.00	9.649	pg/uL	-4	15	
Heptachlor	B	5880.8	6099.6	10.00	9.915	pg/uL	-1	15	
Aldrin	B	5870.6	6092.4	10.00	9.665	pg/uL	-3	15	
Heptachlor epoxide	B	5234.8	5229.5	10.00	9.490	pg/uL	-5	15	
gamma-Chlordane	B	5351.0	5231.7	10.00	9.209	pg/uL	-8	15	
alpha-Chlordane	B	4910.0	4558.0	10.00	8.730	pg/uL	-13	15	
4,4'-DDE	B	4304.5	4118.5	20.00	19.58	pg/uL	-2	15	
Endosulfan I	B	4921.7	4752.5	10.00	9.089	pg/uL	-9	15	
Dieldrin	B	4525.0	4411.2	20.00	20.52	pg/uL	3	15	
Endrin	B	3785.3	3942.7	20.00	21.66	pg/uL	8	15	
4,4'-DDD	B	3686.8	3458.2	20.00	18.78	pg/uL	-6	15	
Endosulfan II	B	3843.7	3671.8	20.00	19.30	pg/uL	-3	15	
4,4'-DDT	B	3655.4	3622.9	20.00	19.51	pg/uL	-2	15	
Endrin aldehyde	B	3081.4	2833.2	20.00	17.40	pg/uL	-13	15	
Methoxychlor	B	1405.8	1144.7	100.0	91.28	pg/uL	-9	15	
Endosulfan sulfate	B	3637.5	3442.2	20.00	18.33	pg/uL	-8	15	
TCMX	B	3939.4	3944.9	20.00	20.03	pg/uL	0	15	
Decachlorobiphenyl	B	3411.0	3181.2	20.00	17.78	pg/uL	-11	15	
Average EPA 8081A	A	(n=23)					6	15	
Average EPA 8081A	B	(n=23)					5	15	

JCD 09/30/16 : Corrected automatically drawn baseline for all channels.

JCD 09/30/16 : Separated from coeluting peak for all channels.

average ICAL %RSD out (B)

Analyst: JCD Date: 09/30/16 Reviewer: EAH Date: 09/30/16

-=low bias c=CCV

246395182004

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC21 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 246395182009 File : 274_009 Time : 30-SEP-2016 13:42
Cal : 246290041001 Caldate : 19-JUL-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	28434	30924	10.00	10.88	pg/uL	9	15	
gamma-BHC	A	26410	28706	10.00	10.87	pg/uL	9	15	
beta-BHC	A	11093	11339	10.00	10.22	pg/uL	2	15	
delta-BHC	A	23972	23598	10.00	9.844	pg/uL	-2	15	
Heptachlor	A	24407	26565	10.00	10.88	pg/uL	9	15	
Aldrin	A	24263	25775	10.00	10.62	pg/uL	6	15	
Heptachlor epoxide	A	21464	22690	10.00	10.57	pg/uL	6	15	
gamma-Chlordane	A	22150	23924	10.00	10.80	pg/uL	8	15	
alpha-Chlordane	A	21129	22256	10.00	10.53	pg/uL	5	15	
4,4'-DDE	A	20244	21744	20.00	21.48	pg/uL	7	15	
Endosulfan I	A	20339	21075	10.00	10.36	pg/uL	4	15	
Dieldrin	A	21338	22970	20.00	21.53	pg/uL	8	15	
Endrin	A	17490	19114	20.00	21.86	pg/uL	9	15	
4,4'-DDD	A	17044	17547	20.00	20.59	pg/uL	3	15	
Endosulfan II	A	17974	18244	20.00	20.30	pg/uL	2	15	
4,4'-DDT	A	17685	18605	20.00	21.04	pg/uL	5	15	
Endrin aldehyde	A	14130	12994	20.00	18.39	pg/uL	-8	15	
Methoxychlor	A	6459.2	6676.8	100.0	104.7	pg/uL	5	15	
Endosulfan sulfate	A	15910	15607	20.00	19.62	pg/uL	-2	15	
TCMX	A	15610	13883	20.00	17.79	pg/uL	-11	15	
Decachlorobiphenyl	A	13001	10959	20.00	16.86	pg/uL	**-16**	15	c-
alpha-BHC	B	6502.8	7657.2	10.00	11.08	pg/uL	11	15	
gamma-BHC	B	6081.4	7036.7	10.00	11.02	pg/uL	10	15	
beta-BHC	B	2550.6	2641.9	10.00	10.36	pg/uL	4	15	
delta-BHC	B	6017.6	6767.7	10.00	10.81	pg/uL	8	15	
Heptachlor	B	5880.8	6488.9	10.00	10.65	pg/uL	6	15	
Aldrin	B	5870.6	6632.5	10.00	10.65	pg/uL	7	15	
Heptachlor epoxide	B	5234.8	5762.7	10.00	10.61	pg/uL	6	15	
gamma-Chlordane	B	5351.0	5765.7	10.00	10.29	pg/uL	3	15	
alpha-Chlordane	B	4910.0	4796.4	10.00	9.248	pg/uL	-8	15	
4,4'-DDE	B	4304.5	4564.9	20.00	22.33	pg/uL	12	15	
Endosulfan I	B	4921.7	5307.3	10.00	10.30	pg/uL	3	15	
Dieldrin	B	4525.0	4837.1	20.00	23.15	pg/uL	**16**	15	c+ ***
Endrin	B	3785.3	4313.1	20.00	24.29	pg/uL	**21**	15	c+ ***
4,4'-DDD	B	3686.8	3849.9	20.00	21.48	pg/uL	7	15	
Endosulfan II	B	3843.7	4065.1	20.00	21.93	pg/uL	10	15	
4,4'-DDT	B	3655.4	4038.8	20.00	22.33	pg/uL	12	15	
Endrin aldehyde	B	3081.4	3181.8	20.00	19.92	pg/uL	0	15	
Methoxychlor	B	1405.8	1244.4	100.0	103.7	pg/uL	4	15	
Endosulfan sulfate	B	3637.5	3915.2	20.00	21.43	pg/uL	7	15	
TCMX	B	3939.4	4072.5	20.00	20.68	pg/uL	3	15	
Decachlorobiphenyl	B	3411.0	3622.1	20.00	20.75	pg/uL	4	15	
Average EPA 8081A	A	(n=23)					6	15	
Average EPA 8081A	B	(n=23)					8	15	

JCD 09/30/16 : Corrected automatically drawn baseline for all channels.

JCD 09/30/16 : Separated from coeluting peak for all channels.

average ICAL %RSD out (B)

Analyst: JCD Date: 09/30/16 Reviewer: EAH Date: 09/30/16

+=high bias -=low bias c=CCV

246395182009

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC21 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 246395182017 File : 274_017 Time : 30-SEP-2016 18:30
Cal : 246290041001 Caldate : 19-JUL-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	28434	27566	10.00	9.695	pg/uL	-3	15	
gamma-BHC	A	26410	25067	10.00	9.492	pg/uL	-5	15	
beta-BHC	A	11093	9652.1	10.00	8.701	pg/uL	-13	15	
delta-BHC	A	23972	22554	10.00	9.408	pg/uL	-6	15	
Heptachlor	A	24407	22453	10.00	9.199	pg/uL	-8	15	
Aldrin	A	24263	21733	10.00	8.957	pg/uL	-10	15	
Heptachlor epoxide	A	21464	18786	10.00	8.752	pg/uL	-12	15	
gamma-Chlordane	A	22150	18680	10.00	8.433	pg/uL	**-16**	15	c- ***
alpha-Chlordane	A	21129	17560	10.00	8.311	pg/uL	**-17**	15	c- ***
4,4'-DDE	A	20244	17082	20.00	16.88	pg/uL	**-16**	15	c- ***
Endosulfan I	A	20339	17443	10.00	8.576	pg/uL	-14	15	
Dieldrin	A	21338	18244	20.00	17.10	pg/uL	-14	15	
Endrin	A	17490	13938	20.00	15.94	pg/uL	**-20**	15	c- ***
4,4'-DDD	A	17044	13439	20.00	15.77	pg/uL	**-21**	15	c- ***
Endosulfan II	A	17974	14134	20.00	15.73	pg/uL	**-21**	15	c- ***
4,4'-DDT	A	17685	13600	20.00	15.38	pg/uL	**-23**	15	c- ***
Endrin aldehyde	A	14130	10073	20.00	14.26	pg/uL	**-29**	15	c- ***
Methoxychlor	A	6459.2	5284.2	100.0	78.30	pg/uL	**-22**	15	c- ***
Endosulfan sulfate	A	15910	11740	20.00	14.76	pg/uL	**-26**	15	c- ***
TCMX	A	15610	15870	20.00	20.33	pg/uL	2	15	
Decachlorobiphenyl	A	13001	8727.1	20.00	13.43	pg/uL	**-33**	15	c-
alpha-BHC	B	6502.8	7759.2	10.00	11.25	pg/uL	12	15	
gamma-BHC	B	6081.4	7059.8	10.00	11.07	pg/uL	11	15	
beta-BHC	B	2550.6	2771.9	10.00	10.87	pg/uL	9	15	
delta-BHC	B	6017.6	6721.5	10.00	10.73	pg/uL	7	15	
Heptachlor	B	5880.8	6639.7	10.00	10.94	pg/uL	9	15	
Aldrin	B	5870.6	6577.0	10.00	10.55	pg/uL	5	15	
Heptachlor epoxide	B	5234.8	5735.2	10.00	10.55	pg/uL	6	15	
gamma-Chlordane	B	5351.0	5755.1	10.00	10.26	pg/uL	3	15	
alpha-Chlordane	B	4910.0	4980.8	10.00	9.653	pg/uL	-3	15	
4,4'-DDE	B	4304.5	4528.5	20.00	22.10	pg/uL	11	15	
Endosulfan I	B	4921.7	5255.8	10.00	10.19	pg/uL	2	15	
Dieldrin	B	4525.0	4777.7	20.00	22.78	pg/uL	14	15	
Endrin	B	3785.3	4259.7	20.00	23.90	pg/uL	**20**	15	c+ ***
4,4'-DDD	B	3686.8	3814.1	20.00	21.23	pg/uL	6	15	
Endosulfan II	B	3843.7	4018.3	20.00	21.62	pg/uL	8	15	
4,4'-DDT	B	3655.4	3978.1	20.00	21.91	pg/uL	10	15	
Endrin aldehyde	B	3081.4	3183.4	20.00	19.93	pg/uL	0	15	
Methoxychlor	B	1405.8	1237.2	100.0	102.7	pg/uL	3	15	
Endosulfan sulfate	B	3637.5	3866.1	20.00	21.10	pg/uL	6	15	
TCMX	B	3939.4	4230.3	20.00	21.48	pg/uL	7	15	
Decachlorobiphenyl	B	3411.0	3535.2	20.00	20.15	pg/uL	1	15	
Average EPA 8081A	A	(n=23)					**16**	15	ac ***
Average EPA 8081A	B	(n=23)					7	15	

JCD 10/03/16 : Corrected automatically drawn baseline for all channels.

JCD 10/03/16 : Separated from coeluting peak for all channels.

average ICAL %RSD out (B)

Analyst: JCD Date: 10/03/16 Reviewer: EAH Date: 10/04/16

+=high bias -=low bias ac=average CCV drift out c=CCV

246395182017

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC21 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 246395182028 File : 274_028 Time : 30-SEP-2016 22:30
Cal : 246290041001 Caldate : 19-JUL-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	28434	29614	10.00	10.42	pg/uL	4	15	
gamma-BHC	A	26410	27029	10.00	10.23	pg/uL	2	15	
beta-BHC	A	11093	10308	10.00	9.292	pg/uL	-7	15	
delta-BHC	A	23972	23590	10.00	9.841	pg/uL	-2	15	
Heptachlor	A	24407	24562	10.00	10.06	pg/uL	1	15	
Aldrin	A	24263	23853	10.00	9.831	pg/uL	-2	15	
Heptachlor epoxide	A	21464	20513	10.00	9.557	pg/uL	-4	15	
gamma-Chlordane	A	22150	20530	10.00	9.269	pg/uL	-7	15	
alpha-Chlordane	A	21129	19169	10.00	9.072	pg/uL	-9	15	
4,4'-DDE	A	20244	18705	20.00	18.48	pg/uL	-8	15	
Endosulfan I	A	20339	19196	10.00	9.438	pg/uL	-6	15	
Dieldrin	A	21338	20051	20.00	18.79	pg/uL	-6	15	
Endrin	A	17490	16010	20.00	18.31	pg/uL	-8	15	
4,4'-DDD	A	17044	14724	20.00	17.28	pg/uL	-14	15	
Endosulfan II	A	17974	15650	20.00	17.41	pg/uL	-13	15	
4,4'-DDT	A	17685	14912	20.00	16.86	pg/uL	**-16**	15	c- ***
Endrin aldehyde	A	14130	11212	20.00	15.87	pg/uL	**-21**	15	c- ***
Methoxychlor	A	6459.2	5802.0	100.0	87.87	pg/uL	-12	15	
Endosulfan sulfate	A	15910	13215	20.00	16.61	pg/uL	**-17**	15	c- ***
TCMX	A	15610	16814	20.00	21.54	pg/uL	8	15	
Decachlorobiphenyl	A	13001	9815.7	20.00	15.10	pg/uL	**-24**	15	c-
alpha-BHC	B	6502.8	7798.4	10.00	11.31	pg/uL	13	15	
gamma-BHC	B	6081.4	7058.4	10.00	11.06	pg/uL	11	15	
beta-BHC	B	2550.6	2735.6	10.00	10.73	pg/uL	7	15	
delta-BHC	B	6017.6	6585.2	10.00	10.47	pg/uL	5	15	
Heptachlor	B	5880.8	6635.4	10.00	10.93	pg/uL	9	15	
Aldrin	B	5870.6	6562.9	10.00	10.52	pg/uL	5	15	
Heptachlor epoxide	B	5234.8	5633.2	10.00	10.34	pg/uL	3	15	
gamma-Chlordane	B	5351.0	5611.2	10.00	9.971	pg/uL	0	15	
alpha-Chlordane	B	4910.0	4942.3	10.00	9.568	pg/uL	-4	15	
4,4'-DDE	B	4304.5	4431.1	20.00	21.50	pg/uL	7	15	
Endosulfan I	B	4921.7	5222.6	10.00	10.12	pg/uL	1	15	
Dieldrin	B	4525.0	4698.6	20.00	22.28	pg/uL	11	15	
Endrin	B	3785.3	4119.8	20.00	22.90	pg/uL	15	15	
4,4'-DDD	B	3686.8	3742.3	20.00	20.73	pg/uL	4	15	
Endosulfan II	B	3843.7	3941.9	20.00	21.10	pg/uL	5	15	
4,4'-DDT	B	3655.4	3799.6	20.00	20.70	pg/uL	3	15	
Endrin aldehyde	B	3081.4	3088.7	20.00	19.24	pg/uL	-4	15	
Methoxychlor	B	1405.8	1217.0	100.0	100.1	pg/uL	0	15	
Endosulfan sulfate	B	3637.5	3741.3	20.00	20.28	pg/uL	1	15	
TCMX	B	3939.4	4274.4	20.00	21.70	pg/uL	9	15	
Decachlorobiphenyl	B	3411.0	3373.1	20.00	19.06	pg/uL	-5	15	
Average EPA 8081A	A	(n=23)					9	15	
Average EPA 8081A	B	(n=23)					6	15	

JCD 10/03/16 : Corrected automatically drawn baseline for all channels.

JCD 10/03/16 : Separated from coeluting peak for all channels.

average ICAL %RSD out (B)

Analyst: JCD Date: 10/03/16 Reviewer: TKM Date: 10/06/16

-=low bias c=CCV

246395182028

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC30 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 356395166021.1 File : 274_021 Time : 30-SEP-2016 17:29
Cal : 356369195001 Caldate : 12-SEP-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	8852.0	11351	10.00	12.82	pg/uL	**28**	15	c+ ***
gamma-BHC	A	8292.2	10480	10.00	12.64	pg/uL	**26**	15	c+ ***
beta-BHC	A	3132.6	3462.5	10.00	11.05	pg/uL	11	15	
delta-BHC	A	8266.7	10221	10.00	12.36	pg/uL	**24**	15	c+ ***
Heptachlor	A	8209.1	10426	10.00	12.70	pg/uL	**27**	15	c+ ***
Aldrin	A	7955.0	9817.8	10.00	12.34	pg/uL	**23**	15	c+ ***
Heptachlor epoxide	A	6670.7	8406.6	10.00	12.60	pg/uL	**26**	15	c+ ***
gamma-Chlordane	A	7119.0	8595.4	10.00	12.07	pg/uL	**21**	15	c+ ***
alpha-Chlordane	A	6250.8	7514.5	10.00	12.02	pg/uL	**20**	15	c+ v+ ***
4,4'-DDE	A	6414.2	7993.2	20.00	24.92	pg/uL	**25**	15	c+ v+ ***
Endosulfan I	A	6628.8	8347.9	10.00	12.59	pg/uL	**26**	15	c+ ***
Dieldrin	A	6145.4	7755.5	20.00	25.24	pg/uL	**26**	15	c+ v+ ***
Endrin	A	5702.7	7293.3	20.00	25.58	pg/uL	**28**	15	c+ ***
4,4'-DDD	A	5440.1	7101.1	20.00	26.11	pg/uL	**31**	15	c+ ***
Endosulfan II	A	5634.1	7180.1	20.00	25.49	pg/uL	**27**	15	c+ ***
4,4'-DDT	A	6025.4	6854.3	20.00	22.75	pg/uL	14	15	
Endrin aldehyde	A	4192.7	5076.5	20.00	24.22	pg/uL	**21**	15	c+ v+ ***
Methoxychlor	A	2119.8	2602.8	100.0	118.4	pg/uL	**18**	15	c+ ***
Endosulfan sulfate	A	4751.3	5599.6	20.00	23.57	pg/uL	**18**	15	c+ ***
TCMX	A	4464.3	5747.3	20.00	25.75	pg/uL	**29**	15	c+
Decachlorobiphenyl	A	4485.5	5286.8	20.00	23.57	pg/uL	**18**	15	c+
alpha-BHC	B	3888.9	4439.6	10.00	11.42	pg/uL	14	15	v+
gamma-BHC	B	3779.7	4024.1	10.00	10.65	pg/uL	6	15	
beta-BHC	B	1410.2	1327.4	10.00	9.413	pg/uL	-6	15	
delta-BHC	B	3588.7	3886.0	10.00	10.83	pg/uL	8	15	v+
Heptachlor	B	3797.3	4221.4	10.00	11.12	pg/uL	11	15	
Aldrin	B	3514.7	3686.7	10.00	10.49	pg/uL	5	15	v+
Heptachlor epoxide	B	3072.3	3109.4	10.00	10.12	pg/uL	1	15	
gamma-Chlordane	B	3144.7	3089.5	10.00	9.825	pg/uL	-2	15	
alpha-Chlordane	B	2983.6	2840.3	10.00	9.520	pg/uL	-5	15	
4,4'-DDE	B	2678.8	2837.0	20.00	21.18	pg/uL	6	15	
Endosulfan I	B	2881.3	2898.6	10.00	10.06	pg/uL	1	15	
Dieldrin	B	3098.6	3542.3	20.00	22.86	pg/uL	14	15	
Endrin	B	2681.8	2945.2	20.00	21.96	pg/uL	10	15	
4,4'-DDD	B	2165.6	2271.3	20.00	20.98	pg/uL	5	15	
Endosulfan II	B	2312.1	2650.6	20.00	22.93	pg/uL	15	15	
4,4'-DDT	B	2505.7	2461.5	20.00	19.65	pg/uL	-2	15	
Endrin aldehyde	B	1917.9	1864.9	20.00	19.45	pg/uL	-3	15	
Methoxychlor	B	979.00	1236.5	100.0	126.3	pg/uL	**26**	15	c+ ***
Endosulfan sulfate	B	2020.4	2094.3	20.00	20.73	pg/uL	4	15	
TCMX	B	2375.8	2664.5	20.00	22.43	pg/uL	12	15	
Decachlorobiphenyl	B	2106.9	2180.7	20.00	20.70	pg/uL	4	15	
Average EPA 8081A	A	(n=23)					**23**	15	ac ***
Average EPA 8081A	B	(n=23)					8	15	

JCD 10/03/16 : Corrected automatically drawn baseline for all channels.

JCD 10/03/16 : Separated from coeluting peak for all channels.

Analyst: JCD Date: 10/03/16 Reviewer: TKM Date: 10/06/16

+=high bias ac=average CCV drift out c=CCV v=ICV

356395166021.1

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC30 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 356395166032 File : 274_032 Time : 30-SEP-2016 20:23
Cal : 356369195001 Caldate : 12-SEP-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	8852.0	11939	10.00	13.49	pg/uL	**35**	15	c+ ***
gamma-BHC	A	8292.2	11138	10.00	13.43	pg/uL	**34**	15	c+ ***
beta-BHC	A	3132.6	3726.1	10.00	11.89	pg/uL	**19**	15	c+ ***
delta-BHC	A	8266.7	10724	10.00	12.97	pg/uL	**30**	15	c+ ***
Heptachlor	A	8209.1	11125	10.00	13.55	pg/uL	**36**	15	c+ ***
Aldrin	A	7955.0	10516	10.00	13.22	pg/uL	**32**	15	c+ ***
Heptachlor epoxide	A	6670.7	9126.9	10.00	13.68	pg/uL	**37**	15	c+ ***
gamma-Chlordane	A	7119.0	9354.2	10.00	13.14	pg/uL	**31**	15	c+ ***
alpha-Chlordane	A	6250.8	8130.8	10.00	13.01	pg/uL	**30**	15	c+ v+ ***
4,4'-DDE	A	6414.2	8649.2	20.00	26.97	pg/uL	**35**	15	c+ v+ ***
Endosulfan I	A	6628.8	9070.0	10.00	13.68	pg/uL	**37**	15	c+ ***
Dieldrin	A	6145.4	8209.9	20.00	26.72	pg/uL	**34**	15	c+ v+ ***
Endrin	A	5702.7	8092.0	20.00	28.38	pg/uL	**42**	15	c+ ***
4,4'-DDD	A	5440.1	7562.9	20.00	27.80	pg/uL	**39**	15	c+ ***
Endosulfan II	A	5634.1	7622.6	20.00	27.06	pg/uL	**35**	15	c+ ***
4,4'-DDT	A	6025.4	7926.7	20.00	26.31	pg/uL	**32**	15	c+ ***
Endrin aldehyde	A	4192.7	5344.7	20.00	25.50	pg/uL	**27**	15	c+ v+ ***
Methoxychlor	A	2119.8	2822.1	100.0	130.7	pg/uL	**31**	15	c+ ***
Endosulfan sulfate	A	4751.3	5737.5	20.00	24.15	pg/uL	**21**	15	c+ ***
TCMX	A	4464.3	5971.9	20.00	26.75	pg/uL	**34**	15	c+
Decachlorobiphenyl	A	4485.5	5342.7	20.00	23.82	pg/uL	**19**	15	c+
alpha-BHC	B	3888.9	1970.8	10.00	5.068	pg/uL	**-49**	15	c- v+ ***
gamma-BHC	B	3779.7	1788.3	10.00	4.731	pg/uL	**-53**	15	c- ***
beta-BHC	B	1410.2	721.60	10.00	5.117	pg/uL	**-49**	15	c- ***
delta-BHC	B	3588.7	1645.1	10.00	4.584	pg/uL	**-54**	15	c- v+ ***
Heptachlor	B	3797.3	1816.1	10.00	4.783	pg/uL	**-52**	15	c- ***
Aldrin	B	3514.7	1708.0	10.00	4.860	pg/uL	**-51**	15	c- v+ ***
Heptachlor epoxide	B	3072.3	1518.2	10.00	4.942	pg/uL	**-51**	15	c- ***
gamma-Chlordane	B	3144.7	1525.2	10.00	4.850	pg/uL	**-51**	15	c- ***
alpha-Chlordane	B	2983.6	1410.3	10.00	4.727	pg/uL	**-53**	15	c- ***
4,4'-DDE	B	2678.8	1321.8	20.00	9.868	pg/uL	**-51**	15	c- ***
Endosulfan I	B	2881.3	1433.1	10.00	4.974	pg/uL	**-50**	15	c- ***
Dieldrin	B	3098.6	1602.7	20.00	10.34	pg/uL	**-48**	15	c- ***
Endrin	B	2681.8	1339.0	20.00	9.985	pg/uL	**-50**	15	c- ***
4,4'-DDD	B	2165.6	1120.2	20.00	10.35	pg/uL	**-48**	15	c- ***
Endosulfan II	B	2312.1	1318.2	20.00	11.40	pg/uL	**-43**	15	c- ***
4,4'-DDT	B	2505.7	1125.0	20.00	8.979	pg/uL	**-55**	15	c- ***
Endrin aldehyde	B	1917.9	910.95	20.00	9.499	pg/uL	**-53**	15	c- ***
Methoxychlor	B	979.00	603.99	100.0	61.69	pg/uL	**-38**	15	c- ***
Endosulfan sulfate	B	2020.4	1101.1	20.00	10.90	pg/uL	**-45**	15	c- ***
TCMX	B	2375.8	1068.3	20.00	8.993	pg/uL	**-55**	15	c-
Decachlorobiphenyl	B	2106.9	1356.4	20.00	12.88	pg/uL	**-36**	15	c-
Average EPA 8081A	A	(n=23)					**32**	15	ac ***
Average EPA 8081A	B	(n=23)					**49**	15	ac ***

JCD 10/03/16 : Corrected automatically drawn baseline for all channels.

JCD 10/03/16 : Separated from coeluting peak for Ch. A.

Analyst: JCD Date: 10/03/16 Reviewer: TKM Date: 10/06/16

+=high bias -=low bias ac=average CCV drift out c=CCV v=ICV

356395166032

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC30 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 356400818003 File : 278_003 Time : 04-OCT-2016 08:50
Cal : 356369195001 Caldate : 12-SEP-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	8852.0	11379	10.00	12.85	pg/uL	**29**	15	c+ ***
gamma-BHC	A	8292.2	10547	10.00	12.72	pg/uL	**27**	15	c+ ***
beta-BHC	A	3132.6	3433.0	10.00	10.96	pg/uL	10	15	
delta-BHC	A	8266.7	10093	10.00	12.21	pg/uL	**22**	15	c+ ***
Heptachlor	A	8209.1	10395	10.00	12.66	pg/uL	**27**	15	c+ ***
Aldrin	A	7955.0	9989.2	10.00	12.56	pg/uL	**26**	15	c+ ***
Heptachlor epoxide	A	6670.7	8455.3	10.00	12.68	pg/uL	**27**	15	c+ ***
gamma-Chlordane	A	7119.0	8736.3	10.00	12.27	pg/uL	**23**	15	c+ ***
alpha-Chlordane	A	6250.8	7121.9	10.00	11.39	pg/uL	14	15	v+
4,4'-DDE	A	6414.2	8117.5	20.00	25.31	pg/uL	**27**	15	c+ v+ ***
Endosulfan I	A	6628.8	8607.2	10.00	12.98	pg/uL	**30**	15	c+ ***
Dieldrin	A	6145.4	8106.5	20.00	26.38	pg/uL	**32**	15	c+ v+ ***
Endrin	A	5702.7	7343.6	20.00	25.75	pg/uL	**29**	15	c+ ***
4,4'-DDD	A	5440.1	7309.1	20.00	26.87	pg/uL	**34**	15	c+ ***
Endosulfan II	A	5634.1	7417.2	20.00	26.33	pg/uL	**32**	15	c+ ***
4,4'-DDT	A	6025.4	7727.2	20.00	25.65	pg/uL	**28**	15	c+ ***
Endrin aldehyde	A	4192.7	5480.0	20.00	26.14	pg/uL	**31**	15	c+ v+ ***
Methoxychlor	A	2119.8	2700.6	100.0	123.8	pg/uL	**24**	15	c+ ***
Endosulfan sulfate	A	4751.3	5843.4	20.00	24.60	pg/uL	**23**	15	c+ ***
TCMX	A	4464.3	5732.1	20.00	25.68	pg/uL	**28**	15	c+
Decachlorobiphenyl	A	4485.5	4681.8	20.00	20.88	pg/uL	4	15	
alpha-BHC	B	3888.9	4786.8	10.00	12.31	pg/uL	**23**	15	c+ v+ ***
gamma-BHC	B	3779.7	4357.6	10.00	11.53	pg/uL	15	15	
beta-BHC	B	1410.2	1427.1	10.00	10.12	pg/uL	1	15	
delta-BHC	B	3588.7	4057.9	10.00	11.31	pg/uL	13	15	v+
Heptachlor	B	3797.3	4245.7	10.00	11.18	pg/uL	12	15	
Aldrin	B	3514.7	4055.0	10.00	11.54	pg/uL	15	15	v+
Heptachlor epoxide	B	3072.3	3446.3	10.00	11.22	pg/uL	12	15	
gamma-Chlordane	B	3144.7	3433.1	10.00	10.92	pg/uL	9	15	
alpha-Chlordane	B	2983.6	3167.1	10.00	10.62	pg/uL	6	15	
4,4'-DDE	B	2678.8	3248.1	20.00	24.25	pg/uL	**21**	15	c+ ***
Endosulfan I	B	2881.3	2875.1	10.00	9.978	pg/uL	0	15	
Dieldrin	B	3098.6	3902.2	20.00	25.19	pg/uL	**26**	15	c+ ***
Endrin	B	2681.8	3246.3	20.00	24.21	pg/uL	**21**	15	c+ ***
4,4'-DDD	B	2165.6	2517.5	20.00	23.25	pg/uL	**16**	15	c+ ***
Endosulfan II	B	2312.1	3040.9	20.00	26.30	pg/uL	**32**	15	c+ ***
4,4'-DDT	B	2505.7	2746.8	20.00	21.92	pg/uL	10	15	
Endrin aldehyde	B	1917.9	2132.6	20.00	22.24	pg/uL	11	15	
Methoxychlor	B	979.00	1299.5	100.0	132.7	pg/uL	**33**	15	c+ ***
Endosulfan sulfate	B	2020.4	2263.5	20.00	22.41	pg/uL	12	15	
TCMX	B	2375.8	2774.9	20.00	23.36	pg/uL	**17**	15	c+
Decachlorobiphenyl	B	2106.9	2272.8	20.00	21.58	pg/uL	8	15	
Average EPA 8081A	A	(n=23)					**25**	15	ac ***
Average EPA 8081A	B	(n=23)					15	15	

JCD 10/04/16 : Corrected automatically drawn baseline for all channels.

JCD 10/04/16 : Separated from coeluting peak for all channels.

Analyst: JCD Date: 10/04/16 Reviewer: TKM Date: 10/06/16

+=high bias ac=average CCV drift out c=CCV v=ICV

356400818003

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PEST Soil
EPA 8081A

Inst : GC30 Run Name : ISOPEST_3 IDF : 1.0
Seqnum : 356400818016 File : 278_016 Time : 04-OCT-2016 12:31
Cal : 356369195001 Caldate : 12-SEP-2016
Standards: S30771

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
alpha-BHC	A	8852.0	11866	10.00	13.40	pg/uL	**34**	15	c+ ***
gamma-BHC	A	8292.2	10835	10.00	13.07	pg/uL	**31**	15	c+ ***
beta-BHC	A	3132.6	3348.8	10.00	10.69	pg/uL	7	15	
delta-BHC	A	8266.7	9964.7	10.00	12.05	pg/uL	**21**	15	c+ ***
Heptachlor	A	8209.1	10596	10.00	12.91	pg/uL	**29**	15	c+ ***
Aldrin	A	7955.0	10141	10.00	12.75	pg/uL	**27**	15	c+ ***
Heptachlor epoxide	A	6670.7	8293.5	10.00	12.43	pg/uL	**24**	15	c+ ***
gamma-Chlordane	A	7119.0	8430.5	10.00	11.84	pg/uL	**18**	15	c+ ***
alpha-Chlordane	A	6250.8	7563.8	10.00	12.10	pg/uL	**21**	15	c+ v+ ***
4,4'-DDE	A	6414.2	7821.1	20.00	24.39	pg/uL	**22**	15	c+ v+ ***
Endosulfan I	A	6628.8	8423.9	10.00	12.71	pg/uL	**27**	15	c+ ***
Dieldrin	A	6145.4	8212.7	20.00	26.73	pg/uL	**34**	15	c+ v+ ***
Endrin	A	5702.7	7291.3	20.00	25.57	pg/uL	**28**	15	c+ ***
4,4'-DDD	A	5440.1	6870.8	20.00	25.26	pg/uL	**26**	15	c+ ***
Endosulfan II	A	5634.1	6970.8	20.00	24.74	pg/uL	**24**	15	c+ ***
4,4'-DDT	A	6025.4	7144.5	20.00	23.71	pg/uL	**19**	15	c+ ***
Endrin aldehyde	A	4192.7	5031.8	20.00	24.00	pg/uL	**20**	15	c+ v+ ***
Methoxychlor	A	2119.8	2614.8	100.0	119.1	pg/uL	**19**	15	c+ ***
Endosulfan sulfate	A	4751.3	5396.6	20.00	22.72	pg/uL	14	15	
TCMX	A	4464.3	6037.6	20.00	27.05	pg/uL	**35**	15	c+
Decachlorobiphenyl	A	4485.5	4692.8	20.00	20.92	pg/uL	5	15	
alpha-BHC	B	3888.9	4625.1	10.00	11.89	pg/uL	**19**	15	c+ v+ ***
gamma-BHC	B	3779.7	4140.5	10.00	10.95	pg/uL	10	15	
beta-BHC	B	1410.2	1320.5	10.00	9.364	pg/uL	-6	15	
delta-BHC	B	3588.7	3786.7	10.00	10.55	pg/uL	6	15	v+
Heptachlor	B	3797.3	4370.4	10.00	11.51	pg/uL	15	15	
Aldrin	B	3514.7	3813.6	10.00	10.85	pg/uL	9	15	v+
Heptachlor epoxide	B	3072.3	3172.4	10.00	10.33	pg/uL	3	15	
gamma-Chlordane	B	3144.7	3119.0	10.00	9.918	pg/uL	-1	15	
alpha-Chlordane	B	2983.6	2907.1	10.00	9.744	pg/uL	-3	15	
4,4'-DDE	B	2678.8	2938.2	20.00	21.94	pg/uL	10	15	
Endosulfan I	B	2881.3	2561.2	10.00	8.889	pg/uL	-11	15	
Dieldrin	B	3098.6	3633.8	20.00	23.45	pg/uL	**17**	15	c+ ***
Endrin	B	2681.8	2875.0	20.00	21.44	pg/uL	7	15	
4,4'-DDD	B	2165.6	2152.4	20.00	19.88	pg/uL	-1	15	
Endosulfan II	B	2312.1	2663.3	20.00	23.04	pg/uL	15	15	
4,4'-DDT	B	2505.7	2352.8	20.00	18.78	pg/uL	-6	15	
Endrin aldehyde	B	1917.9	1890.1	20.00	19.71	pg/uL	-1	15	
Methoxychlor	B	979.00	1147.4	100.0	117.2	pg/uL	**17**	15	c+ ***
Endosulfan sulfate	B	2020.4	2011.7	20.00	19.91	pg/uL	0	15	
TCMX	B	2375.8	2733.9	20.00	23.01	pg/uL	15	15	
Decachlorobiphenyl	B	2106.9	1967.5	20.00	18.68	pg/uL	-7	15	
Average EPA 8081A	A	(n=23)					**23**	15	ac ***
Average EPA 8081A	B	(n=23)					8	15	

JCD 10/04/16 : Corrected automatically drawn baseline for all channels.

JCD 10/04/16 : Separated from coeluting peak for all channels.

Analyst: JCD Date: 10/04/16 Reviewer: TKM Date: 10/06/16

+=high bias ac=average CCV drift out c=CCV v=ICV

356400818016

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 246290041

Instrument : GC21 Begun : 07/19/16 10:01
Method : EPA 8081A SOP Version : pesticides_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	201_001	X	HEX			07/19/16 10:01	1.0		
002	201_002	X	HEX			07/19/16 10:23	1.0		
003	201_003	PEM	PEM			07/19/16 10:44	1.0	1	
004	201_004	CCV	ISOPEST_3			07/19/16 11:06	1.0	2	ac arsd
005	201_005	CCV	ISOPEST_3			07/19/16 11:42	1.0	2	ac arsd
006	201_006	PEM	PEM			07/19/16 18:07	1.0	1	
007	201_007	X	IB			07/19/16 18:29	1.0		
008	201_008	IB	CALIB			07/19/16 18:51	1.0		
009	201_009	ICAL	ISOPEST_1/2			07/19/16 19:13	1.0	3	
010	201_010	ICAL	ISOPEST_1			07/19/16 19:34	1.0	3	
011	201_011	ICAL	ISOPEST_2			07/19/16 19:56	1.0	4	
012	201_012	ICAL	ISOPEST_3			07/19/16 20:18	1.0	5	
013	201_013	ICAL	ISOPEST_4			07/19/16 20:40	1.0	6	
014	201_014	ICAL	ISOPEST_5			07/19/16 21:02	1.0	7	
015	201_015	ICAL	ISOPEST_6			07/19/16 21:24	1.0	8	
016	201_016	ICAL	ISOPEST_7			07/19/16 21:45	1.0	9	
017	201_017	X	HEX			07/19/16 22:07	1.0		
018	201_018	ICV	PEST_ICV			07/19/16 22:29	1.0	10	
019	201_019	X	HEX			07/19/16 22:51	1.0		
020	201_020	ICV	PEST_ICV			07/19/16 23:13	1.0	10	No Quant

RFC 07/20/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 20.

Standards used: 1=S29649 2=S29898 3=S29540 4=S29541 5=S29542 6=S29543 7=S29544 8=S29545 9=S29546 10=S29465

Flags used: No Quant=Methoxychlor not quantifiable ac=average CCV drift out arsd=average ICAL %RSD out

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 246395182

Instrument : GC21 Begun : 09/30/16 10:22
Method : EPA 8081A SOP Version : pesticides_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	274_001	X	HEX			09/30/16 10:22	1.0		
002	274_002	X	HEX			09/30/16 10:44	1.0		
003	274_003	PEM	PEM			09/30/16 11:05	1.0	1	
004	274_004	CCV	ISOPEST_3			09/30/16 11:27	1.0	2	arsd
005	274_005	BLANK	QC853765	Soil	239670	09/30/16 11:55	1.0		arsd
006	274_006	LCS	QC853771	Soil	239670	09/30/16 12:16	1.0		arsd
007	274_007	X	QC853771	Soil	239670	09/30/16 12:51	1.0		arsd
008	274_008	PEM	PEM			09/30/16 13:20	1.0	1	
009	274_009	CCV	ISOPEST_3			09/30/16 13:42	1.0	2	arsd
010	274_010	BLANK	QC853511	Soil	239605	09/30/16 15:57	1.0		>ac arsd
011	274_011	LCS	QC853515	Soil	239605	09/30/16 16:19	1.0		>ac arsd
012	274_012	MSS	281516-021	Soil	239605	09/30/16 16:41	1.0		>ac arsd
013	274_013	MS	QC853516	Soil	239605	09/30/16 17:03	1.0		>ac arsd
014	274_014	MSD	QC853535	Soil	239605	09/30/16 17:25	1.0		>ac arsd
015	274_015	XPEM	PEM			09/30/16 17:46	1.0	1	
016	274_016	XCCV	ISOPEST_3			09/30/16 18:08	1.0	2	arsd
017	274_017	CCV	ISOPEST_3			09/30/16 18:30	1.0	2	ac arsd
018	274_018	PEM	PEM			09/30/16 18:52	1.0	1	
019	274_019	SAMPLE	281516-001	Soil	239605	09/30/16 19:14	10.0		<ac arsd
020	274_020	SAMPLE	281516-003	Soil	239605	09/30/16 19:35	20.0		<ac arsd
021	274_021	SAMPLE	281516-004	Soil	239605	09/30/16 19:57	2.0		<ac arsd
022	274_022	SAMPLE	281516-005	Soil	239605	09/30/16 20:19	50.0		<ac arsd
023	274_023	SAMPLE	281516-006	Soil	239605	09/30/16 20:41	20.0		<ac arsd
024	274_024	SAMPLE	281516-008	Soil	239605	09/30/16 21:03	1.0		<ac arsd
025	274_025	SAMPLE	281516-009	Soil	239605	09/30/16 21:25	1.0		<ac arsd
026	274_026	SAMPLE	281516-012	Soil	239605	09/30/16 21:46	1.0		<ac arsd
027	274_027	PEM	PEM			09/30/16 22:08	1.0	1	
028	274_028	CCV	ISOPEST_3			09/30/16 22:30	1.0	2	arsd
029	274_029	CCV	ISOPEST_3			09/30/16 22:52	1.0	2	arsd
030	274_030	PEM	PEM			09/30/16 23:14	1.0	1	
031	274_031	SAMPLE	281473-001	Water	239600	09/30/16 23:36	1.0		>ac arsd
032	274_032	SAMPLE	281475-001	Water	239600	09/30/16 23:57	1.0		>ac arsd
033	274_033	SAMPLE	281476-001	Water	239600	10/01/16 00:19	1.0		>ac arsd
034	274_034	SAMPLE	281530-001	Water	239600	10/01/16 00:41	1.0		>ac arsd
035	274_035	SAMPLE	281512-025	Water	239600	10/01/16 01:03	1.0		>ac arsd
036	274_036	SAMPLE	281512-026	Water	239600	10/01/16 01:25	1.0		>ac arsd
037	274_037	SAMPLE	281532-001	Water	239600	10/01/16 01:46	1.0		>ac arsd
038	274_038	SAMPLE	281534-001	Water	239600	10/01/16 02:08	1.0		>ac arsd
039	274_039	SAMPLE	281535-001	Water	239600	10/01/16 02:30	1.0		>ac arsd
040	274_040	PEM	PEM			10/01/16 02:52	1.0	1	
041	274_041	CCV	ISOPEST_3			10/01/16 03:14	1.0	2	ac arsd
042	274_042	CCV	ISOPEST_3			10/01/16 03:35	1.0	2	arsd
043	274_043	PEM	PEM			10/01/16 03:57	1.0	1	

JCD 10/03/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 43.

Standards used: 1=S30902 2=S30771

Flags used: <=opening >=closing ac=average CCV drift out arsd=average ICAL %RSD out

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 356369195

Instrument : GC30 Begun : 09/12/16 09:15
Method : EPA 8081A SOP Version : pesticides_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	256_001	X	HEX			09/12/16 09:15	1.0		
002	256_002	X	HEX			09/12/16 09:30	1.0		
003	256_003	PEM	PEM			09/12/16 09:46	1.0	1	
004	256_004	CCV	ISOPEST_3			09/12/16 10:02	1.0	2	ac
005	256_005	X	IB			09/12/16 18:34	1.0		
006	256_006	IB	CALIB			09/12/16 18:50	1.0		
007	256_007	ICAL	ISOPEST_1/2			09/12/16 19:06	1.0	3	
008	256_008	ICAL	ISOPEST_1			09/12/16 19:22	1.0	4	
009	256_009	ICAL	ISOPEST_2			09/12/16 19:38	1.0	5	
010	256_010	ICAL	ISOPEST_3			09/12/16 19:54	1.0	6	
011	256_011	ICAL	ISOPEST_4			09/12/16 20:10	1.0	7	
012	256_012	ICAL	ISOPEST_5			09/12/16 20:26	1.0	8	
013	256_013	ICAL	ISOPEST_6			09/12/16 20:42	1.0	9	
014	256_014	ICAL	ISOPEST_7			09/12/16 20:58	1.0	10	
015	256_015	X	HEX			09/12/16 21:14	1.0		
016	256_016	ICV	PEST_ICV			09/12/16 21:30	1.0	11	
017	256_017	X	HEX			09/12/16 21:46	1.0		
018	256_018	ICV	PEST_ICV			09/12/16 22:01	1.0	12	

RFC 09/14/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

Standards used: 1=S29649 2=S30444 3=S30768 4=S30769 5=S30770 6=S30771 7=S30772 8=S30773 9=S30774 10=S30775 11=S29465 12=S30776

Flags used: ac=average CCV drift out

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 356395166

Instrument : GC30 Begun : 09/30/16 10:06
Method : EPA 8081A SOP Version : pesticides_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	274_001	X	HEX			09/30/16 10:06	1.0		
002	274_002	PEM	PEM			09/30/16 10:22	1.0	1	
003	274_003	CCV	ISOPEST_3			09/30/16 10:38	1.0	2	
004	274_004	BLANK	QC853604	Soil	239624	09/30/16 11:01	1.0		>ac
005	274_005	SAMPLE	281567-001	Soil	239670	09/30/16 11:57	10.0		>ac
006	274_006	MSS	281567-002	Soil	239670	09/30/16 12:13	20.0		>ac
007	274_007	SAMPLE	281567-003	Soil	239670	09/30/16 12:29	20.0		>ac
008	274_008	MSS	281567-004	Soil	239670	09/30/16 12:45	20.0		>ac
009	274_009	LCS	QC853771	Soil	239670	09/30/16 13:01	1.0		>ac
010	274_010	PEM	PEM			09/30/16 13:18	1.0	1	
011	274_011	CCV	ISOPEST_3			09/30/16 13:34	1.0	2	ac
012	274_012	BLANK	QC853604	Soil	239624	09/30/16 14:08	1.0		>ac <ac
013	274_013	PEM	PEM			09/30/16 14:24	1.0	1	
014	274_014	CCV	ISOPEST_3			09/30/16 14:40	1.0	2	ac
015	274_015	X	HEX			09/30/16 15:54	1.0		
016	274_016	X	HEX			09/30/16 16:10	1.0		
017	274_017	X	HEX			09/30/16 16:26	1.0		
018	274_018	X	HEX			09/30/16 16:41	1.0		
019	274_019	PEM	PEM			09/30/16 16:57	1.0	1	
020	274_020	XCCV	ISOPEST_3			09/30/16 17:13	1.0	2	ac
021	274_021	CCV	ISOPEST_3			09/30/16 17:29	1.0	2	ac
022	274_022	PEM	PEM			09/30/16 17:45	1.0	1	
023	274_023	SAMPLE	281516-015	Soil	239605	09/30/16 18:01	5.0		<ac >ac
024	274_024	SAMPLE	281516-018	Soil	239605	09/30/16 18:16	1.0		<ac >ac
025	274_025	SAMPLE	281516-019	Soil	239605	09/30/16 18:32	1.0		<ac >ac
026	274_026	SAMPLE	281516-020	Soil	239605	09/30/16 18:48	1.0		<ac >ac
027	274_027	SAMPLE	281516-022	Soil	239605	09/30/16 19:04	1.0		<ac >ac
028	274_028	SAMPLE	281516-023	Soil	239605	09/30/16 19:20	10.0		<ac >ac
029	274_029	SAMPLE	281516-024	Soil	239605	09/30/16 19:36	2.0		<ac >ac
030	274_030	SAMPLE	281516-026	Soil	239605	09/30/16 19:52	2.0		<ac >ac
031	274_031	PEM	PEM			09/30/16 20:08	1.0	1	
032	274_032	CCV	ISOPEST_3			09/30/16 20:23	1.0	2	ac
033	274_033	CCV	ISOPEST_3			09/30/16 20:39	1.0	2	ac
034	274_034	PEM	PEM			09/30/16 20:55	1.0	1	

JCD 10/04/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 34.

Standards used: 1=S30902 2=S30771

Flags used: <=opening >=closing ac=average CCV drift out

Page 1 of 1

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 356400818

Instrument : GC30 Begun : 10/04/16 08:18
Method : EPA 8081A SOP Version : pesticides_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	278_001	X	HEX			10/04/16 08:18	1.0		
002	278_002	PEM	PEM			10/04/16 08:34	1.0	1	
003	278_003	CCV	ISOPEST_3			10/04/16 08:50	1.0	2	ac
004	278_004	SAMPLE	281516-002	Soil	239670	10/04/16 09:20	1.0		<ac >ac
005	278_005	SAMPLE	281516-007	Soil	239670	10/04/16 09:36	10.0		<ac >ac
006	278_006	SAMPLE	281516-010	Soil	239670	10/04/16 09:52	2.0		<ac >ac
007	278_007	SAMPLE	281516-011	Soil	239670	10/04/16 10:08	10.0		<ac >ac
008	278_008	SAMPLE	281516-013	Soil	239670	10/04/16 10:24	20.0		<ac >ac
009	278_009	SAMPLE	281516-014	Soil	239670	10/04/16 10:40	5.0		<ac >ac
010	278_010	SAMPLE	281516-016	Soil	239670	10/04/16 10:56	10.0		<ac >ac
011	278_011	SAMPLE	281516-017	Soil	239670	10/04/16 11:11	1.0		<ac >ac
012	278_012	SAMPLE	281516-025	Soil	239670	10/04/16 11:28	1.0		<ac >ac
013	278_013	X	HEX			10/04/16 11:43	1.0		
014	278_014	X	HEX			10/04/16 11:59	1.0		
015	278_015	PEM	PEM			10/04/16 12:15	1.0	1	
016	278_016	CCV	ISOPEST_3			10/04/16 12:31	1.0	2	ac
017	278_017	CCV	ISOPEST_3			10/04/16 12:47	1.0	2	ac
018	278_018	PEM	PEM			10/04/16 13:03	1.0	1	

JCD 10/04/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 18.

Standards used: 1=S30902 2=S30771

Flags used: <=opening >=closing ac=average CCV drift out

Page 1 of 1

SAMPLE PREPARATION SUMMARY

Batch # : 239605 Analysis : 8081
Started By : AHT Prep Date : 28-SEP-2016 14:00 Finished By : AHT
Method : 3550B SOP Version : 8081_3550_rv16 Units : g
Spike #1 ID : S30591 Spike #2 ID : S30701 Spike #3 ID : S30784

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
281516-001		Soil	30.15	20	1	0.6633		.8			3620B	8081	
281516-003		Soil	29.64	20	1	0.6748		.8			3620B	8081, PCB	
281516-004		Soil	29.59	20	1	0.6759		.8			3620B	8081	
281516-005		Soil	30.22	20	1	0.6618		.8			3620B	8081	
281516-006		Soil	29.83	20	1	0.6705		.8			3620B	8081	
281516-008		Soil	29.85	20	1	0.67		.8			3620B	8081, PCB	
281516-009		Soil	29.67	20	1	0.6741		.8			3620B	8081	
281516-012		Soil	30.26	20	1	0.6609		.8			3620B	8081, PCB	
281516-015		Soil	30	20	1	0.6667		.8			3620B	8081, PCB	
281516-018		Soil	29.66	20	1	0.6743		.8			3620B	8081, PCB	
281516-019		Soil	29.68	20	1	0.6739		.8			3620B	8081, PCB	
281516-020		Soil	29.82	20	1	0.6707		.8			3620B	8081, PCB	
281516-021		Soil	29.62	20	1	0.6752		.8			3620B	8081, PCB	
281516-022		Soil	29.96	20	1	0.6676		.8			3620B	8081, PCB	
281516-023		Soil	30.1	20	1	0.6645		.8			3620B	8081, PCB	
281516-024		Soil	29.61	20	1	0.6754		1.6			3620B	8081, PCB	
281516-026		Soil	30.4	20	1	0.6579		1.6			3620B	8081, PCB	
281528-001		Soil	30.43	20	1	0.6572		.8				PCB	
281528-002		Soil	30.06	20	1	0.6653		.8				PCB	
QC853511	BLANK	Soil	29.83	20	1	0.6705		.8			3620B	PCB	
QC853512	LCS	Soil	30.37	20	1	0.6585		.8	1			PCB	
QC853513	MS	Soil	30	20	1	0.6667		.8	1			PCB	
QC853514	MSD	Soil	30.24	20	1	0.6614		.8	1			PCB	
QC853515	LCS	Soil	29.98	20	1	0.6671		.8		.4	3620B	8081	
QC853516	MS	Soil	29.77	20	1	0.6718		.8		.4	3620B	8081	
QC853535	MSD	Soil	29.81	20	1	0.6709		.8		.4	3620B	8081	

JS1 09/30/16 : Ready for PCB review.

EAH 09/30/16 : Reviewed for PCB and checked batch documents for pest.

JCD 10/04/16 : Pest ready for review

JS1: 09/30/16 JCD: 10/04/16 EAH: 10/04/16

PCB (8082) Soil Prep Log

LIMS Batch No: 239605

LIMS Analysis PCB (P/P)

Date Extracted: 9/28/2016

☑ EPA 3550b Sonication

☐ Other _____

Curtis & Tompkins, Ltd.

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BK 3907

Sample #	Container ID	Sample Wt (g)	Final Vol (mL)	Comments
281516-003	A	29.64	☐ 25.0 ☑ 20	OM Rich
-008		29.85	☐ 25.0 ☑ 20	Rocky, OM
-012		30.26	☐ 25.0 ☑ 20	
-015		30.00	☐ 25.0 ☑ 20	
-018		29.66	☐ 25.0 ☑ 20	Muddy
-019		29.68	☐ 25.0 ☑ 20	Rocky, OM
-020		29.87	☐ 25.0 ☑ 20	
-021		29.62	☐ 25.0 ☑ 20	MSS, Rocky, OM
-022		29.96	☐ 25.0 ☑ 20	Rocky, OM
-023		30.10	☐ 25.0 ☑ 20	
-024		29.61	☐ 25.0 ☑ 20	Muddy, Possible 2x surr
-026		30.40	☐ 25.0 ☑ 20	Possible 2x surr
281528-001		30.43	☐ 25.0 ☑ 20	Rocky
-002		30.06	☐ 25.0 ☑ 20	
MB QC 853511	N/A	29.83	☐ 25.0 ☑ 20	
LCS W		30.37	☐ 25.0 ☑ 20	
MS 13	A	30.00	☐ 25.0 ☑ 20	
MSD 14		30.24	☐ 25.0 ☑ 20	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	AHG 92916

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

☑ Balance ID: Wet02 Has been calibrated? ☑ Yes ☐ No

	Mfg & Lot # / LIMS # / Time	Initials / Date
Solvent-rinsed granular Na_2SO_4 weighed out for QC samples	EM15K230006	AHT 9/28/16
dried with CH_2Cl_2-rinsed ☑ granular Na_2SO_4 ☐ powder		
0.8 mL of surrogate solution was added to all samples	530591D	
1.0 mL of matrix spiking solution was added to all spikes	530701E	
1:1 CH_2Cl_2 (lot# EM56176):Acetone(lot# FC163343) was added to all	✓	
Solvent added at (time)	1400	
☑ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:	–	
Soxhlets off at:	n/a	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM083561506	
Solvent exchanged with Hexane, Lot#	FC164512	
Concentrated to final volume in boiling H2O bath	100°	
EPA 3665A Clean-up: vortexed w/ H_2SO_4 Lot#	FC152524	
Centrifuged for 1 min; 5mL transferred to labelled vial	✓	
Relinquished to PCB group	✓	

9/28/2016

Extraction Chemist / Date

Continued from page ____

Continued on page ____

9/29/16

Reviewed by / Date

8081 Soil Prep Log Curtis & Tompkins, Ltd.

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Extraction Method: ☑ EPA 3550b Sonication ☐ _____

Cleanup Method: ☒ EPA 3620b Florisil

LIMS Batch No: 239605

Date Extracted: 9/28/2016

Sample #	Container ID	Sample Wt (g)	Final Vol (mL)	Comments
281516-001	A	30.15	☑ 20.0 ☐	Rocky, OM
~~-002~~		~~29.60~~	~~☑ 20.0~~ ☐	AHT 9/28/16 Removed from batch
-003		29.64	☑ 20.0 ☐	OM rich
-004		29.59	☑ 20.0 ☐	Rocky, OM
-005		30.22	☑ 20.0 ☐	
-006		29.83	☑ 20.0 ☐	
-008		29.85	☑ 20.0 ☐	
-009		29.67	☑ 20.0 ☐	
-012		30.26	☑ 20.0 ☐	
-015		30.00	☑ 20.0 ☐	
-018		29.66	☑ 20.0 ☐	Muddy,
-019		29.68	☑ 20.0 ☐	Rocky, OM
-020		29.82	☑ 20.0 ☐	Rocky, OM
-021		29.62	☑ 20.0 ☐	MSS, Rocky, OM
-022		29.96	☑ 20.0 ☐	Rocky, OM
-023		30.10	☑ 20.0 ☐	
-024		29.61	☑ 20.0 ☐	Muddy, Possible 2x surrogate
-026		30.40	☑ 20.0 ☐	Muddy, Possible 2x surrogate
MB QC853511	N/A	29.83	☑ 20.0 ☐	
LCS 15		29.98	☑ 20.0 ☐	
MS 16	A	29.77	☑ 20.0 ☐	
MSD ~~17~~ 35		29.81	☑ 20.0 ☐	
SCO 9/28/16			☐ 20.0 ☐	
			☐ 20.0 ☐	
			~~☐ 20.0~~ ☐	AR6 92916

☐ MS/MSD not included due to: ☐ insufficent volume, or ☑ other (reason) _____

☑ Balance ID: Wet02 Has been calibrated? ☑ Yes ☐ No

	Mfg & Lot # / LIMS # / Time	Initials / Date
Solvent-rinsed granular Na_2SO_4 weighed out for QC samples	EM15K230006	AHT 9/28/16
dried with CH_2Cl_2-rinsed ☑ granular Na_2SO_4 ☐ powder		
0.8 mL of surrogate solution was added to all samples	S305910	
0.4 mL of spike solution was added to all spikes	S307846	
1:1 CH_2Cl_2 (lot# EM561716):Acetone(lot# FC163343) was added to all		
Solvent added at (time)	1400	
☑ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:	–	
soxhlets off at:	n/a	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM0835C506	
Exchanged 2x with Hexane	FC164512	
Concentrated to final volume in boiling H2O bath	100°	
☒ Florisil Cleanup Performed		
Extracts relinquished to Pesticide Group		

9/28/16

Extraction Chemist / Date

Continued from page _____

Continued on page _____

92916

Reviewed by / Date

Curtis & Tompkins, Ltd.

Florisil Cleanup

EPA 3620B

Prep Chemist: AHT

Cleanup Date: 09/28/16

Benchbook # **BK 3894**

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Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
281516-001	239605	☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-003		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-004		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-005		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-006		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-008		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-009		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-012		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-015		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-018		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-019		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-020		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-021		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-022		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-023		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-024		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-026		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MB QC853511		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
LCS 15		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MS 16		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MSD 1735		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
JCO 10/4/16		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	ARG 92916

☑ Extracts were cleaned up using Florisil cartridges

Florisil cartridges/ columns rinsed 3x with Hexane

Extracts were eluted with _____mL 9:1 Hexane/Acetone

Concentrated to volumes as noted above

	Mfg & Lot # / Time / Program	Initials / Date
	RES3571106	AHT 9/28/16
Hexane	FC164512	
Acetone	FC161873	
	FC162163	

09/28/16

Extraction Chemist / Date

Continued from page ____

Continued on page ____

9/29/16

Reviewed by / Date

SAMPLE PREPARATION SUMMARY

Batch # : 239670 Analysis : PCB-LL
Started By : JW1 Prep Date : 30-SEP-2016 09:30 Finished By : JW1
Method : 3550B Units : g
Spike #1 ID : S30964 Spike #2 ID : S30784 Spike #3 ID : S30701

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
281516-002		Soil	30.42	20	1	0.6575		.8				8081	Prepped 30-SEP-2016 13:30
281516-007		Soil	29.85	20	1	0.67		.8				8081	Prepped 30-SEP-2016 13:30
281516-010		Soil	30.31	20	1	0.6598		.8				8081	Prepped 30-SEP-2016 13:30
281516-011		Soil	30.05	20	1	0.6656		.8				8081	Prepped 30-SEP-2016 13:30
281516-013		Soil	30.33	20	1	0.6594		.8				8081	Prepped 30-SEP-2016 13:30
281516-014		Soil	29.98	20	1	0.6671		.8				8081	Prepped 30-SEP-2016 13:30
281516-016		Soil	30.06	20	1	0.6653		.8				8081	Prepped 30-SEP-2016 13:30
281516-017		Soil	30.02	20	1	0.6662		.8				8081	Prepped 30-SEP-2016 13:30
281516-025		Soil	30.35	20	1	0.659		.8				8081	Prepped 30-SEP-2016 13:30
281567-001		Soil	29.94	20	1	0.668		.8				8081, PCB	
281567-002		Soil	29.74	20	1	0.6725		.8				8081, PCB	
281567-003		Soil	30.04	20	1	0.6658		.8				8081, PCB	
281567-004		Soil	30.16	20	1	0.6631		.8				8081, PCB	
281594-001		Soil	30.3	10	1	0.33		.8				PCB-LL	Prepped 30-SEP-2016 13:30
281594-002		Soil	30.25	10	1	0.3306		.8				PCB-LL	Prepped 30-SEP-2016 13:30
281594-003		Soil	29.92	10	1	0.3342		.8				PCB-LL	Prepped 30-SEP-2016 13:30
281594-004		Soil	30.4	10	1	0.3289		.8				PCB-LL	Prepped 30-SEP-2016 13:30
281594-005		Soil	30.14	10	1	0.3318		.8				PCB-LL	Prepped 30-SEP-2016 13:30
281632-001		Soil	30.25	20	1	0.6612		.8				PCB	Prepped 30-SEP-2016 13:30
281632-002		Soil	30.05	20	1	0.6656		.8				PCB	Prepped 30-SEP-2016 13:30
QC853765	BLANK	Soil	29.78	10	1	0.3358		.8				PCB	
QC853766	LCS	Soil	29.82	20	1	0.6707		.8		1		PCB	
QC853767	MS	Soil	30.2	20	1	0.6623		.8		1		PCB	
QC853768	MSD	Soil	30.24	20	1	0.6614		.8		1		PCB	
QC853771	LCS	Soil	29.57	20	1	0.6764		.8	.4			8081	
QC853772	MS	Soil	29.92	20	1	0.6684		.8	.4			8081	
QC853773	MSD	Soil	30.43	20	1	0.6572		.8	.4			8081	

JCD 09/30/16 : Matrix spikes QC853772,QC853773 (batch 239670) were not reported because the parent sample required a dilution that would have diluted out the spikes.

JCD 09/30/16 : Pest ready for review for job 281567

EAH 09/30/16 : Reviewed pest for 281567 and checked batch documents for PCB the same job.

JCD: 09/30/16 JS1: 10/03/16 EAH: 10/03/16

Curtis & Tompkins, Ltd. **Florisil Cleanup** **EPA 3620B**

Prep Chemist: Jwl
Cleanup Date: 9/30/16

Benchbook # **BK 3894**
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Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
281567-001	239670	☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
2		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
3		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
4		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MB QC853765		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
LCS 71		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MS 2		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MSD 3		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
281516-002		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
7		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
10		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
13		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
14		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
16		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
17		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
25		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	AHT 9/30/16
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	

	Mfg & Lot # / Time / Program	Initials / Date
☑ Extracts were cleaned up using Florisil cartridges	RES 357106	Jwl 9/30/16
Florisil cartridges/ columns rinsed 3x with Hexane	FC164512	
Extracts were eluted with 9.0 mL ~~9:1~~ Hexane/Acetone — Hexane	FC161873	
8:2 — Acetone	FC162463	
Concentrated to volumes as noted above		

9/30/16
Extraction Chemist / Date

Continued from page ____
Continued on page ____

9/30/16
Reviewed by / Date
9/30/16

8081 Soil Prep Log

Curtis & Tompkins, Ltd.

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Extraction Method:
☑ EPA 3550b Sonication
☐ _____

Cleanup Method:
☒ EPA 3620b Florisil

MS Batch No: 239670
Date Extracted: 9/30/16

	Sample #	Container ID	Sample Wt (g)	Final Vol (mL)	Comments
	281567 001	G	29.94	☑ 20.0 ☐	
	2		29.74	☑ 20.0 ☐	
	3		30.04	☑ 20.0 ☐	
	4		30.16	☑ 20.0 ☐	MSS
5	MB QC853765	NA	29.78	☐ 20.0 ☒ 10	
	LCS 71		29.57	☑ 20.0 ☐	
	MS 2		29.92	☑ 20.0 ☐	
	MSD 3		30.43	☑ 20.0 ☐	
	281516-002	A	30.42	☑ 20.0 ☐	A/O by JWI @ 13:30 9/30/16 AHT for JWI
10	281516-007		29.85	☑ 20.0 ☐	
	10		30.31	☑ 20.0 ☐	
	11		30.05	☑ 20.0 ☐	
	13		30.33	☑ 20.0 ☐	
	14		29.98	☑ 20.0 ☐	
15	16		30.06	☑ 20.0 ☐	
	17		30.02	☑ 20.0 ☐	
	25		30.35	☑ 20.0 ☐	
				☐ 20.0 ☐	
				☐ 20.0 ☐	
20				☐ 20.0 ☐	
				☐ 20.0 ☐	
				☐ 20.0 ☐	
				☐ 20.0 ☐	
				☐ 20.0 ☐	
				☐ 20.0 ☐	AHT 9/30/16

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

☑ Balance ID: D Sh. 1 Has been calibrated? ☑ Yes ☐ No

	Mfg & Lot # / LIMS # / Time	Initials / Date
Solvent-rinsed granular Na_2SO_4 weighed out for QC samples	FMY P1604	JWI 9/30/16
dried with CH_2Cl_2-rinsed ☑ granular Na_2SO_4 ☐ powder	↓	
0.8 mL of surrogate solution was added to all samples	S30964A	
0.4 mL of spike solution was added to all spikes	S30784C	
1:1 CH_2Cl_2 (lot# FM5P1604):Acetone(lot# FS 1603A3) was added to all		
Solvent added at (time)	9:30 / 13:30	
☑ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:		
soxhlets off at:	NA	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	FM 0835 C506	
Exchanged 2x with Hexane	FS 1604TC	
Concentrated to final volume in boiling H2O bath	100	
☒ Florisil Cleanup Performed		
Extracts relinquished to Pesticide Group		

9/30/16
Extraction Chemist / Date

Continued from page ____
Continued on page ____

9/30/16
Reviewed by / Date
9/30/16

PCB (8082) Soil Prep Log

Curtis & Tompkins, Ltd.

LIMS Batch No: 239670

LIMS Analysis PCB

Date Extracted: 9/30/16

☒ EPA 3550b Sonication

☐ Other _____

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BK 3907

Sample #	Container ID	Sample Wt (g)	Final Vol (mL)	Comments
281567 001	6	29.94	☐ 25.0 ☒ 20	
2		29.74	☐ 25.0 ☒ 20	MSS
3		30.04	☐ 25.0 ☒ 20	
4		30.16	☐ 25.0 ☒ 20	
MB QC853765	NA	29.78	☐ 25.0 ☒ 10	
LCS 6		29.89	☐ 25.0 ☒ 20	
MS 7		30.20	☐ 25.0 ☒ 20	
MSD 8		30.24	☐ 25.0 ☒ 20	
281594-001	A AHT for JVI 9/30/16	30.30	☐ 25.0 ☒ 10	LL, A/O by JVI @ 13:30 9/30/16 AHT for JVI
002		~~30.40~~ 30.25	☐ 25.0 ☒ 10	
003		29.92	☐ 25.0 ☒ 10	
004		30.40	☐ 25.0 ☒ 10	
005		30.1[illegible] AHT for JVI 9/30/16	☐ 25.0 ☒ 10	
281632-001	B	30.25	☐ 25.0 ☒ 20	
2	D	30.05	☐ 25.0 ☒ 20	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	AHT 9/30/16

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

☒ Balance ID: Dsh 1 Has been calibrated? ☒ Yes ☐ No

	Mfg & Lot # / LIMS # / Time	Initials / Date
Solvent-rinsed granular Na_2SO_4 weighed out for QC samples dried with CH_2Cl_2-rinsed ☒ granular Na_2SO_4 ☐ powder	EMB 11m	JVI 9/30/16
0.8 mL of surrogate solution was added to all samples	S309611	
1.0 mL of matrix spiking solution was added to all spikes	S307010	
1:1 CH_2Cl_2 (lot# Em56176):Acetone(lot# FC163743) was added to all		
Solvent added at (time)	9:30 / 13:30	
☒ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:		
Soxhlets off at:	NA	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM063506	
Solvent exchanged with Hexane, Lot#	FC164512	
Concentrated to final volume in boiling H2O bath	105°C	
EPA 3665A Clean-up: vortexed w/ H_2SO_4 Lot#	FC152524	
Centrifuged for 1 min; 5mL transferred to labelled vial		
Relinquished to PCB group		

9/30/16

Extraction Chemist / Date

Continued from page ____

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Jamie Daffy 9/30/16

Reviewed by / Date

9/30/16

REPORTING SUMMARY FOR 281516 PEST Soil

Sample ID	Analyte	Inst ID	Ch	Date & Time
281516-001	alpha-BHC	GC21	B	09/30/16 19:14
281516-001	beta-BHC	GC21	B	09/30/16 19:14
281516-001	gamma-BHC	GC21	B	09/30/16 19:14
281516-001	delta-BHC	GC21	B	09/30/16 19:14
281516-001	Heptachlor	GC21	B	09/30/16 19:14
281516-001	Aldrin	GC21	B	09/30/16 19:14
281516-001	Heptachlor epoxide	GC21	B	09/30/16 19:14
281516-001	Endosulfan I	GC21	B	09/30/16 19:14
281516-001	Dieldrin	GC21	B	09/30/16 19:14
281516-001	4,4'-DDE	GC21	B	09/30/16 19:14
281516-001	Endrin	GC21	B	09/30/16 19:14
281516-001	Endosulfan II	GC21	B	09/30/16 19:14
281516-001	Endosulfan sulfate	GC21	B	09/30/16 19:14
281516-001	4,4'-DDD	GC21	B	09/30/16 19:14
281516-001	Endrin aldehyde	GC21	B	09/30/16 19:14
281516-001	4,4'-DDT	GC21	B	09/30/16 19:14
281516-001	alpha-Chlordane	GC21	B	09/30/16 19:14
281516-001	gamma-Chlordane	GC21	B	09/30/16 19:14
281516-001	Methoxychlor	GC21	B	09/30/16 19:14
281516-001	Toxaphene	GC21	B	09/30/16 19:14
281516-001	TCMX	GC21	B	09/30/16 19:14
281516-001	Decachlorobiphenyl	GC21	B	09/30/16 19:14
281516-002	alpha-BHC	GC30	B	10/04/16 09:20
281516-002	beta-BHC	GC30	B	10/04/16 09:20
281516-002	gamma-BHC	GC30	B	10/04/16 09:20
281516-002	delta-BHC	GC30	B	10/04/16 09:20
281516-002	Heptachlor	GC30	B	10/04/16 09:20
281516-002	Aldrin	GC30	B	10/04/16 09:20
281516-002	Heptachlor epoxide	GC30	B	10/04/16 09:20
281516-002	Endosulfan I	GC30	B	10/04/16 09:20
281516-002	Dieldrin	GC30	B	10/04/16 09:20
281516-002	4,4'-DDE	GC30	B	10/04/16 09:20
281516-002	Endrin	GC30	B	10/04/16 09:20
281516-002	Endosulfan II	GC30	B	10/04/16 09:20
281516-002	Endosulfan sulfate	GC30	B	10/04/16 09:20
281516-002	4,4'-DDD	GC30	B	10/04/16 09:20
281516-002	Endrin aldehyde	GC30	B	10/04/16 09:20
281516-002	4,4'-DDT	GC30	B	10/04/16 09:20
281516-002	alpha-Chlordane	GC30	B	10/04/16 09:20
281516-002	gamma-Chlordane	GC30	B	10/04/16 09:20
281516-002	Methoxychlor	GC30	B	10/04/16 09:20
281516-002	Toxaphene	GC30	B	10/04/16 09:20
281516-002	TCMX	GC30	B	10/04/16 09:20
281516-002	Decachlorobiphenyl	GC30	B	10/04/16 09:20
281516-003	alpha-BHC	GC21	B	09/30/16 19:35
281516-003	beta-BHC	GC21	B	09/30/16 19:35
281516-003	gamma-BHC	GC21	B	09/30/16 19:35
281516-003	delta-BHC	GC21	B	09/30/16 19:35
281516-003	Heptachlor	GC21	B	09/30/16 19:35
281516-003	Aldrin	GC21	B	09/30/16 19:35
281516-003	Heptachlor epoxide	GC21	B	09/30/16 19:35
281516-003	Endosulfan I	GC21	B	09/30/16 19:35

Sample ID	Analyte	Inst ID	Ch	Date & Time
281516-003	Dieldrin	GC21	B	09/30/16 19:35
281516-003	4,4'-DDE	GC21	B	09/30/16 19:35
281516-003	Endrin	GC21	B	09/30/16 19:35
281516-003	Endosulfan II	GC21	B	09/30/16 19:35
281516-003	Endosulfan sulfate	GC21	B	09/30/16 19:35
281516-003	4,4'-DDD	GC21	B	09/30/16 19:35
281516-003	Endrin aldehyde	GC21	B	09/30/16 19:35
281516-003	4,4'-DDT	GC21	B	09/30/16 19:35
281516-003	alpha-Chlordane	GC21	B	09/30/16 19:35
281516-003	gamma-Chlordane	GC21	B	09/30/16 19:35
281516-003	Methoxychlor	GC21	B	09/30/16 19:35
281516-003	Toxaphene	GC21	B	09/30/16 19:35
281516-003	TCMX	GC21	B	09/30/16 19:35
281516-003	Decachlorobiphenyl	GC21	B	09/30/16 19:35
281516-004	alpha-BHC	GC21	B	09/30/16 19:57
281516-004	beta-BHC	GC21	B	09/30/16 19:57
281516-004	gamma-BHC	GC21	B	09/30/16 19:57
281516-004	delta-BHC	GC21	B	09/30/16 19:57
281516-004	Heptachlor	GC21	B	09/30/16 19:57
281516-004	Aldrin	GC21	B	09/30/16 19:57
281516-004	Heptachlor epoxide	GC21	B	09/30/16 19:57
281516-004	Endosulfan I	GC21	B	09/30/16 19:57
281516-004	Dieldrin	GC21	B	09/30/16 19:57
281516-004	4,4'-DDE	GC21	B	09/30/16 19:57
281516-004	Endrin	GC21	B	09/30/16 19:57
281516-004	Endosulfan II	GC21	B	09/30/16 19:57
281516-004	Endosulfan sulfate	GC21	B	09/30/16 19:57
281516-004	4,4'-DDD	GC21	B	09/30/16 19:57
281516-004	Endrin aldehyde	GC21	B	09/30/16 19:57
281516-004	4,4'-DDT	GC21	B	09/30/16 19:57
281516-004	alpha-Chlordane	GC21	B	09/30/16 19:57
281516-004	gamma-Chlordane	GC21	B	09/30/16 19:57
281516-004	Methoxychlor	GC21	B	09/30/16 19:57
281516-004	Toxaphene	GC21	B	09/30/16 19:57
281516-004	TCMX	GC21	B	09/30/16 19:57
281516-004	Decachlorobiphenyl	GC21	B	09/30/16 19:57
281516-005	alpha-BHC	GC21	B	09/30/16 20:19
281516-005	beta-BHC	GC21	B	09/30/16 20:19
281516-005	gamma-BHC	GC21	B	09/30/16 20:19
281516-005	delta-BHC	GC21	B	09/30/16 20:19
281516-005	Heptachlor	GC21	B	09/30/16 20:19
281516-005	Aldrin	GC21	B	09/30/16 20:19
281516-005	Heptachlor epoxide	GC21	B	09/30/16 20:19
281516-005	Endosulfan I	GC21	B	09/30/16 20:19
281516-005	Dieldrin	GC21	B	09/30/16 20:19
281516-005	4,4'-DDE	GC21	B	09/30/16 20:19
281516-005	Endrin	GC21	B	09/30/16 20:19
281516-005	Endosulfan II	GC21	B	09/30/16 20:19
281516-005	Endosulfan sulfate	GC21	B	09/30/16 20:19
281516-005	4,4'-DDD	GC21	B	09/30/16 20:19
281516-005	Endrin aldehyde	GC21	B	09/30/16 20:19
281516-005	4,4'-DDT	GC21	B	09/30/16 20:19

Sample ID	Analyte	Inst ID	Ch	Date & Time
281516-005	alpha-Chlordane	GC21	B	09/30/16 20:19
281516-005	gamma-Chlordane	GC21	B	09/30/16 20:19
281516-005	Methoxychlor	GC21	B	09/30/16 20:19
281516-005	Toxaphene	GC21	B	09/30/16 20:19
281516-005	TCMX	GC21	B	09/30/16 20:19
281516-005	Decachlorobiphenyl	GC21	B	09/30/16 20:19
281516-006	alpha-BHC	GC21	B	09/30/16 20:41
281516-006	beta-BHC	GC21	B	09/30/16 20:41
281516-006	gamma-BHC	GC21	B	09/30/16 20:41
281516-006	delta-BHC	GC21	B	09/30/16 20:41
281516-006	Heptachlor	GC21	B	09/30/16 20:41
281516-006	Aldrin	GC21	B	09/30/16 20:41
281516-006	Heptachlor epoxide	GC21	B	09/30/16 20:41
281516-006	Endosulfan I	GC21	B	09/30/16 20:41
281516-006	Dieldrin	GC21	B	09/30/16 20:41
281516-006	4,4'-DDE	GC21	B	09/30/16 20:41
281516-006	Endrin	GC21	B	09/30/16 20:41
281516-006	Endosulfan II	GC21	B	09/30/16 20:41
281516-006	Endosulfan sulfate	GC21	B	09/30/16 20:41
281516-006	4,4'-DDD	GC21	B	09/30/16 20:41
281516-006	Endrin aldehyde	GC21	B	09/30/16 20:41
281516-006	4,4'-DDT	GC21	B	09/30/16 20:41
281516-006	alpha-Chlordane	GC21	B	09/30/16 20:41
281516-006	gamma-Chlordane	GC21	B	09/30/16 20:41
281516-006	Methoxychlor	GC21	B	09/30/16 20:41
281516-006	Toxaphene	GC21	B	09/30/16 20:41
281516-006	TCMX	GC21	B	09/30/16 20:41
281516-006	Decachlorobiphenyl	GC21	B	09/30/16 20:41
281516-007	alpha-BHC	GC30	B	10/04/16 09:36
281516-007	beta-BHC	GC30	B	10/04/16 09:36
281516-007	gamma-BHC	GC30	B	10/04/16 09:36
281516-007	delta-BHC	GC30	B	10/04/16 09:36
281516-007	Heptachlor	GC30	B	10/04/16 09:36
281516-007	Aldrin	GC30	B	10/04/16 09:36
281516-007	Heptachlor epoxide	GC30	B	10/04/16 09:36
281516-007	Endosulfan I	GC30	B	10/04/16 09:36
281516-007	Dieldrin	GC30	B	10/04/16 09:36
281516-007	4,4'-DDE	GC30	B	10/04/16 09:36
281516-007	Endrin	GC30	B	10/04/16 09:36
281516-007	Endosulfan II	GC30	B	10/04/16 09:36
281516-007	Endosulfan sulfate	GC30	B	10/04/16 09:36
281516-007	4,4'-DDD	GC30	B	10/04/16 09:36
281516-007	Endrin aldehyde	GC30	B	10/04/16 09:36
281516-007	4,4'-DDT	GC30	B	10/04/16 09:36
281516-007	alpha-Chlordane	GC30	B	10/04/16 09:36
281516-007	gamma-Chlordane	GC30	B	10/04/16 09:36
281516-007	Methoxychlor	GC30	B	10/04/16 09:36
281516-007	Toxaphene	GC30	B	10/04/16 09:36
281516-007	TCMX	GC30	B	10/04/16 09:36
281516-007	Decachlorobiphenyl	GC30	B	10/04/16 09:36
281516-008	alpha-BHC	GC21	B	09/30/16 21:03

Sample ID	Analyte	Inst ID	Ch	Date & Time
281516-008	beta-BHC	GC21	B	09/30/16 21:03
281516-008	gamma-BHC	GC21	B	09/30/16 21:03
281516-008	delta-BHC	GC21	B	09/30/16 21:03
281516-008	Heptachlor	GC21	B	09/30/16 21:03
281516-008	Aldrin	GC21	B	09/30/16 21:03
281516-008	Heptachlor epoxide	GC21	B	09/30/16 21:03
281516-008	Endosulfan I	GC21	B	09/30/16 21:03
281516-008	Dieldrin	GC21	B	09/30/16 21:03
281516-008	4,4'-DDE	GC21	B	09/30/16 21:03
281516-008	Endrin	GC21	B	09/30/16 21:03
281516-008	Endosulfan II	GC21	B	09/30/16 21:03
281516-008	Endosulfan sulfate	GC21	B	09/30/16 21:03
281516-008	4,4'-DDD	GC21	B	09/30/16 21:03
281516-008	Endrin aldehyde	GC21	B	09/30/16 21:03
281516-008	4,4'-DDT	GC21	B	09/30/16 21:03
281516-008	alpha-Chlordane	GC21	B	09/30/16 21:03
281516-008	gamma-Chlordane	GC21	B	09/30/16 21:03
281516-008	Methoxychlor	GC21	B	09/30/16 21:03
281516-008	Toxaphene	GC21	B	09/30/16 21:03
281516-008	TCMX	GC21	B	09/30/16 21:03
281516-008	Decachlorobiphenyl	GC21	B	09/30/16 21:03
281516-009	alpha-BHC	GC21	B	09/30/16 21:25
281516-009	beta-BHC	GC21	B	09/30/16 21:25
281516-009	gamma-BHC	GC21	B	09/30/16 21:25
281516-009	delta-BHC	GC21	B	09/30/16 21:25
281516-009	Heptachlor	GC21	B	09/30/16 21:25
281516-009	Aldrin	GC21	B	09/30/16 21:25
281516-009	Heptachlor epoxide	GC21	B	09/30/16 21:25
281516-009	Endosulfan I	GC21	B	09/30/16 21:25
281516-009	Dieldrin	GC21	B	09/30/16 21:25
281516-009	4,4'-DDE	GC21	B	09/30/16 21:25
281516-009	Endrin	GC21	B	09/30/16 21:25
281516-009	Endosulfan II	GC21	B	09/30/16 21:25
281516-009	Endosulfan sulfate	GC21	B	09/30/16 21:25
281516-009	4,4'-DDD	GC21	B	09/30/16 21:25
281516-009	Endrin aldehyde	GC21	B	09/30/16 21:25
281516-009	4,4'-DDT	GC21	B	09/30/16 21:25
281516-009	alpha-Chlordane	GC21	B	09/30/16 21:25
281516-009	gamma-Chlordane	GC21	B	09/30/16 21:25
281516-009	Methoxychlor	GC21	B	09/30/16 21:25
281516-009	Toxaphene	GC21	B	09/30/16 21:25
281516-009	TCMX	GC21	B	09/30/16 21:25
281516-009	Decachlorobiphenyl	GC21	B	09/30/16 21:25
281516-010	alpha-BHC	GC30	B	10/04/16 09:52
281516-010	beta-BHC	GC30	B	10/04/16 09:52
281516-010	gamma-BHC	GC30	B	10/04/16 09:52
281516-010	delta-BHC	GC30	B	10/04/16 09:52
281516-010	Heptachlor	GC30	B	10/04/16 09:52
281516-010	Aldrin	GC30	B	10/04/16 09:52
281516-010	Heptachlor epoxide	GC30	B	10/04/16 09:52
281516-010	Endosulfan I	GC30	B	10/04/16 09:52
281516-010	Dieldrin	GC30	B	10/04/16 09:52

Sample ID	Analyte	Inst ID	Ch	Date & Time
281516-010	4,4'-DDE	GC30	B	10/04/16 09:52
281516-010	Endrin	GC30	B	10/04/16 09:52
281516-010	Endosulfan II	GC30	B	10/04/16 09:52
281516-010	Endosulfan sulfate	GC30	B	10/04/16 09:52
281516-010	4,4'-DDD	GC30	B	10/04/16 09:52
281516-010	Endrin aldehyde	GC30	B	10/04/16 09:52
281516-010	4,4'-DDT	GC30	B	10/04/16 09:52
281516-010	alpha-Chlordane	GC30	B	10/04/16 09:52
281516-010	gamma-Chlordane	GC30	B	10/04/16 09:52
281516-010	Methoxychlor	GC30	B	10/04/16 09:52
281516-010	Toxaphene	GC30	B	10/04/16 09:52
281516-010	TCMX	GC30	B	10/04/16 09:52
281516-010	Decachlorobiphenyl	GC30	B	10/04/16 09:52
281516-011	alpha-BHC	GC30	B	10/04/16 10:08
281516-011	beta-BHC	GC30	B	10/04/16 10:08
281516-011	gamma-BHC	GC30	B	10/04/16 10:08
281516-011	delta-BHC	GC30	B	10/04/16 10:08
281516-011	Heptachlor	GC30	B	10/04/16 10:08
281516-011	Aldrin	GC30	B	10/04/16 10:08
281516-011	Heptachlor epoxide	GC30	B	10/04/16 10:08
281516-011	Endosulfan I	GC30	B	10/04/16 10:08
281516-011	Dieldrin	GC30	B	10/04/16 10:08
281516-011	4,4'-DDE	GC30	B	10/04/16 10:08
281516-011	Endrin	GC30	B	10/04/16 10:08
281516-011	Endosulfan II	GC30	B	10/04/16 10:08
281516-011	Endosulfan sulfate	GC30	B	10/04/16 10:08
281516-011	4,4'-DDD	GC30	B	10/04/16 10:08
281516-011	Endrin aldehyde	GC30	B	10/04/16 10:08
281516-011	4,4'-DDT	GC30	B	10/04/16 10:08
281516-011	alpha-Chlordane	GC30	B	10/04/16 10:08
281516-011	gamma-Chlordane	GC30	B	10/04/16 10:08
281516-011	Methoxychlor	GC30	B	10/04/16 10:08
281516-011	Toxaphene	GC30	B	10/04/16 10:08
281516-011	TCMX	GC30	B	10/04/16 10:08
281516-011	Decachlorobiphenyl	GC30	B	10/04/16 10:08
281516-012	alpha-BHC	GC21	B	09/30/16 21:46
281516-012	beta-BHC	GC21	B	09/30/16 21:46
281516-012	gamma-BHC	GC21	B	09/30/16 21:46
281516-012	delta-BHC	GC21	B	09/30/16 21:46
281516-012	Heptachlor	GC21	B	09/30/16 21:46
281516-012	Aldrin	GC21	B	09/30/16 21:46
281516-012	Heptachlor epoxide	GC21	B	09/30/16 21:46
281516-012	Endosulfan I	GC21	B	09/30/16 21:46
281516-012	Dieldrin	GC21	B	09/30/16 21:46
281516-012	4,4'-DDE	GC21	B	09/30/16 21:46
281516-012	Endrin	GC21	B	09/30/16 21:46
281516-012	Endosulfan II	GC21	B	09/30/16 21:46
281516-012	Endosulfan sulfate	GC21	B	09/30/16 21:46
281516-012	4,4'-DDD	GC21	B	09/30/16 21:46
281516-012	Endrin aldehyde	GC21	B	09/30/16 21:46
281516-012	4,4'-DDT	GC21	B	09/30/16 21:46
281516-012	alpha-Chlordane	GC21	B	09/30/16 21:46

Sample ID	Analyte	Inst ID	Ch	Date & Time
281516-012	gamma-Chlordane	GC21	B	09/30/16 21:46
281516-012	Methoxychlor	GC21	B	09/30/16 21:46
281516-012	Toxaphene	GC21	B	09/30/16 21:46
281516-012	TCMX	GC21	B	09/30/16 21:46
281516-012	Decachlorobiphenyl	GC21	B	09/30/16 21:46
281516-013	alpha-BHC	GC30	B	10/04/16 10:24
281516-013	beta-BHC	GC30	B	10/04/16 10:24
281516-013	gamma-BHC	GC30	B	10/04/16 10:24
281516-013	delta-BHC	GC30	B	10/04/16 10:24
281516-013	Heptachlor	GC30	B	10/04/16 10:24
281516-013	Aldrin	GC30	B	10/04/16 10:24
281516-013	Heptachlor epoxide	GC30	B	10/04/16 10:24
281516-013	Endosulfan I	GC30	B	10/04/16 10:24
281516-013	Dieldrin	GC30	B	10/04/16 10:24
281516-013	4,4'-DDE	GC30	B	10/04/16 10:24
281516-013	Endrin	GC30	B	10/04/16 10:24
281516-013	Endosulfan II	GC30	B	10/04/16 10:24
281516-013	Endosulfan sulfate	GC30	B	10/04/16 10:24
281516-013	4,4'-DDD	GC30	B	10/04/16 10:24
281516-013	Endrin aldehyde	GC30	B	10/04/16 10:24
281516-013	4,4'-DDT	GC30	B	10/04/16 10:24
281516-013	alpha-Chlordane	GC30	B	10/04/16 10:24
281516-013	gamma-Chlordane	GC30	B	10/04/16 10:24
281516-013	Methoxychlor	GC30	B	10/04/16 10:24
281516-013	Toxaphene	GC30	B	10/04/16 10:24
281516-013	TCMX	GC30	B	10/04/16 10:24
281516-013	Decachlorobiphenyl	GC30	B	10/04/16 10:24
281516-014	alpha-BHC	GC30	B	10/04/16 10:40
281516-014	beta-BHC	GC30	B	10/04/16 10:40
281516-014	gamma-BHC	GC30	B	10/04/16 10:40
281516-014	delta-BHC	GC30	B	10/04/16 10:40
281516-014	Heptachlor	GC30	B	10/04/16 10:40
281516-014	Aldrin	GC30	B	10/04/16 10:40
281516-014	Heptachlor epoxide	GC30	B	10/04/16 10:40
281516-014	Endosulfan I	GC30	B	10/04/16 10:40
281516-014	Dieldrin	GC30	B	10/04/16 10:40
281516-014	4,4'-DDE	GC30	B	10/04/16 10:40
281516-014	Endrin	GC30	B	10/04/16 10:40
281516-014	Endosulfan II	GC30	B	10/04/16 10:40
281516-014	Endosulfan sulfate	GC30	B	10/04/16 10:40
281516-014	4,4'-DDD	GC30	B	10/04/16 10:40
281516-014	Endrin aldehyde	GC30	B	10/04/16 10:40
281516-014	4,4'-DDT	GC30	B	10/04/16 10:40
281516-014	alpha-Chlordane	GC30	B	10/04/16 10:40
281516-014	gamma-Chlordane	GC30	B	10/04/16 10:40
281516-014	Methoxychlor	GC30	B	10/04/16 10:40
281516-014	Toxaphene	GC30	B	10/04/16 10:40
281516-014	TCMX	GC30	B	10/04/16 10:40
281516-014	Decachlorobiphenyl	GC30	B	10/04/16 10:40
281516-015	alpha-BHC	GC30	A	09/30/16 18:01
281516-015	beta-BHC	GC30	A	09/30/16 18:01

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281516-015	gamma-BHC	GC30	A	09/30/16 18:01
281516-015	delta-BHC	GC30	A	09/30/16 18:01
281516-015	Heptachlor	GC30	A	09/30/16 18:01
281516-015	Aldrin	GC30	A	09/30/16 18:01
281516-015	Heptachlor epoxide	GC30	A	09/30/16 18:01
281516-015	Endosulfan I	GC30	A	09/30/16 18:01
281516-015	Dieldrin	GC30	A	09/30/16 18:01
281516-015	4,4'-DDE	GC30	A	09/30/16 18:01
281516-015	Endrin	GC30	A	09/30/16 18:01
281516-015	Endosulfan II	GC30	A	09/30/16 18:01
281516-015	Endosulfan sulfate	GC30	A	09/30/16 18:01
281516-015	4,4'-DDD	GC30	A	09/30/16 18:01
281516-015	Endrin aldehyde	GC30	A	09/30/16 18:01
281516-015	4,4'-DDT	GC30	A	09/30/16 18:01
281516-015	alpha-Chlordane	GC30	A	09/30/16 18:01
281516-015	gamma-Chlordane	GC30	A	09/30/16 18:01
281516-015	Methoxychlor	GC30	A	09/30/16 18:01
281516-015	Toxaphene	GC30	A	09/30/16 18:01
281516-015	TCMX	GC30	A	09/30/16 18:01
281516-015	Decachlorobiphenyl	GC30	A	09/30/16 18:01
281516-016	alpha-BHC	GC30	B	10/04/16 10:56
281516-016	beta-BHC	GC30	B	10/04/16 10:56
281516-016	gamma-BHC	GC30	B	10/04/16 10:56
281516-016	delta-BHC	GC30	B	10/04/16 10:56
281516-016	Heptachlor	GC30	B	10/04/16 10:56
281516-016	Aldrin	GC30	B	10/04/16 10:56
281516-016	Heptachlor epoxide	GC30	B	10/04/16 10:56
281516-016	Endosulfan I	GC30	B	10/04/16 10:56
281516-016	Dieldrin	GC30	B	10/04/16 10:56
281516-016	4,4'-DDE	GC30	B	10/04/16 10:56
281516-016	Endrin	GC30	B	10/04/16 10:56
281516-016	Endosulfan II	GC30	B	10/04/16 10:56
281516-016	Endosulfan sulfate	GC30	B	10/04/16 10:56
281516-016	4,4'-DDD	GC30	B	10/04/16 10:56
281516-016	Endrin aldehyde	GC30	B	10/04/16 10:56
281516-016	4,4'-DDT	GC30	B	10/04/16 10:56
281516-016	alpha-Chlordane	GC30	B	10/04/16 10:56
281516-016	gamma-Chlordane	GC30	B	10/04/16 10:56
281516-016	Methoxychlor	GC30	B	10/04/16 10:56
281516-016	Toxaphene	GC30	B	10/04/16 10:56
281516-016	TCMX	GC30	B	10/04/16 10:56
281516-016	Decachlorobiphenyl	GC30	B	10/04/16 10:56
281516-017	alpha-BHC	GC30	B	10/04/16 11:11
281516-017	beta-BHC	GC30	B	10/04/16 11:11
281516-017	gamma-BHC	GC30	B	10/04/16 11:11
281516-017	delta-BHC	GC30	B	10/04/16 11:11
281516-017	Heptachlor	GC30	B	10/04/16 11:11
281516-017	Aldrin	GC30	B	10/04/16 11:11
281516-017	Heptachlor epoxide	GC30	B	10/04/16 11:11
281516-017	Endosulfan I	GC30	B	10/04/16 11:11
281516-017	Dieldrin	GC30	B	10/04/16 11:11
281516-017	4,4'-DDE	GC30	B	10/04/16 11:11

Sample ID	Analyte	Inst ID	Ch	Date & Time
281516-017	Endrin	GC30	B	10/04/16 11:11
281516-017	Endosulfan II	GC30	B	10/04/16 11:11
281516-017	Endosulfan sulfate	GC30	B	10/04/16 11:11
281516-017	4,4'-DDD	GC30	B	10/04/16 11:11
281516-017	Endrin aldehyde	GC30	B	10/04/16 11:11
281516-017	4,4'-DDT	GC30	B	10/04/16 11:11
281516-017	alpha-Chlordane	GC30	B	10/04/16 11:11
281516-017	gamma-Chlordane	GC30	B	10/04/16 11:11
281516-017	Methoxychlor	GC30	B	10/04/16 11:11
281516-017	Toxaphene	GC30	B	10/04/16 11:11
281516-017	TCMX	GC30	B	10/04/16 11:11
281516-017	Decachlorobiphenyl	GC30	B	10/04/16 11:11
281516-018	alpha-BHC	GC30	A	09/30/16 18:16
281516-018	beta-BHC	GC30	A	09/30/16 18:16
281516-018	gamma-BHC	GC30	A	09/30/16 18:16
281516-018	delta-BHC	GC30	A	09/30/16 18:16
281516-018	Heptachlor	GC30	A	09/30/16 18:16
281516-018	Aldrin	GC30	A	09/30/16 18:16
281516-018	Heptachlor epoxide	GC30	A	09/30/16 18:16
281516-018	Endosulfan I	GC30	A	09/30/16 18:16
281516-018	Dieldrin	GC30	A	09/30/16 18:16
281516-018	4,4'-DDE	GC30	A	09/30/16 18:16
281516-018	Endrin	GC30	A	09/30/16 18:16
281516-018	Endosulfan II	GC30	A	09/30/16 18:16
281516-018	Endosulfan sulfate	GC30	A	09/30/16 18:16
281516-018	4,4'-DDD	GC30	A	09/30/16 18:16
281516-018	Endrin aldehyde	GC30	A	09/30/16 18:16
281516-018	4,4'-DDT	GC30	A	09/30/16 18:16
281516-018	alpha-Chlordane	GC30	A	09/30/16 18:16
281516-018	gamma-Chlordane	GC30	A	09/30/16 18:16
281516-018	Methoxychlor	GC30	A	09/30/16 18:16
281516-018	Toxaphene	GC30	A	09/30/16 18:16
281516-018	TCMX	GC30	A	09/30/16 18:16
281516-018	Decachlorobiphenyl	GC30	A	09/30/16 18:16
281516-019	alpha-BHC	GC30	A	09/30/16 18:32
281516-019	beta-BHC	GC30	A	09/30/16 18:32
281516-019	gamma-BHC	GC30	A	09/30/16 18:32
281516-019	delta-BHC	GC30	A	09/30/16 18:32
281516-019	Heptachlor	GC30	A	09/30/16 18:32
281516-019	Aldrin	GC30	A	09/30/16 18:32
281516-019	Heptachlor epoxide	GC30	A	09/30/16 18:32
281516-019	Endosulfan I	GC30	A	09/30/16 18:32
281516-019	Dieldrin	GC30	A	09/30/16 18:32
281516-019	4,4'-DDE	GC30	A	09/30/16 18:32
281516-019	Endrin	GC30	A	09/30/16 18:32
281516-019	Endosulfan II	GC30	A	09/30/16 18:32
281516-019	Endosulfan sulfate	GC30	A	09/30/16 18:32
281516-019	4,4'-DDD	GC30	A	09/30/16 18:32
281516-019	Endrin aldehyde	GC30	A	09/30/16 18:32
281516-019	4,4'-DDT	GC30	A	09/30/16 18:32
281516-019	alpha-Chlordane	GC30	A	09/30/16 18:32
281516-019	gamma-Chlordane	GC30	A	09/30/16 18:32

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281516-019	Methoxychlor	GC30	A	09/30/16 18:32
281516-019	Toxaphene	GC30	A	09/30/16 18:32
281516-019	TCMX	GC30	A	09/30/16 18:32
281516-019	Decachlorobiphenyl	GC30	A	09/30/16 18:32
281516-020	alpha-BHC	GC30	A	09/30/16 18:48
281516-020	beta-BHC	GC30	A	09/30/16 18:48
281516-020	gamma-BHC	GC30	A	09/30/16 18:48
281516-020	delta-BHC	GC30	A	09/30/16 18:48
281516-020	Heptachlor	GC30	A	09/30/16 18:48
281516-020	Aldrin	GC30	A	09/30/16 18:48
281516-020	Heptachlor epoxide	GC30	A	09/30/16 18:48
281516-020	Endosulfan I	GC30	A	09/30/16 18:48
281516-020	Dieldrin	GC30	A	09/30/16 18:48
281516-020	4,4'-DDE	GC30	A	09/30/16 18:48
281516-020	Endrin	GC30	A	09/30/16 18:48
281516-020	Endosulfan II	GC30	A	09/30/16 18:48
281516-020	Endosulfan sulfate	GC30	A	09/30/16 18:48
281516-020	4,4'-DDD	GC30	A	09/30/16 18:48
281516-020	Endrin aldehyde	GC30	A	09/30/16 18:48
281516-020	4,4'-DDT	GC30	A	09/30/16 18:48
281516-020	alpha-Chlordane	GC30	A	09/30/16 18:48
281516-020	gamma-Chlordane	GC30	A	09/30/16 18:48
281516-020	Methoxychlor	GC30	A	09/30/16 18:48
281516-020	Toxaphene	GC30	A	09/30/16 18:48
281516-020	TCMX	GC30	A	09/30/16 18:48
281516-020	Decachlorobiphenyl	GC30	A	09/30/16 18:48
281516-021	alpha-BHC	GC21	B	09/30/16 16:41
281516-021	beta-BHC	GC21	B	09/30/16 16:41
281516-021	gamma-BHC	GC21	B	09/30/16 16:41
281516-021	delta-BHC	GC21	B	09/30/16 16:41
281516-021	Heptachlor	GC21	B	09/30/16 16:41
281516-021	Aldrin	GC21	B	09/30/16 16:41
281516-021	Heptachlor epoxide	GC21	B	09/30/16 16:41
281516-021	Endosulfan I	GC21	B	09/30/16 16:41
281516-021	Dieldrin	GC21	B	09/30/16 16:41
281516-021	4,4'-DDE	GC21	B	09/30/16 16:41
281516-021	Endrin	GC21	B	09/30/16 16:41
281516-021	Endosulfan II	GC21	B	09/30/16 16:41
281516-021	Endosulfan sulfate	GC21	B	09/30/16 16:41
281516-021	4,4'-DDD	GC21	B	09/30/16 16:41
281516-021	Endrin aldehyde	GC21	B	09/30/16 16:41
281516-021	4,4'-DDT	GC21	B	09/30/16 16:41
281516-021	alpha-Chlordane	GC21	B	09/30/16 16:41
281516-021	gamma-Chlordane	GC21	B	09/30/16 16:41
281516-021	Methoxychlor	GC21	B	09/30/16 16:41
281516-021	Toxaphene	GC21	B	09/30/16 16:41
281516-021	TCMX	GC21	B	09/30/16 16:41
281516-021	Decachlorobiphenyl	GC21	B	09/30/16 16:41
281516-022	alpha-BHC	GC30	A	09/30/16 19:04
281516-022	beta-BHC	GC30	A	09/30/16 19:04
281516-022	gamma-BHC	GC30	A	09/30/16 19:04

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281516-022	delta-BHC	GC30	A	09/30/16 19:04
281516-022	Heptachlor	GC30	A	09/30/16 19:04
281516-022	Aldrin	GC30	A	09/30/16 19:04
281516-022	Heptachlor epoxide	GC30	A	09/30/16 19:04
281516-022	Endosulfan I	GC30	A	09/30/16 19:04
281516-022	Dieldrin	GC30	A	09/30/16 19:04
281516-022	4,4'-DDE	GC30	A	09/30/16 19:04
281516-022	Endrin	GC30	A	09/30/16 19:04
281516-022	Endosulfan II	GC30	A	09/30/16 19:04
281516-022	Endosulfan sulfate	GC30	A	09/30/16 19:04
281516-022	4,4'-DDD	GC30	A	09/30/16 19:04
281516-022	Endrin aldehyde	GC30	A	09/30/16 19:04
281516-022	4,4'-DDT	GC30	A	09/30/16 19:04
281516-022	alpha-Chlordane	GC30	A	09/30/16 19:04
281516-022	gamma-Chlordane	GC30	A	09/30/16 19:04
281516-022	Methoxychlor	GC30	A	09/30/16 19:04
281516-022	Toxaphene	GC30	A	09/30/16 19:04
281516-022	TCMX	GC30	A	09/30/16 19:04
281516-022	Decachlorobiphenyl	GC30	A	09/30/16 19:04
281516-023	alpha-BHC	GC30	A	09/30/16 19:20
281516-023	beta-BHC	GC30	A	09/30/16 19:20
281516-023	gamma-BHC	GC30	A	09/30/16 19:20
281516-023	delta-BHC	GC30	A	09/30/16 19:20
281516-023	Heptachlor	GC30	A	09/30/16 19:20
281516-023	Aldrin	GC30	A	09/30/16 19:20
281516-023	Heptachlor epoxide	GC30	A	09/30/16 19:20
281516-023	Endosulfan I	GC30	A	09/30/16 19:20
281516-023	Dieldrin	GC30	A	09/30/16 19:20
281516-023	4,4'-DDE	GC30	A	09/30/16 19:20
281516-023	Endrin	GC30	A	09/30/16 19:20
281516-023	Endosulfan II	GC30	A	09/30/16 19:20
281516-023	Endosulfan sulfate	GC30	A	09/30/16 19:20
281516-023	4,4'-DDD	GC30	A	09/30/16 19:20
281516-023	Endrin aldehyde	GC30	A	09/30/16 19:20
281516-023	4,4'-DDT	GC30	A	09/30/16 19:20
281516-023	alpha-Chlordane	GC30	A	09/30/16 19:20
281516-023	gamma-Chlordane	GC30	A	09/30/16 19:20
281516-023	Methoxychlor	GC30	A	09/30/16 19:20
281516-023	Toxaphene	GC30	A	09/30/16 19:20
281516-023	TCMX	GC30	A	09/30/16 19:20
281516-023	Decachlorobiphenyl	GC30	A	09/30/16 19:20
281516-024	alpha-BHC	GC30	A	09/30/16 19:36
281516-024	beta-BHC	GC30	A	09/30/16 19:36
281516-024	gamma-BHC	GC30	A	09/30/16 19:36
281516-024	delta-BHC	GC30	A	09/30/16 19:36
281516-024	Heptachlor	GC30	A	09/30/16 19:36
281516-024	Aldrin	GC30	A	09/30/16 19:36
281516-024	Heptachlor epoxide	GC30	A	09/30/16 19:36
281516-024	Endosulfan I	GC30	A	09/30/16 19:36
281516-024	Dieldrin	GC30	A	09/30/16 19:36
281516-024	4,4'-DDE	GC30	A	09/30/16 19:36
281516-024	Endrin	GC30	A	09/30/16 19:36

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281516-024	Endosulfan II	GC30	A	09/30/16 19:36
281516-024	Endosulfan sulfate	GC30	A	09/30/16 19:36
281516-024	4,4'-DDD	GC30	A	09/30/16 19:36
281516-024	Endrin aldehyde	GC30	A	09/30/16 19:36
281516-024	4,4'-DDT	GC30	A	09/30/16 19:36
281516-024	alpha-Chlordane	GC30	A	09/30/16 19:36
281516-024	gamma-Chlordane	GC30	A	09/30/16 19:36
281516-024	Methoxychlor	GC30	A	09/30/16 19:36
281516-024	Toxaphene	GC30	A	09/30/16 19:36
281516-024	TCMX	GC30	A	09/30/16 19:36
281516-024	Decachlorobiphenyl	GC30	A	09/30/16 19:36
281516-025	alpha-BHC	GC30	B	10/04/16 11:28
281516-025	beta-BHC	GC30	B	10/04/16 11:28
281516-025	gamma-BHC	GC30	B	10/04/16 11:28
281516-025	delta-BHC	GC30	B	10/04/16 11:28
281516-025	Heptachlor	GC30	B	10/04/16 11:28
281516-025	Aldrin	GC30	B	10/04/16 11:28
281516-025	Heptachlor epoxide	GC30	B	10/04/16 11:28
281516-025	Endosulfan I	GC30	B	10/04/16 11:28
281516-025	Dieldrin	GC30	B	10/04/16 11:28
281516-025	4,4'-DDE	GC30	B	10/04/16 11:28
281516-025	Endrin	GC30	B	10/04/16 11:28
281516-025	Endosulfan II	GC30	B	10/04/16 11:28
281516-025	Endosulfan sulfate	GC30	B	10/04/16 11:28
281516-025	4,4'-DDD	GC30	B	10/04/16 11:28
281516-025	Endrin aldehyde	GC30	B	10/04/16 11:28
281516-025	4,4'-DDT	GC30	B	10/04/16 11:28
281516-025	alpha-Chlordane	GC30	B	10/04/16 11:28
281516-025	gamma-Chlordane	GC30	B	10/04/16 11:28
281516-025	Methoxychlor	GC30	B	10/04/16 11:28
281516-025	Toxaphene	GC30	B	10/04/16 11:28
281516-025	TCMX	GC30	B	10/04/16 11:28
281516-025	Decachlorobiphenyl	GC30	B	10/04/16 11:28
281516-026	alpha-BHC	GC30	A	09/30/16 19:52
281516-026	beta-BHC	GC30	A	09/30/16 19:52
281516-026	gamma-BHC	GC30	A	09/30/16 19:52
281516-026	delta-BHC	GC30	A	09/30/16 19:52
281516-026	Heptachlor	GC30	A	09/30/16 19:52
281516-026	Aldrin	GC30	A	09/30/16 19:52
281516-026	Heptachlor epoxide	GC30	A	09/30/16 19:52
281516-026	Endosulfan I	GC30	A	09/30/16 19:52
281516-026	Dieldrin	GC30	A	09/30/16 19:52
281516-026	4,4'-DDE	GC30	A	09/30/16 19:52
281516-026	Endrin	GC30	A	09/30/16 19:52
281516-026	Endosulfan II	GC30	A	09/30/16 19:52
281516-026	Endosulfan sulfate	GC30	A	09/30/16 19:52
281516-026	4,4'-DDD	GC30	A	09/30/16 19:52
281516-026	Endrin aldehyde	GC30	A	09/30/16 19:52
281516-026	4,4'-DDT	GC30	A	09/30/16 19:52
281516-026	alpha-Chlordane	GC30	A	09/30/16 19:52
281516-026	gamma-Chlordane	GC30	A	09/30/16 19:52
281516-026	Methoxychlor	GC30	A	09/30/16 19:52

Sample ID	Analyte	Inst ID	Ch	Date & Time
281516-026	Toxaphene	GC30	A	09/30/16 19:52
281516-026	TCMX	GC30	A	09/30/16 19:52
281516-026	Decachlorobiphenyl	GC30	A	09/30/16 19:52
QC853511	alpha-BHC	GC21	B	09/30/16 15:57
QC853511	beta-BHC	GC21	B	09/30/16 15:57
QC853511	gamma-BHC	GC21	B	09/30/16 15:57
QC853511	delta-BHC	GC21	B	09/30/16 15:57
QC853511	Heptachlor	GC21	B	09/30/16 15:57
QC853511	Aldrin	GC21	B	09/30/16 15:57
QC853511	Heptachlor epoxide	GC21	B	09/30/16 15:57
QC853511	Endosulfan I	GC21	B	09/30/16 15:57
QC853511	Dieldrin	GC21	B	09/30/16 15:57
QC853511	4,4'-DDE	GC21	B	09/30/16 15:57
QC853511	Endrin	GC21	B	09/30/16 15:57
QC853511	Endosulfan II	GC21	B	09/30/16 15:57
QC853511	Endosulfan sulfate	GC21	B	09/30/16 15:57
QC853511	4,4'-DDD	GC21	B	09/30/16 15:57
QC853511	Endrin aldehyde	GC21	B	09/30/16 15:57
QC853511	4,4'-DDT	GC21	B	09/30/16 15:57
QC853511	alpha-Chlordane	GC21	B	09/30/16 15:57
QC853511	gamma-Chlordane	GC21	B	09/30/16 15:57
QC853511	Methoxychlor	GC21	B	09/30/16 15:57
QC853511	Toxaphene	GC21	B	09/30/16 15:57
QC853511	TCMX	GC21	B	09/30/16 15:57
QC853511	Decachlorobiphenyl	GC21	B	09/30/16 15:57
QC853515	gamma-BHC	GC21	B	09/30/16 16:19
QC853515	Heptachlor	GC21	B	09/30/16 16:19
QC853515	Aldrin	GC21	B	09/30/16 16:19
QC853515	Dieldrin	GC21	B	09/30/16 16:19
QC853515	Endrin	GC21	B	09/30/16 16:19
QC853515	4,4'-DDT	GC21	B	09/30/16 16:19
QC853515	TCMX	GC21	B	09/30/16 16:19
QC853515	Decachlorobiphenyl	GC21	B	09/30/16 16:19
QC853516	gamma-BHC	GC21	B	09/30/16 17:03
QC853516	Heptachlor	GC21	B	09/30/16 17:03
QC853516	Aldrin	GC21	B	09/30/16 17:03
QC853516	Dieldrin	GC21	B	09/30/16 17:03
QC853516	Endrin	GC21	B	09/30/16 17:03
QC853516	4,4'-DDT	GC21	B	09/30/16 17:03
QC853516	TCMX	GC21	B	09/30/16 17:03
QC853516	Decachlorobiphenyl	GC21	B	09/30/16 17:03
QC853535	gamma-BHC	GC21	B	09/30/16 17:25
QC853535	Heptachlor	GC21	B	09/30/16 17:25
QC853535	Aldrin	GC21	B	09/30/16 17:25
QC853535	Dieldrin	GC21	B	09/30/16 17:25
QC853535	Endrin	GC21	B	09/30/16 17:25
QC853535	4,4'-DDT	GC21	B	09/30/16 17:25
QC853535	TCMX	GC21	B	09/30/16 17:25
QC853535	Decachlorobiphenyl	GC21	B	09/30/16 17:25

REPORTING SUMMARY FOR 281516 PEST Soil

Sample ID	Analyte	Inst ID	Ch	Date & Time
QC853765	alpha-BHC	GC21	A	09/30/16 11:55
QC853765	beta-BHC	GC21	A	09/30/16 11:55
QC853765	gamma-BHC	GC21	A	09/30/16 11:55
QC853765	delta-BHC	GC21	A	09/30/16 11:55
QC853765	Heptachlor	GC21	A	09/30/16 11:55
QC853765	Aldrin	GC21	A	09/30/16 11:55
QC853765	Heptachlor epoxide	GC21	A	09/30/16 11:55
QC853765	Endosulfan I	GC21	A	09/30/16 11:55
QC853765	Dieldrin	GC21	A	09/30/16 11:55
QC853765	4,4'-DDE	GC21	A	09/30/16 11:55
QC853765	Endrin	GC21	A	09/30/16 11:55
QC853765	Endosulfan II	GC21	A	09/30/16 11:55
QC853765	Endosulfan sulfate	GC21	A	09/30/16 11:55
QC853765	4,4'-DDD	GC21	A	09/30/16 11:55
QC853765	Endrin aldehyde	GC21	A	09/30/16 11:55
QC853765	4,4'-DDT	GC21	A	09/30/16 11:55
QC853765	alpha-Chlordane	GC21	A	09/30/16 11:55
QC853765	gamma-Chlordane	GC21	A	09/30/16 11:55
QC853765	Methoxychlor	GC21	A	09/30/16 11:55
QC853765	Toxaphene	GC21	A	09/30/16 11:55
QC853765	TCMX	GC21	A	09/30/16 11:55
QC853765	Decachlorobiphenyl	GC21	A	09/30/16 11:55
QC853771	gamma-BHC	GC21	B	09/30/16 12:16
QC853771	Heptachlor	GC21	B	09/30/16 12:16
QC853771	Aldrin	GC21	B	09/30/16 12:16
QC853771	Dieldrin	GC21	B	09/30/16 12:16
QC853771	Endrin	GC21	B	09/30/16 12:16
QC853771	4,4'-DDT	GC21	B	09/30/16 12:16
QC853771	TCMX	GC21	B	09/30/16 12:16
QC853771	Decachlorobiphenyl	GC21	B	09/30/16 12:16

Laboratory Job Number 281516

ANALYTICAL REPORT

PCBs

Matrix: Soil

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	239605
Units:	ug/Kg	Received:	09/27/16
Basis:	dry	Prepared:	09/28/16
Diln Fac:	1.000		

Field ID:	HA-23	Moisture:	10%
Type:	SAMPLE	Sampled:	09/26/16
Lab ID:	281516-003	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL	Analyzed
Aroclor-1016	ND	11	2.7	10/06/16
Aroclor-1221	ND	22	7.2	09/29/16
Aroclor-1232	ND	11	3.5	09/29/16
Aroclor-1242	ND	11	3.2	09/29/16
Aroclor-1248	ND	11	3.4	09/29/16
Aroclor-1254	50	11	2.7	09/29/16
Aroclor-1260	49	11	1.7	09/29/16
Aroclor-1262	ND	11	3.1	09/29/16

Surrogate	%REC	Limits	Analyzed
TCMX	98	46-141	10/06/16
Decachlorobiphenyl	90	25-135	09/29/16

Field ID:	HA-28	Moisture:	8%
Type:	SAMPLE	Sampled:	09/26/16
Lab ID:	281516-008	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL	Analyzed
Aroclor-1016	ND	10	2.6	10/06/16
Aroclor-1221	ND	21	7.0	09/29/16
Aroclor-1232	ND	10	3.4	09/29/16
Aroclor-1242	ND	10	3.1	09/29/16
Aroclor-1248	ND	10	3.3	09/29/16
Aroclor-1254	ND	10	2.7	09/29/16
Aroclor-1260	ND	10	1.7	09/29/16
Aroclor-1262	ND	10	3.1	09/29/16

Surrogate	%REC	Limits	Analyzed
TCMX	101	46-141	10/06/16
Decachlorobiphenyl	119	25-135	09/29/16

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	239605
Units:	ug/Kg	Received:	09/27/16
Basis:	dry	Prepared:	09/28/16
Diln Fac:	1.000		

Field ID:	HA-32	Moisture:	7%
Type:	SAMPLE	Sampled:	09/27/16
Lab ID:	281516-012	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL	Analyzed
Aroclor-1016	ND	10	2.5	10/06/16
Aroclor-1221	ND	20	6.8	09/29/16
Aroclor-1232	ND	10	3.3	09/29/16
Aroclor-1242	ND	10	3.1	09/29/16
Aroclor-1248	ND	10	3.3	09/29/16
Aroclor-1254	ND	10	2.6	09/29/16
Aroclor-1260	ND	10	1.6	09/29/16
Aroclor-1262	ND	10	3.0	09/29/16

Surrogate	%REC	Limits	Analyzed
TCMX	99	46-141	10/06/16
Decachlorobiphenyl	102	25-135	09/29/16

Field ID:	HA-35	Moisture:	6%
Type:	SAMPLE	Sampled:	09/27/16
Lab ID:	281516-015	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL	Analyzed
Aroclor-1016	ND	10	2.5	10/06/16
Aroclor-1221	ND	20	6.8	09/29/16
Aroclor-1232	ND	10	3.3	09/29/16
Aroclor-1242	ND	10	3.0	09/29/16
Aroclor-1248	ND	10	3.2	09/29/16
Aroclor-1254	ND	10	2.6	09/29/16
Aroclor-1260	ND	10	1.6	09/29/16
Aroclor-1262	ND	10	3.0	09/29/16

Surrogate	%REC	Limits	Analyzed
TCMX	136	46-141	10/06/16
Decachlorobiphenyl	115	25-135	09/29/16

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	239605
Units:	ug/Kg	Received:	09/27/16
Basis:	dry	Prepared:	09/28/16
Diln Fac:	1.000		

Field ID:	HA-38	Moisture:	16%
Type:	SAMPLE	Sampled:	09/27/16
Lab ID:	281516-018	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL	Analyzed
Aroclor-1016	ND	12	2.8	10/06/16
Aroclor-1221	ND	23	7.7	09/29/16
Aroclor-1232	ND	12	3.7	09/29/16
Aroclor-1242	ND	12	3.5	09/29/16
Aroclor-1248	ND	12	3.7	09/29/16
Aroclor-1254	ND	12	2.9	09/29/16
Aroclor-1260	ND	12	1.9	09/29/16
Aroclor-1262	ND	12	3.4	09/29/16

Surrogate	%REC	Limits	Analyzed
TCMX	101	46-141	10/06/16
Decachlorobiphenyl	88	25-135	09/29/16

Field ID:	HA-39	Moisture:	8%
Type:	SAMPLE	Sampled:	09/27/16
Lab ID:	281516-019	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL	Analyzed
Aroclor-1016	ND	11	2.6	10/06/16
Aroclor-1221	ND	21	7.0	09/29/16
Aroclor-1232	ND	11	3.4	09/29/16
Aroclor-1242	ND	11	3.1	09/29/16
Aroclor-1248	ND	11	3.3	09/29/16
Aroclor-1254	ND	11	2.7	09/29/16
Aroclor-1260	ND	11	1.7	09/29/16
Aroclor-1262	ND	11	3.1	09/29/16

Surrogate	%REC	Limits	Analyzed
TCMX	106	46-141	10/06/16
Decachlorobiphenyl	83	25-135	09/29/16

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	239605
Units:	ug/Kg	Received:	09/27/16
Basis:	dry	Prepared:	09/28/16
Diln Fac:	1.000		

Field ID:	HA-40	Sampled:	09/27/16
Type:	SAMPLE	Analyzed:	09/30/16
Lab ID:	281516-020	Cleanup Method:	EPA 3620B
Moisture:	5%		

Analyte	Result	RL	MDL
Aroclor-1016	ND	10	2.5
Aroclor-1221	ND	20	6.7
Aroclor-1232	ND	10	3.3
Aroclor-1242	ND	10	3.0
Aroclor-1248	ND	10	3.2
Aroclor-1254	ND	10	2.6
Aroclor-1260	ND	10	1.6
Aroclor-1262	ND	10	3.0

Surrogate	%REC	Limits
TCMX	74	46-141
Decachlorobiphenyl	89	25-135

Field ID:	HA-41	Sampled:	09/27/16
Type:	SAMPLE	Analyzed:	09/30/16
Lab ID:	281516-021	Cleanup Method:	EPA 3620B
Moisture:	8%		

Analyte	Result	RL	MDL
Aroclor-1016	ND	11	2.6
Aroclor-1221	ND	21	7.0
Aroclor-1232	ND	11	3.4
Aroclor-1242	ND	11	3.2
Aroclor-1248	ND	11	3.4
Aroclor-1254	ND	11	2.7
Aroclor-1260	ND	11	1.7
Aroclor-1262	ND	11	3.1

Surrogate	%REC	Limits
TCMX	80	46-141
Decachlorobiphenyl	98	25-135

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	239605
Units:	ug/Kg	Received:	09/27/16
Basis:	dry	Prepared:	09/28/16
Diln Fac:	1.000		

Field ID:	HA-42	Sampled:	09/27/16
Type:	SAMPLE	Analyzed:	09/30/16
Lab ID:	281516-022	Cleanup Method:	EPA 3620B
Moisture:	7%		

Analyte	Result	RL	MDL
Aroclor-1016	ND	10	2.5
Aroclor-1221	ND	21	6.9
Aroclor-1232	ND	10	3.3
Aroclor-1242	ND	10	3.1
Aroclor-1248	ND	10	3.3
Aroclor-1254	ND	10	2.6
Aroclor-1260	ND	10	1.7
Aroclor-1262	ND	10	3.0

Surrogate	%REC	Limits
TCMX	75	46-141
Decachlorobiphenyl	88	25-135

Field ID:	HA-43	Sampled:	09/27/16
Type:	SAMPLE	Analyzed:	09/30/16
Lab ID:	281516-023	Cleanup Method:	EPA 3620B
Moisture:	10%		

Analyte	Result	RL	MDL
Aroclor-1016	ND	11	2.6
Aroclor-1221	ND	21	7.1
Aroclor-1232	ND	11	3.4
Aroclor-1242	ND	11	3.2
Aroclor-1248	ND	11	3.4
Aroclor-1254	ND	11	2.7
Aroclor-1260	ND	11	1.7
Aroclor-1262	ND	11	3.1

Surrogate	%REC	Limits
TCMX	89	46-141
Decachlorobiphenyl	100	25-135

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	239605
Units:	ug/Kg	Received:	09/27/16
Basis:	dry	Prepared:	09/28/16
Diln Fac:	1.000		

Field ID:	HA-44	Sampled:	09/27/16
Type:	SAMPLE	Analyzed:	09/30/16
Lab ID:	281516-024	Cleanup Method:	EPA 3620B
Moisture:	14%		

Analyte	Result	RL	MDL
Aroclor-1016	ND	11	2.8
Aroclor-1221	ND	23	7.5
Aroclor-1232	ND	11	3.7
Aroclor-1242	ND	11	3.4
Aroclor-1248	ND	11	3.6
Aroclor-1254	ND	11	2.9
Aroclor-1260	ND	11	1.8
Aroclor-1262	ND	11	3.3

Surrogate	%REC	Limits
TCMX	76	46-141
Decachlorobiphenyl	94	25-135

Field ID:	HA-46	Sampled:	09/27/16
Type:	SAMPLE	Analyzed:	09/30/16
Lab ID:	281516-026	Cleanup Method:	EPA 3620B
Moisture:	17%		

Analyte	Result	RL	MDL
Aroclor-1016	ND	11	2.8
Aroclor-1221	ND	23	7.6
Aroclor-1232	ND	11	3.7
Aroclor-1242	ND	11	3.4
Aroclor-1248	ND	11	3.6
Aroclor-1254	ND	11	2.9
Aroclor-1260	ND	11	1.8
Aroclor-1262	ND	11	3.3

Surrogate	%REC	Limits
TCMX	78	46-141
Decachlorobiphenyl	85	25-135

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Polychlorinated Biphenyls (PCBs)

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8082
Matrix:	Soil	Batch#:	239605
Units:	ug/Kg	Received:	09/27/16
Basis:	dry	Prepared:	09/28/16
Diln Fac:	1.000		

Type:	BLANK	Analyzed:	09/30/16
Lab ID:	QC853511	Cleanup Method:	EPA 3620B

Analyte	Result	RL	MDL
Aroclor-1016	ND	9.7	2.4
Aroclor-1221	ND	19	6.4
Aroclor-1232	ND	9.7	3.1
Aroclor-1242	ND	9.7	2.9
Aroclor-1248	ND	9.7	3.1
Aroclor-1254	ND	9.7	2.5
Aroclor-1260	ND	9.7	1.6
Aroclor-1262	ND	9.7	2.8

Surrogate	%REC	Limits
TCMX	92	46-141
Decachlorobiphenyl	169 *	25-135

*= Value outside of QC limits; see narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8082
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC853512	Batch#:	239605
Matrix:	Soil	Prepared:	09/28/16
Units:	ug/Kg	Analyzed:	09/29/16

Analyte	Spiked	Result	%REC	Limits
Aroclor-1016	164.6	125.2 b	76	64-140
Aroclor-1260	164.6	151.4	92	65-146

Surrogate	%REC	Limits
TCMX	73	46-141
Decachlorobiphenyl	92	25-135

b= See narrative

Curtis & Tompkins, Ltd.

Batch QC Report

Polychlorinated Biphenyls (PCBs)

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3550B
Project#:	106101	Analysis:	EPA 8082
Field ID:	HA-41	Batch#:	239605
MSS Lab ID:	281516-021	Sampled:	09/27/16
Matrix:	Soil	Received:	09/27/16
Units:	ug/Kg	Prepared:	09/28/16
Basis:	dry	Analyzed:	09/29/16
Diln Fac:	1.000		

Type: MS Moisture: 8%
Lab ID: QC853513

Analyte	MSS Result	Spiked	Result	%REC	Limits
Aroclor-1016	<2.605	181.2	157.0 b	87	60-161
Aroclor-1260	<1.703	181.2	189.5	105	42-166

Surrogate	%REC	Limits
TCMX	80	46-141
Decachlorobiphenyl	97	25-135

Type: MSD Moisture: 8%
Lab ID: QC853514

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Aroclor-1016	179.7	142.8 b	79	60-161	9	43
Aroclor-1260	179.7	173.2	96	42-166	8	51

Surrogate	%REC	Limits
TCMX	71	46-141
Decachlorobiphenyl	87	25-135

b= See narrative
RPD= Relative Percent Difference

Confirmation Report for 281516 PCBS Soil
Curtis & Tompkins Laboratories

Units: ug/Kg

Lab ID	Client ID	Analyte	Result	Confirmation	RPD	%D
281516-003	HA-23	Aroclor-1254	49.53	31.32	45	-37
281516-003	HA-23	Aroclor-1260	48.57	39.71	20	-18

Initial & Continuing Calibration Data

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 PCBS Soil: EPA 8082

Inst : GC06
Calnum : 206375008001
Units : pg/uL

Name : 1660_260
Date : 16-SEP-2016 20:40
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	260_020	206375008020	PCB10_2	16-SEP-2016 20:40	S30525
L2	260_021	206375008021	PCB25_5	16-SEP-2016 21:06	S30526
L3	260_022	206375008022	PCB100_20	16-SEP-2016 21:33	S30527
L4	260_023	206375008023	PCB250_50	16-SEP-2016 21:59	S30528
L5	260_024	206375008024	PCB500_100	16-SEP-2016 22:26	S30529
L6	260_025	206375008025	PCB750_150	16-SEP-2016 22:52	S30530
L7	260_026	206375008026	PCB1000_200	16-SEP-2016 23:18	S30531

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Aroclor-1016 Peak # 1	A	376.70	311.76	325.98	381.70	324.92	310.62	282.74	AVRG		0.00302		330.63	11	.99	20	
Aroclor-1016 Peak # 2	A	321.70	369.56	383.79	517.57	449.18	391.06	373.59	AVRG		0.00249		400.92	16	.99	20	
Aroclor-1016 Peak # 3	A	163.50	149.28	170.62	240.22	208.58	210.23	191.24	AVRG		0.00525		190.52	17	.99	20	
Aroclor-1016 Peak # 4	A	203.50	152.56	148.57	186.74	152.92	145.49	132.04	AVRG		0.00624		160.26	16	.99	20	
Aroclor-1016 Peak # 5	A	225.00	161.00	167.70	154.93	200.90	188.53	171.49	AVRG		0.00551		181.36	14	.99	20	
Aroclor-1260 Peak # 1	A	644.80	682.44	734.41	802.45	735.31	674.00	600.81	AVRG		0.00144		696.32	10	.99	20	
Aroclor-1260 Peak # 2	A	550.90	540.80	522.95	475.33	512.38	478.86	427.91	AVRG		0.00199		501.31	9	.99	20	
Aroclor-1260 Peak # 3	A	420.60	370.20	391.06	393.69	421.65	395.73	353.91	AVRG		0.00255		392.41	6	.99	20	
Aroclor-1260 Peak # 4	A	913.40	1017.3	873.98	975.76	954.89	883.27	782.73	AVRG		0.00109		914.47	8	.99	20	
Aroclor-1260 Peak # 5	A	322.20	278.52	321.00	278.14	403.16	376.30	339.96	AVRG		0.00302		331.33	14	.99	20	
TCMX	A	8986.0	7709.2	7939.1	8736.9	7647.0	7357.7	6886.1	AVRG		1.27E-4		7894.6	9	.99	20	
Decachlorobiphenyl	A	9996.5	8348.8	7893.6	7936.4	7624.9	6576.2	5788.3	AVRG		1.29E-4		7737.8	17	.99	20	
Aroclor-1016 Peak # 1	B	252.40	225.24	212.86	179.11	207.95	197.29	188.70	AVRG		0.00478		209.08	12	.99	20	
Aroclor-1016 Peak # 2	B	559.10	527.24	480.32	560.55	502.10	484.06	456.36	AVRG		0.00196		509.96	8	.99	20	
Aroclor-1016 Peak # 3	B	273.30	239.84	230.67	280.57	237.43	226.07	213.75	AVRG		0.00411		243.09	10	.99	20	
Aroclor-1016 Peak # 4	B	180.00	172.40	153.56	182.49	153.04	145.55	135.50	AVRG		0.00624		160.36	11	.99	20	
Aroclor-1016 Peak # 5	B	154.90	170.28	161.33	144.61	169.49	160.79	152.72	AVRG		0.00628		159.16	6	.99	20	
Aroclor-1260 Peak # 1	B	430.60	394.88	421.22	458.84	405.22	395.61	338.57	AVRG		0.00246		406.42	9	.99	20	
Aroclor-1260 Peak # 2	B	307.00	321.36	311.63	242.76	302.72	282.29	257.03	AVRG		0.00346		289.26	10	.99	20	
Aroclor-1260 Peak # 3	B	306.40	268.64	266.61	297.15	270.75	253.29	232.97	AVRG		0.00369		270.83	9	.99	20	
Aroclor-1260 Peak # 4	B	676.00	583.84	574.84	682.12	634.86	591.38	537.10	AVRG		0.00164		611.45	9	.99	20	
Aroclor-1260 Peak # 5	B	259.50	248.00	242.33	308.65	287.44	267.73	246.91	AVRG		0.00376		265.79	9	.99	20	
TCMX	B	7652.5	7479.6	7384.6	8962.8	7906.5	7702.0	7241.3	AVRG		1.29E-4		7761.3	7	.99	20	
Decachlorobiphenyl	B	9029.5	7663.8	7123.7	7398.2	6804.3	5830.8	5158.0	AVRG		1.43E-4		7001.2	18	.99	20	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D
Aroclor-1016 Peak # 1	A	10.000	14	25.000	-6	100.00	-1	250.00	15	500.00	-2	750.00	-6	1000.0	-14
Aroclor-1016 Peak # 2	A	10.000	-20	25.000	-8	100.00	-4	250.00	**29**	500.00	12	750.00	-2	1000.0	-7
Aroclor-1016 Peak # 3	A	10.000	-14	25.000	**-22**	100.00	-10	250.00	**26**	500.00	9	750.00	10	1000.0	0
Aroclor-1016 Peak # 4	A	10.000	**27**	25.000	-5	100.00	-7	250.00	17	500.00	-5	750.00	-9	1000.0	-18
Aroclor-1016 Peak # 5	A	10.000	**24**	25.000	-11	100.00	-8	250.00	-15	500.00	11	750.00	4	1000.0	-5
Aroclor-1260 Peak # 1	A	10.000	-7	25.000	-2	100.00	5	250.00	15	500.00	6	750.00	-3	1000.0	-14
Aroclor-1260 Peak # 2	A	10.000	10	25.000	8	100.00	4	250.00	-5	500.00	2	750.00	-4	1000.0	-15
Aroclor-1260 Peak # 3	A	10.000	7	25.000	-6	100.00	0	250.00	0	500.00	7	750.00	1	1000.0	-10
Aroclor-1260 Peak # 4	A	10.000	0	25.000	11	100.00	-4	250.00	7	500.00	4	750.00	-3	1000.0	-14
Aroclor-1260 Peak # 5	A	10.000	-3	25.000	-16	100.00	-3	250.00	-16	500.00	**22**	750.00	14	1000.0	3
TCMX	A	2.0000	14	5.0000	-2	20.000	1	50.000	11	100.00	-3	150.00	-7	200.00	-13
Decachlorobiphenyl	A	2.0000	**29**	5.0000	8	20.000	2	50.000	3	100.00	-1	150.00	-15	200.00	**-25**
Aroclor-1016 Peak # 1	B	10.000	**21**	25.000	8	100.00	2	250.00	-14	500.00	-1	750.00	-6	1000.0	-10
Aroclor-1016 Peak # 2	B	10.000	10	25.000	3	100.00	-6	250.00	10	500.00	-2	750.00	-5	1000.0	-11
Aroclor-1016 Peak # 3	B	10.000	12	25.000	-1	100.00	-5	250.00	15	500.00	-2	750.00	-7	1000.0	-12
Aroclor-1016 Peak # 4	B	10.000	12	25.000	8	100.00	-4	250.00	14	500.00	-5	750.00	-9	1000.0	-16
Aroclor-1016 Peak # 5	B	10.000	-3	25.000	7	100.00	1	250.00	-9	500.00	6	750.00	1	1000.0	-4
Aroclor-1260 Peak # 1	B	10.000	6	25.000	-3	100.00	4	250.00	13	500.00	0	750.00	-3	1000.0	-17
Aroclor-1260 Peak # 2	B	10.000	6	25.000	11	100.00	8	250.00	-16	500.00	5	750.00	-2	1000.0	-11
Aroclor-1260 Peak # 3	B	10.000	13	25.000	-1	100.00	-2	250.00	10	500.00	0	750.00	-6	1000.0	-14
Aroclor-1260 Peak # 4	B	10.000	11	25.000	-5	100.00	-6	250.00	12	500.00	4	750.00	-3	1000.0	-12
Aroclor-1260 Peak # 5	B	10.000	-2	25.000	-7	100.00	-9	250.00	16	500.00	8	750.00	1	1000.0	-7
TCMX	B	2.0000	-1	5.0000	-4	20.000	-5	50.000	15	100.00	2	150.00	-1	200.00	-7
Decachlorobiphenyl	B	2.0000	**29**	5.0000	9	20.000	2	50.000	6	100.00	-3	150.00	-17	200.00	**-26**

KMH 09/17/16 : Corrected automatically drawn baseline in all levels.

KMH: 09/17/16 * JS1: 09/19/16 EAH: 09/19/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281516 PCBS Soil
EPA 8082

Inst : GC06 Name : 1660_260
Calnum : 206375008001 Cal Date : 16-SEP-2016

ICV 206375008028 (260_028 17-SEP-2016) stds: S30644

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Aroclor-1016	A	250.0	265.1	pg/uL	6	15	
Aroclor-1260	A	250.0	279.3	pg/uL	12	15	
Aroclor-1016	B	250.0	247.7	pg/uL	-1	15	
Aroclor-1260	B	250.0	263.2	pg/uL	5	15	

KMH: 09/17/16 * JCD: 09/19/16 EAH: 09/19/16

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 PCBS Soil: EPA 8082

Inst : GC06
Calnum : 206393691001
Units : pg/uL

Name : 2154_273
Date : 29-SEP-2016 18:25
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	273_014	206393691014	AR2154_500	29-SEP-2016 18:25	S29814

Analyte	Ch	L1	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Aroclor-1221 Peak # 1	A	93.620	AVRG		0.01068		93.620	0	.99	20	
Aroclor-1221 Peak # 2	A	50.904	AVRG		0.01964		50.904	0	.99	20	
Aroclor-1221 Peak # 3	A	240.86	AVRG		0.00415		240.86	0	.99	20	
Aroclor-1221 Peak # 4	A	23.898	AVRG		0.04184		23.898	0	.99	20	
Aroclor-1221 Peak # 5	A	20.146	AVRG		0.04964		20.146	0	.99	20	
Aroclor-1254 Peak # 1	A	266.82	AVRG		0.00375		266.82	0	.99	20	
Aroclor-1254 Peak # 2	A	368.48	AVRG		0.00271		368.48	0	.99	20	
Aroclor-1254 Peak # 3	A	287.87	AVRG		0.00347		287.87	0	.99	20	
Aroclor-1254 Peak # 4	A	459.57	AVRG		0.00218		459.57	0	.99	20	
Aroclor-1254 Peak # 5	A	233.07	AVRG		0.00429		233.07	0	.99	20	
Aroclor-1221 Peak # 1	B	87.928	AVRG		0.01137		87.928	0	.99	20	
Aroclor-1221 Peak # 2	B	63.056	AVRG		0.01586		63.056	0	.99	20	
Aroclor-1221 Peak # 3	B	229.73	AVRG		0.00435		229.73	0	.99	20	
Aroclor-1221 Peak # 4	B	45.612	AVRG		0.02192		45.612	0	.99	20	
Aroclor-1221 Peak # 5	B	17.168	AVRG		0.05825		17.168	0	.99	20	
Aroclor-1254 Peak # 1	B	317.91	AVRG		0.00315		317.91	0	.99	20	
Aroclor-1254 Peak # 2	B	339.33	AVRG		0.00295		339.33	0	.99	20	
Aroclor-1254 Peak # 3	B	220.75	AVRG		0.00453		220.75	0	.99	20	
Aroclor-1254 Peak # 4	B	440.83	AVRG		0.00227		440.83	0	.99	20	
Aroclor-1254 Peak # 5	B	440.15	AVRG		0.00227		440.15	0	.99	20	

Spiked Amounts / Drifts	Ch	L1	%D
Aroclor-1221 Peak # 1	A	500.00	0
Aroclor-1221 Peak # 2	A	500.00	0
Aroclor-1221 Peak # 3	A	500.00	0
Aroclor-1221 Peak # 4	A	500.00	0
Aroclor-1221 Peak # 5	A	500.00	0
Aroclor-1254 Peak # 1	A	500.00	0
Aroclor-1254 Peak # 2	A	500.00	0
Aroclor-1254 Peak # 3	A	500.00	0
Aroclor-1254 Peak # 4	A	500.00	0
Aroclor-1254 Peak # 5	A	500.00	0
Aroclor-1221 Peak # 1	B	500.00	0
Aroclor-1221 Peak # 2	B	500.00	0
Aroclor-1221 Peak # 3	B	500.00	0
Aroclor-1221 Peak # 4	B	500.00	0
Aroclor-1221 Peak # 5	B	500.00	0
Aroclor-1254 Peak # 1	B	500.00	0
Aroclor-1254 Peak # 2	B	500.00	0
Aroclor-1254 Peak # 3	B	500.00	0
Aroclor-1254 Peak # 4	B	500.00	0
Aroclor-1254 Peak # 5	B	500.00	0

JS1 09/30/16 : Corrected automatically drawn baseline in AR2154_500 (273_014).

Analyst: JS1 Date: 09/30/16 Reviewer: EAH Date: 09/30/16

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 PCBS Soil: EPA 8082

Inst : GC25
Calnum : 826379141001
Units : pg/uL

Name : 1660_263
Date : 19-SEP-2016 08:23
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	263_004	826379141004	PCB10_2	19-SEP-2016 08:23	S30525
L2	263_005	826379141005	PCB25_5	19-SEP-2016 08:50	S30526
L3	263_006	826379141006	PCB100_20	19-SEP-2016 09:17	S30527
L4	263_007	826379141007	PCB250_50	19-SEP-2016 09:45	S30528
L5	263_008	826379141008	PCB500_100	19-SEP-2016 10:12	S30529
L6	263_009	826379141009	PCB750_150	19-SEP-2016 10:39	S30530
L7	263_010	826379141010	PCB1000_200	19-SEP-2016 11:07	S30531

Analyte	Ch	L1	L2	L3	L4	L5	L6	L7	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	MxRSD	Flg
Aroclor-1016 Peak # 1	A	39.200	42.280	44.680	43.660	42.200	41.220	40.224	AVRG		0.02385		41.923	5	.99	20	
Aroclor-1016 Peak # 2	A	41.200	50.040	55.630	58.192	54.578	60.172	60.524	AVRG		0.01840		54.334	13	.99	20	
Aroclor-1016 Peak # 3	A	13.900	16.400	17.700	18.216	16.634	20.169	21.693	AVRG		0.05613		17.816	14	.99	20	
Aroclor-1016 Peak # 4	A	44.500	59.920	37.060	33.620	33.146	32.909	33.051	LINR	-11.275	0.03071		39.172	1.000	.99	20	
Aroclor-1016 Peak # 5	A	9.1000	3.2800	13.290	16.796	17.422	16.559	17.223	LINR	13.3936	0.05768		13.381	0.999	.99	20	
Aroclor-1260 Peak # 1	A	66.900	65.600	67.840	77.092	76.058	73.520	81.314	AVRG		0.01377		72.618	8	.99	20	
Aroclor-1260 Peak # 2	A	65.800	71.520	72.070	63.932	67.834	77.789	83.406	AVRG		0.01393		71.764	10	.99	20	
Aroclor-1260 Peak # 3	A	36.800	45.080	50.780	51.592	49.188	47.508	49.274	AVRG		0.02120		47.175	11	.99	20	
Aroclor-1260 Peak # 4	A	131.30	131.00	126.33	123.58	128.76	133.83	148.51	AVRG		0.00758		131.90	6	.99	20	
Aroclor-1260 Peak # 5	A	76.100	65.480	61.360	60.348	57.874	58.848	61.456	AVRG		0.01586		63.067	10	.99	20	
TCMX	A	1621.0	1668.0	1590.7	1636.4	1838.1	1971.6	2122.1	AVRG		5.62E-4		1778.3	12	.99	20	
Decachlorobiphenyl	A	1828.0	1751.8	1615.6	1641.4	1787.8	1927.9	2106.0	AVRG		5.53E-4		1808.3	9	.99	20	
Aroclor-1016 Peak # 1	B	39.000	24.600	12.820	1.2160	0.2860	2.0320	1.1770	AVRG		0.08628		11.590	**130**	.99	20	rsd ***
Aroclor-1016 Peak # 2	B	4.5000	43.800	6.7600	3.4000	0.2280	3.0133	1.9950	AVRG		0.10990		9.0995	**170**	.99	20	rsd ***
Aroclor-1016 Peak # 3	B	2.8000	11.880	0.2500	0.2040	0.0600	2.9507	1.0670	AVRG		0.36436		2.7445	**153**	.99	20	rsd ***
Aroclor-1016 Peak # 4	B	1.6000	7.6400	0.5000	0.2280	0.6640	11.351	4.5610	AVRG		0.26372		3.7920	**113**	.99	20	rsd ***
Aroclor-1016 Peak # 5	B	6.1000	2.7200	0.5500	0.2120	0.1420	1.1413	0.6980	AVRG		0.60536		1.6519	**130**	.99	20	rsd ***
Aroclor-1260 Peak # 1	B	4.6000	4.0400	2.3100	0.8880	0.7240	15.331	0.3970	AVRG		0.24744		4.0414	**130**	.99	20	rsd ***
Aroclor-1260 Peak # 2	B	3.1000	0.4000	2.1400	0.6600	1.4300	1.1187	0.7180	AVRG		0.73171		1.3667	**70**	.99	20	rsd ***
Aroclor-1260 Peak # 3	B	5.0000	1.0000	2.4800	7.1600	6.8720	8.4733	7.4740	AVRG		0.18201		5.4942	**51**	.99	20	rsd ***
Aroclor-1260 Peak # 4	B	3.4000	0.9200	0.5600	0.2480	0.3100	0.7160	0.1790	AVRG		1.10532		0.9047	**125**	.99	20	rsd ***
Aroclor-1260 Peak # 5	B	1.0000	3.2400	0.5000	0.4480	1.5900	0.2840	1.3080	AVRG		0.83632		1.1957	**85**	.99	20	rsd ***
TCMX	B	402.50	205.60	251.55	275.34	118.40	204.51	191.33	AVRG		0.00424		235.60	**38**	.99	20	rsd ***
Decachlorobiphenyl	B	62.000	34.800	196.90	235.38	187.41	162.90	173.71	AVRG		0.00665		150.44	**49**	.99	20	rsd ***

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D	L6	%D	L7	%D
Aroclor-1016 Peak # 1	A	10.000	-6	25.000	1	100.00	7	250.00	4	500.00	1	750.00	-2	1000.0	-4
Aroclor-1016 Peak # 2	A	10.000	**-24**	25.000	-8	100.00	2	250.00	7	500.00	0	750.00	11	1000.0	11
Aroclor-1016 Peak # 3	A	10.000	**-22**	25.000	-8	100.00	-1	250.00	2	500.00	-7	750.00	13	1000.0	**22**
Aroclor-1016 Peak # 4	A	10.000	**-76**	25.000	**39**	100.00	3	250.00	-1	500.00	0	750.00	0	1000.0	0
Aroclor-1016 Peak # 5	A	10.000	**86**	25.000	**-28**	100.00	-10	250.00	2	500.00	3	750.00	-3	1000.0	1
Aroclor-1260 Peak # 1	A	10.000	-8	25.000	-10	100.00	-7	250.00	6	500.00	5	750.00	1	1000.0	12
Aroclor-1260 Peak # 2	A	10.000	-8	25.000	0	100.00	0	250.00	-11	500.00	-5	750.00	8	1000.0	16
Aroclor-1260 Peak # 3	A	10.000	**-22**	25.000	-4	100.00	8	250.00	9	500.00	4	750.00	1	1000.0	4
Aroclor-1260 Peak # 4	A	10.000	0	25.000	-1	100.00	-4	250.00	-6	500.00	-2	750.00	1	1000.0	13
Aroclor-1260 Peak # 5	A	10.000	**21**	25.000	4	100.00	-3	250.00	-4	500.00	-8	750.00	-7	1000.0	-3
TCMX	A	2.0000	-9	5.0000	-6	20.000	-11	50.000	-8	100.00	3	150.00	11	200.00	19
Decachlorobiphenyl	A	2.0000	1	5.0000	-3	20.000	-11	50.000	-9	100.00	-1	150.00	7	200.00	16
Aroclor-1016 Peak # 1	B	10.000	**236**	25.000	**112**	100.00	11	250.00	**-90**	500.00	**-98**	750.00	**-82**	1000.0	**-90**
Aroclor-1016 Peak # 2	B	10.000	**-51**	25.000	**381**	100.00	**-26**	250.00	**-63**	500.00	**-97**	750.00	**-67**	1000.0	**-78**
Aroclor-1016 Peak # 3	B	10.000	2	25.000	**333**	100.00	**-91**	250.00	**-93**	500.00	**-98**	750.00	8	1000.0	**-61**
Aroclor-1016 Peak # 4	B	10.000	**-58**	25.000	**101**	100.00	**-87**	250.00	**-94**	500.00	**-82**	750.00	**199**	1000.0	20
Aroclor-1016 Peak # 5	B	10.000	**269**	25.000	**65**	100.00	**-67**	250.00	**-87**	500.00	**-91**	750.00	**-31**	1000.0	**-58**
Aroclor-1260 Peak # 1	B	10.000	14	25.000	0	100.00	**-43**	250.00	**-78**	500.00	**-82**	750.00	**279**	1000.0	**-90**
Aroclor-1260 Peak # 2	B	10.000	**127**	25.000	**-71**	100.00	**57**	250.00	**-52**	500.00	5	750.00	-18	1000.0	**-47**
Aroclor-1260 Peak # 3	B	10.000	-9	25.000	**-82**	100.00	**-55**	250.00	**30**	500.00	**25**	750.00	**54**	1000.0	**36**
Aroclor-1260 Peak # 4	B	10.000	**276**	25.000	2	100.00	**-38**	250.00	**-73**	500.00	**-66**	750.00	**-21**	1000.0	**-80**
Aroclor-1260 Peak # 5	B	10.000	-16	25.000	**171**	100.00	**-58**	250.00	**-63**	500.00	**33**	750.00	**-76**	1000.0	9
TCMX	B	2.0000	**71**	5.0000	-13	20.000	7	50.000	17	100.00	**-50**	150.00	-13	200.00	-19
Decachlorobiphenyl	B	2.0000	**-59**	5.0000	**-77**	20.000	**31**	50.000	**56**	100.00	**25**	150.00	8	200.00	15

JS1 09/19/16 : Corrected automatically drawn baseline in all levels.

JS1 09/19/16 : Ch. B not used.

Analyst: JS1 Date: 09/19/16 Reviewer: EAH Date: 09/19/16

rsd=ICAL %RSD failure

Instrument amount = a0 + response * a1 + response^2 * a2; AVRG=Average response factor; LINR=Linear regression

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281516 PCBS Soil
EPA 8082

Inst : GC25 Name : 1660_263
Calnum : 826379141001 Cal Date : 19-SEP-2016

ICV 826379141012 (263_012 19-SEP-2016) stds: S30644

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Aroclor-1016	A	250.0	250.0	pg/uL	0	15	
Aroclor-1260	A	250.0	241.8	pg/uL	-3	15	
Aroclor-1016	B	250.0	46.19	pg/uL	**-82**	15	
Aroclor-1260	B	250.0	93.45	pg/uL	**-63**	15	

Analyst: JS1 Date: 09/19/16 Reviewer: EAH Date: 09/19/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PCBS Soil
EPA 8082

Inst : GC06 Run Name : PCB500_100 IDF : 1.0
Seqnum : 206393691016.1 File : 273_016 Time : 29-SEP-2016 19:18
Cal : 206375008001 Caldate : 16-SEP-2016
Standards: S30881

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Aroclor-1016	A			500.0	397.0	pg/uL	**-21**	15	c- ***
Aroclor-1260	A			500.0	443.6	pg/uL	-11	15	
TCMX	A	7894.6	6461.4	100.0	81.85	pg/uL	**-18**	15	c-
Decachlorobiphenyl	A	7737.8	6710.8	100.0	86.73	pg/uL	-13	15	
Aroclor-1016	B			500.0	403.6	pg/uL	**-19**	15	c- ***
Aroclor-1260	B			500.0	407.5	pg/uL	**-19**	15	c- ***
TCMX	B	7761.3	6524.1	100.0	84.06	pg/uL	**-16**	15	c-
Decachlorobiphenyl	B	7001.2	5837.6	100.0	83.38	pg/uL	**-17**	15	c-

JS1 09/30/16 : Corrected automatically drawn baseline.

Analyst: JS1 Date: 09/30/16 Reviewer: EAH Date: 09/30/16

-=low bias c=CCV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PCBS Soil
EPA 8082

Inst : GC06 Run Name : PCB500_100 IDF : 1.0
Seqnum : 206393691027 File : 273_027 Time : 30-SEP-2016 00:08
Cal : 206375008001 Caldate : 16-SEP-2016
Standards: S30881

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Aroclor-1016	A			500.0	449.0	pg/uL	-10	15	
Aroclor-1260	A			500.0	510.9	pg/uL	2	15	
TCMX	A	7894.6	7036.6	100.0	89.13	pg/uL	-11	15	
Decachlorobiphenyl	A	7737.8	7588.8	100.0	98.07	pg/uL	-2	15	
Aroclor-1016	B			500.0	447.7	pg/uL	-10	15	
Aroclor-1260	B			500.0	488.4	pg/uL	-2	15	
TCMX	B	7761.3	7254.9	100.0	93.47	pg/uL	-7	15	
Decachlorobiphenyl	B	7001.2	6941.5	100.0	99.15	pg/uL	-1	15	

JS1 09/30/16 : Corrected automatically drawn baseline.

Analyst: JS1 Date: 09/30/16 Reviewer: EAH Date: 09/30/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PCBS Soil
EPA 8082

Inst : GC06 Run Name : AR2154_500 IDF : 1.0
Seqnum : 206393691029 File : 273_029 Time : 30-SEP-2016 01:01
Cal : 206393691001 Caldate : 29-SEP-2016
Standards: S29814

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Aroclor-1221	A	500.0	526.4	pg/uL	5	15	?v
Aroclor-1254	A	500.0	511.0	pg/uL	2	15	?v
Aroclor-1221	B	500.0	513.3	pg/uL	3	15	?v
Aroclor-1254	B	500.0	512.6	pg/uL	3	15	?v

JS1 09/30/16 : Corrected automatically drawn baseline.

Analyst: JS1 Date: 09/30/16 Reviewer: EAH Date: 09/30/16

?=missing v=ICV out

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PCBS Soil
EPA 8082

Inst : GC06 Run Name : PCB500_100 IDF : 1.0
Seqnum : 206393691031 File : 273_031 Time : 30-SEP-2016 01:54
Cal : 206375008001 Caldate : 16-SEP-2016
Standards: S30881

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Aroclor-1016	A			500.0	452.4	pg/uL	-10	15	
Aroclor-1260	A			500.0	489.8	pg/uL	-2	15	
TCMX	A	7894.6	7358.4	100.0	93.21	pg/uL	-7	15	
Decachlorobiphenyl	A	7737.8	7284.1	100.0	94.14	pg/uL	-6	15	
Aroclor-1016	B			500.0	448.0	pg/uL	-10	15	
Aroclor-1260	B			500.0	472.3	pg/uL	-6	15	
TCMX	B	7761.3	7516.4	100.0	96.84	pg/uL	-3	15	
Decachlorobiphenyl	B	7001.2	6510.5	100.0	92.99	pg/uL	-7	15	

JS1 09/30/16 : Corrected automatically drawn baseline.

Analyst: JS1 Date: 09/30/16 Reviewer: EAH Date: 09/30/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PCBS Soil
EPA 8082

Inst : GC06 Run Name : PCB500_100 IDF : 1.0
Seqnum : 206393691044 File : 273_044 Time : 30-SEP-2016 07:37
Cal : 206375008001 Caldate : 16-SEP-2016
Standards: S30881

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Aroclor-1016	A			500.0	441.9	pg/uL	-12	15	
Aroclor-1260	A			500.0	497.8	pg/uL	0	15	
TCMX	A	7894.6	7242.0	100.0	91.73	pg/uL	-8	15	
Decachlorobiphenyl	A	7737.8	6997.7	100.0	90.43	pg/uL	-10	15	
Aroclor-1016	B			500.0	464.4	pg/uL	-7	15	
Aroclor-1260	B			500.0	470.1	pg/uL	-6	15	
TCMX	B	7761.3	7541.3	100.0	97.16	pg/uL	-3	15	
Decachlorobiphenyl	B	7001.2	6529.1	100.0	93.26	pg/uL	-7	15	

JS1 09/30/16 : Corrected automatically drawn baseline.

Analyst: JS1 Date: 09/30/16 Reviewer: EAH Date: 09/30/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PCBS Soil
EPA 8082

Inst : GC06 Run Name : PCB500_100 IDF : 1.0
Seqnum : 206395163002 File : 274_002 Time : 30-SEP-2016 10:29
Cal : 206375008001 Caldate : 16-SEP-2016
Standards: S30881

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Aroclor-1016	A			500.0	473.9	pg/uL	-5	15	
Aroclor-1260	A			500.0	546.9	pg/uL	9	15	
TCMX	A	7894.6	7418.5	100.0	93.97	pg/uL	-6	15	
Decachlorobiphenyl	A	7737.8	8247.6	100.0	106.6	pg/uL	7	15	
Aroclor-1016	B			500.0	474.9	pg/uL	-5	15	
Aroclor-1260	B			500.0	517.8	pg/uL	4	15	
TCMX	B	7761.3	7651.1	100.0	98.58	pg/uL	-1	15	
Decachlorobiphenyl	B	7001.2	7556.8	100.0	107.9	pg/uL	8	15	

JS1 09/30/16 : Corrected automatically drawn baseline.

Analyst: JS1 Date: 09/30/16 Reviewer: EAH Date: 09/30/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PCBS Soil
EPA 8082

Inst : GC06 Run Name : PCB500_100 IDF : 1.0
Seqnum : 206395163005 File : 274_005 Time : 30-SEP-2016 11:55
Cal : 206375008001 Caldate : 16-SEP-2016
Standards: S30881

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Aroclor-1016	A			500.0	447.0	pg/uL	-11	15	
Aroclor-1260	A			500.0	479.7	pg/uL	-4	15	
TCMX	A	7894.6	7048.8	100.0	89.29	pg/uL	-11	15	
Decachlorobiphenyl	A	7737.8	7140.3	100.0	92.28	pg/uL	-8	15	
Aroclor-1016	B			500.0	454.6	pg/uL	-9	15	
Aroclor-1260	B			500.0	452.1	pg/uL	-10	15	
TCMX	B	7761.3	7308.1	100.0	94.16	pg/uL	-6	15	
Decachlorobiphenyl	B	7001.2	6510.7	100.0	92.99	pg/uL	-7	15	

JS1 09/30/16 : Corrected automatically drawn baseline.

Analyst: JS1 Date: 09/30/16 Reviewer: EAH Date: 09/30/16

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PCBS Soil
EPA 8082

Inst : GC25 Run Name : PCB500_100 IDF : 1.0
Seqnum : 826403658009 File : 280_009 Time : 06-OCT-2016 12:03
Cal : 826379141001 Caldate : 19-SEP-2016
Standards: S30881

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Aroclor-1016	A			500.0	448.8	pg/uL	-10	15	
Aroclor-1260	A			500.0	455.6	pg/uL	-9	15	
TCMX	A	1778.3	1916.4	100.0	107.8	pg/uL	8	15	
Decachlorobiphenyl	A	1808.3	1347.3	100.0	74.50	pg/uL	**-25**	15	c-
Aroclor-1016	B			500.0	26.84	pg/uL	**-95**	15	c- rsd v- ***
Aroclor-1260	B			500.0	14.91	pg/uL	**-97**	15	c- rsd v- ***
TCMX	B	235.60	0.0000	100.0	0	pg/uL	**-100**	15	c- rsd ***
Decachlorobiphenyl	B	150.44	0.0000	100.0	0	pg/uL	**-100**	15	c- rsd ***

JS1 10/06/16 : Corrected automatically drawn baseline.

TKM 10/07/16 : Only using Ch.A

Analyst: JS1 Date: 10/06/16 Reviewer: TKM Date: 10/06/16

-=low bias c=CCV rsd=ICAL %RSD failure v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PCBS Soil
EPA 8082

Inst : GC25 Run Name : PCB500_100 IDF : 1.0
Seqnum : 826403658014 File : 280_014 Time : 06-OCT-2016 18:56
Cal : 826379141001 Caldate : 19-SEP-2016
Standards: S30881

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Aroclor-1016	A			500.0	480.6	pg/uL	-4	15	
Aroclor-1260	A			500.0	450.0	pg/uL	-10	15	
TCMX	A	1778.3	1867.1	100.0	105.0	pg/uL	5	15	
Decachlorobiphenyl	A	1808.3	1376.7	100.0	76.13	pg/uL	**-24**	15	c-
Aroclor-1016	B			500.0	22.99	pg/uL	**-95**	15	c- rsd v- ***
Aroclor-1260	B			500.0	13.87	pg/uL	**-97**	15	c- rsd v- ***
TCMX	B	235.60	0.0000	100.0	0	pg/uL	**-100**	15	c- rsd ***
Decachlorobiphenyl	B	150.44	0.0000	100.0	0	pg/uL	**-100**	15	c- rsd ***

JS1 10/07/16 : Corrected automatically drawn baseline.

TKM 10/07/16 : Only using Ch.A

Analyst: JS1 Date: 10/07/16 Reviewer: TKM Date: 10/07/16

-=low bias c=CCV rsd=ICAL %RSD failure v=ICV

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 PCBS Soil
EPA 8082

Inst : GC25 Run Name : PCB500_100 IDF : 1.0
Seqnum : 826403658025 File : 280_025 Time : 06-OCT-2016 23:57
Cal : 826379141001 Caldate : 19-SEP-2016
Standards: S30881

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Aroclor-1016	A			500.0	539.0	pg/uL	8	15	
Aroclor-1260	A			500.0	445.4	pg/uL	-11	15	
TCMX	A	1778.3	1953.3	100.0	109.8	pg/uL	10	15	
Decachlorobiphenyl	A	1808.3	1402.0	100.0	77.53	pg/uL	**-22**	15	c-
Aroclor-1016	B			500.0	43.36	pg/uL	**-91**	15	c- rsd v- ***
Aroclor-1260	B			500.0	97.15	pg/uL	**-81**	15	c- rsd v- ***
TCMX	B	235.60	0.0000	100.0	0	pg/uL	**-100**	15	c- rsd ***
Decachlorobiphenyl	B	150.44	0.0000	100.0	0	pg/uL	**-100**	15	c- rsd ***

JS1 10/07/16 : Corrected automatically drawn baseline.

TKM 10/07/16 : Only using Ch.A

Analyst: JS1 Date: 10/07/16 Reviewer: TKM Date: 10/07/16

-=low bias c=CCV rsd=ICAL %RSD failure v=ICV

Logbooks & Sequences

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 206375008

Instrument : GC06 Begun : 09/16/16 10:08
Method : EPA 8082 SOP Version : pcb_rv11

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	260_001	X	HEX			09/16/16 10:08	1.0		
002	260_002	CCV	PCB250_50			09/16/16 10:35	1.0	1	
003	260_003	X	HEX			09/16/16 11:23	1.0		
004	260_004	X	HEX			09/16/16 11:49	1.0		
005	260_005	X	HEX			09/16/16 12:15	1.0		
006	260_006	IB	CALIB			09/16/16 12:42	1.0		
007	260_007	ICAL	PCB10_2			09/16/16 13:08	1.0	2	
008	260_008	ICAL	PCB25_5			09/16/16 13:35	1.0	3	
009	260_009	ICAL	PCB100_20			09/16/16 14:01	1.0	4	
010	260_010	ICAL	PCB250_50			09/16/16 14:27	1.0	1	
011	260_011	ICAL	PCB500_100			09/16/16 14:54	1.0	5	
012	260_012	ICAL	PCB750_150			09/16/16 15:20	1.0	6	
013	260_013	ICAL	PCB1000_200			09/16/16 15:47	1.0	7	
014	260_014	X	HEX			09/16/16 16:13	1.0		
015	260_015	ICV	PCB250_50			09/16/16 16:39	1.0	8	
016	260_016	X	HEX			09/16/16 18:54	1.0		
017	260_017	X	HEX			09/16/16 19:21	1.0		
018	260_018	X	HEX			09/16/16 19:47	1.0		
019	260_019	IB	CALIB			09/16/16 20:14	1.0		
020	260_020	ICAL	PCB10_2			09/16/16 20:40	1.0	2	
021	260_021	ICAL	PCB25_5			09/16/16 21:06	1.0	3	
022	260_022	ICAL	PCB100_20			09/16/16 21:33	1.0	4	
023	260_023	ICAL	PCB250_50			09/16/16 21:59	1.0	1	
024	260_024	ICAL	PCB500_100			09/16/16 22:26	1.0	5	
025	260_025	ICAL	PCB750_150			09/16/16 22:52	1.0	6	
026	260_026	ICAL	PCB1000_200			09/16/16 23:18	1.0	7	
027	260_027	X	HEX			09/16/16 23:45	1.0		
028	260_028	ICV	PCB250_50			09/17/16 00:11	1.0	8	
029	260_029	X	HEX			09/17/16 00:38	1.0		
030	260_030	X	PCB250_50			09/17/16 01:04	1.0	8	

KMH 09/17/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 30.

Standards used: 1=S30528 2=S30525 3=S30526 4=S30527 5=S30529 6=S30530 7=S30531 8=S30644

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 206393691

Instrument : GC06 Begun : 09/29/16 09:31
Method : EPA 8082 SOP Version : pcb_rv11

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	273_001	X	HEX			09/29/16 09:31	1.0	
002	273_002	CCV	PCB500_100			09/29/16 09:58	1.0	1
003	273_003	CCV	AR2154_500			09/29/16 10:24	1.0	2
004	273_004	CCV	AR1268_250			09/29/16 11:36	1.0	3
005	273_005	SAMPLE	281495-001	Water	239596	09/29/16 12:03	1.0	
006	273_006	SAMPLE	281500-001	Water	239596	09/29/16 12:29	1.0	
007	273_007	BLANK	QC853482	Water	239596	09/29/16 12:55	1.0	
008	273_008	BS	QC853483	Water	239596	09/29/16 13:22	1.0	
009	273_009	BSD	QC853484	Water	239596	09/29/16 13:48	1.0	
010	273_010	CCV	PCB500_100			09/29/16 14:23	1.0	1
011	273_011	X	HEX			09/29/16 15:29	1.0	
012	273_012	XCCV	PCB500_100			09/29/16 15:55	1.0	1
013	273_013	CCV	AR1262_250			09/29/16 17:59	1.0	4
014	273_014	ICAL	AR2154_500			09/29/16 18:25	1.0	2
015	273_015	CCV	AR1248_250			09/29/16 18:52	1.0	5
016	273_016	CCV	PCB500_100			09/29/16 19:18	1.0	1
017	273_017	BLANK	QC853511	Soil	239605	09/29/16 19:44	1.0	
018	273_018	LCS	QC853512	Soil	239605	09/29/16 20:11	1.0	
019	273_019	MS	QC853513	Soil	239605	09/29/16 20:37	1.0	
020	273_020	MSD	QC853514	Soil	239605	09/29/16 21:04	1.0	
021	273_021	SAMPLE	281516-003	Soil	239605	09/29/16 21:30	1.0	
022	273_022	SAMPLE	281516-008	Soil	239605	09/29/16 21:56	1.0	
023	273_023	SAMPLE	281516-012	Soil	239605	09/29/16 22:23	1.0	
024	273_024	SAMPLE	281516-015	Soil	239605	09/29/16 22:49	1.0	
025	273_025	SAMPLE	281516-018	Soil	239605	09/29/16 23:16	1.0	
026	273_026	SAMPLE	281516-019	Soil	239605	09/29/16 23:42	1.0	
027	273_027	CCV	PCB500_100			09/30/16 00:08	1.0	1
028	273_028	CCV	AR1262_250			09/30/16 00:35	1.0	4
029	273_029	CCV	AR2154_500			09/30/16 01:01	1.0	2
030	273_030	CCV	AR1248_250			09/30/16 01:27	1.0	5
031	273_031	CCV	PCB500_100			09/30/16 01:54	1.0	1
032	273_032	SAMPLE	281516-020	Soil	239605	09/30/16 02:20	1.0	
033	273_033	MSS	281516-021	Soil	239605	09/30/16 02:47	1.0	
034	273_034	SAMPLE	281516-022	Soil	239605	09/30/16 03:13	1.0	
035	273_035	SAMPLE	281516-023	Soil	239605	09/30/16 03:39	1.0	
036	273_036	SAMPLE	281516-024	Soil	239605	09/30/16 04:06	1.0	
037	273_037	SAMPLE	281516-026	Soil	239605	09/30/16 04:32	1.0	
038	273_038	SAMPLE	281528-001	Soil	239605	09/30/16 04:58	1.0	
039	273_039	SAMPLE	281528-002	Soil	239605	09/30/16 05:25	1.0	
040	273_040	XCCV	PCB500_100			09/30/16 05:51	1.0	1
041	273_041	CCV	AR1262_250			09/30/16 06:18	1.0	4
042	273_042	CCV	AR2154_500			09/30/16 06:44	1.0	2
043	273_043	CCV	AR1248_250			09/30/16 07:10	1.0	5
044	273_044	CCV	PCB500_100			09/30/16 07:37	1.0	1

JS1 09/30/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 44.

Standards used: 1=S30881 2=S29814 3=S30001 4=S30521 5=S30578

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 206395163

Instrument : GC06 Begun : 09/30/16 10:03
Method : EPA 8082 SOP Version : pcb_rv11

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	274_001	X	HEX			09/30/16 10:03	1.0		
002	274_002	CCV	PCB500_100			09/30/16 10:29	1.0	1	
003	274_003	CCV	AR2154_500			09/30/16 10:55	1.0	2	
004	274_004	BLANK	QC853511	Soil	239605	09/30/16 11:28	1.0		
005	274_005	CCV	PCB500_100			09/30/16 11:55	1.0	1	
006	274_006	BLANK	QC853765	Soil	239670	09/30/16 12:24	1.0		
007	274_007	LCS	QC853766	Soil	239670	09/30/16 12:50	1.0		
008	274_008	MS	QC853767	Soil	239670	09/30/16 13:17	1.0		
009	274_009	MSD	QC853768	Soil	239670	09/30/16 13:43	1.0		
010	274_010	BLANK	QC853604	Soil	239624	09/30/16 14:10	1.0		
011	274_011	CCV	PCB500_100			09/30/16 14:36	1.0	1	
012	274_012	BLANK	QC853604	Soil	239624	09/30/16 15:32	1.0		
013	274_013	CCV	PCB500_100			09/30/16 15:59	1.0	1	
014	274_014	ICAL	AR1268_250			09/30/16 18:14	1.0	3	
015	274_015	ICAL	AR2154_500			09/30/16 18:40	1.0	2	
016	274_016	CCV	AR1248_250			09/30/16 19:06	1.0	4	
017	274_017	CCV	AR1242_250			09/30/16 19:33	1.0	5	
018	274_018	CCV	PCB500_100			09/30/16 19:59	1.0	1	
019	274_019	BLANK	QC853739	Miscell.	239662	09/30/16 20:26	1.0		
020	274_020	BS	QC853740	Miscell.	239662	09/30/16 20:52	1.0		
021	274_021	BSD	QC853741	Miscell.	239662	09/30/16 21:18	1.0		
022	274_022	SAMPLE	281496-001	Soil	239662	09/30/16 21:45	1.0		
023	274_023	SAMPLE	281545-001	Miscell.	239662	09/30/16 22:11	10.0		diluted (client history)
024	274_024	SAMPLE	281545-002	Miscell.	239662	09/30/16 22:38	10.0		diluted (client history)
025	274_025	SAMPLE	281545-003	Miscell.	239662	09/30/16 23:04	10.0		diluted (client history)
026	274_026	SAMPLE	281545-004	Miscell.	239662	09/30/16 23:30	10.0		diluted (client history)
027	274_027	SAMPLE	281545-005	Miscell.	239662	09/30/16 23:57	10.0		diluted (client history)
028	274_028	SAMPLE	281545-006	Miscell.	239662	10/01/16 00:23	10.0		diluted (client history)
029	274_029	SAMPLE	281545-007	Miscell.	239662	10/01/16 00:50	10.0		diluted (client history)
030	274_030	SAMPLE	281632-001	Soil	239670	10/01/16 01:16	1.0		
031	274_031	SAMPLE	281632-002	Soil	239670	10/01/16 01:42	1.0		
032	274_032	CCV	PCB500_100			10/01/16 02:09	1.0	1	
033	274_033	CCV	AR1268_250			10/01/16 02:35	1.0	3	
034	274_034	CCV	AR2154_500			10/01/16 03:01	1.0	2	
035	274_035	CCV	AR1248_250			10/01/16 03:28	1.0	4	
036	274_036	CCV	AR1242_250			10/01/16 03:54	1.0	5	
037	274_037	XCCV	PCB500_100			10/01/16 04:21	1.0	1	

JS1 10/03/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 37.

Standards used: 1=S30881 2=S29814 3=S30001 4=S30578 5=S30579

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 826379141

Instrument : GC25 Begun : 09/19/16 07:01
Method : EPA 8082 SOP Version : pcb_rv11

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	263_001	X	HEX			09/19/16 07:01	1.0		
002	263_002	X	HEX			09/19/16 07:28	1.0		
003	263_003	IB	CALIB			09/19/16 07:55	1.0		
004	263_004	ICAL	PCB10_2			09/19/16 08:23	1.0	1	
005	263_005	ICAL	PCB25_5			09/19/16 08:50	1.0	2	
006	263_006	ICAL	PCB100_20			09/19/16 09:17	1.0	3	
007	263_007	ICAL	PCB250_50			09/19/16 09:45	1.0	4	
008	263_008	ICAL	PCB500_100			09/19/16 10:12	1.0	5	
009	263_009	ICAL	PCB750_150			09/19/16 10:39	1.0	6	
010	263_010	ICAL	PCB1000_200			09/19/16 11:07	1.0	7	
011	263_011	X	HEX			09/19/16 11:34	1.0		
012	263_012	ICV	PCB250_50			09/19/16 12:01	1.0	8	
013	263_013	X	HEX			09/19/16 12:29	1.0		
014	263_014	CCV	PCB500_100			09/19/16 12:56	1.0	9	
015	263_015	ICAL	AR2154_500			09/19/16 13:53	1.0	10	
016	263_016	SAMPLE	281046-001	Water	239190	09/19/16 13:54	1.0		
017	263_017	SAMPLE	281051-003	Air	239156	09/19/16 14:21	1.0		
018	263_018	SAMPLE	281051-004	Air	239156	09/19/16 14:49	1.0		
019	263_019	BLANK	QC851887	Water	239190	09/19/16 15:16	1.0		
020	263_020	BS	QC851888	Water	239190	09/19/16 15:43	1.0		
021	263_021	BSD	QC851889	Water	239190	09/19/16 16:11	1.0		
022	263_022	CCV	PCB500_100			09/19/16 16:38	1.0	9	
023	263_023	CCV	AR2154_500			09/19/16 17:05	1.0	10	12:PCB1221#4=10000
024	263_024	ICAL	AR2154_500			09/19/16 18:05	1.0	10	
025	263_025	CCV	AR1268_250			09/19/16 19:21	1.0	11	
026	263_026	CCV	AR1262_250			09/19/16 19:49	1.0	12	
027	263_027	CCV	AR1248_250			09/19/16 20:16	1.0	13	
028	263_028	BLANK	QC851836	Soil	239178	09/19/16 20:43	1.0		
029	263_029	LCS	QC851837	Soil	239178	09/19/16 21:11	1.0		
030	263_030	MSS	280968-003	Soil	239178	09/19/16 21:38	1.0		
031	263_031	MS	QC851838	Soil	239178	09/19/16 22:05	1.0		
032	263_032	MSD	QC851839	Soil	239178	09/19/16 22:33	1.0		
033	263_033	SAMPLE	280951-001	Soil	239178	09/19/16 23:00	1.0		
034	263_034	SAMPLE	280968-002	Miscell.	239178	09/19/16 23:27	1.0		
035	263_035	SAMPLE	280993-001	Soil	239178	09/19/16 23:54	1.0		1:PCB1016#4=7900
036	263_036	SAMPLE	281028-001	Soil	239178	09/20/16 00:22	1.0		
037	263_037	SAMPLE	281061-017	Soil	239178	09/20/16 00:49	1.0		1:PCB1260#5=1100
038	263_038	XCCV	PCB500_100			09/20/16 01:16	1.0	9	
039	263_039	CCV	AR1268_250			09/20/16 01:44	1.0	11	
040	263_040	CCV	AR1262_250			09/20/16 02:11	1.0	12	
041	263_041	CCV	AR2154_500			09/20/16 02:38	1.0	10	
042	263_042	CCV	AR1248_250			09/20/16 03:05	1.0	13	
043	263_043	CCV	PCB500_100			09/20/16 03:32	1.0	9	
044	263_044	SAMPLE	281061-018	Soil	239178	09/20/16 04:00	1.0		
045	263_045	SAMPLE	280837-001	Soil	239107	09/20/16 04:27	1.0		
046	263_046	SAMPLE	280837-002	Soil	239107	09/20/16 04:54	1.0		
047	263_047	SAMPLE	280837-003	Soil	239107	09/20/16 05:21	1.0		
048	263_048	SAMPLE	280837-005	Soil	239107	09/20/16 05:49	1.0		
049	263_049	SAMPLE	280837-006	Soil	239107	09/20/16 06:16	1.0		
050	263_050	SAMPLE	280837-007	Soil	239107	09/20/16 06:43	1.0		
051	263_051	SAMPLE	280837-008	Soil	239107	09/20/16 07:12	1.0		2:PCB1221#2=10000
052	263_052	BLANK	QC852088	Soil	239240	09/20/16 07:40	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 826379141

Instrument : GC25 Begun : 09/19/16 07:01
Method : EPA 8082 SOP Version : pcb_rv11

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	263_053	MSS	281095-011	Soil	239240	09/20/16 08:07	1.0		
054	263_054	CCV	PCB500_100			09/20/16 08:34	1.0	9	
055	263_055	CCV	AR1268_250			09/20/16 09:01	1.0	11	
056	263_056	CCV	AR2154_500			09/20/16 09:29	1.0	10	
057	263_057	CCV	AR1248_250			09/20/16 09:56	1.0	13	
058	263_058	CCV	PCB500_100			09/20/16 10:23	1.0	9	
059	263_059	MS	QC852090	Soil	239240	09/20/16 10:51	1.0		
060	263_060	MSD	QC852091	Soil	239240	09/20/16 11:18	1.0		
061	263_061	LCS	QC852089	Soil	239240	09/20/16 11:45	1.0		
062	263_062	SAMPLE	281072-001	Soil	239240	09/20/16 12:12	1.0		
063	263_063	SAMPLE	281082-001	Soil	239240	09/20/16 12:40	1.0		
064	263_064	CCV	PCB500_100			09/20/16 13:07	1.0	9	
065	263_065	CCV	AR1268_250			09/20/16 13:34	1.0	11	
066	263_066	CCV	AR2154_500			09/20/16 14:02	1.0	10	
067	263_067	CCV	AR1248_250			09/20/16 14:29	1.0	13	
068	263_068	CCV	PCB500_100			09/20/16 14:56	1.0	9	2:PCB1016#3=1200

JS1 09/19/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 12.

JS1 09/19/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 13 through 22.

JS1 09/20/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 23 through 59.

JS1 09/20/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 60 through 64.

JS1 09/20/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 65 through 66.

Standards used: 1=S30525 2=S30526 3=S30527 4=S30528 5=S30529 6=S30530 7=S30531 8=S30644 9=S30881 10=S30792 11=S30001 12=S30521 13=S30578

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 826403658

Instrument : GC25 Begun : 10/06/16 07:38
Method : EPA 8082 SOP Version : pcb_rv11

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	280_001	X	HEX			10/06/16 07:38	1.0		
002	280_002	CCV	PCB500_100			10/06/16 08:05	1.0	1	
003	280_003	CCV	AR2154_500			10/06/16 08:33	1.0	2	
004	280_004	CCV	AR1248_500			10/06/16 09:46	1.0	3	
005	280_005	SAMPLE	281760-005	Soil	239846	10/06/16 10:14	1.0		
006	280_006	SAMPLE	281761-001	Soil	239846	10/06/16 10:41	1.0		
007	280_007	SAMPLE	281761-002	Soil	239846	10/06/16 11:09	1.0		
008	280_008	SAMPLE	281796-001	Soil	239846	10/06/16 11:36	1.0		
009	280_009	CCV	PCB500_100			10/06/16 12:03	1.0	1	
010	280_010	X	HEX			10/06/16 17:07	1.0		
011	280_011	CCV	PCB500_100			10/06/16 17:34	1.0	1	
012	280_012	CCV	AR2154_500			10/06/16 18:02	1.0	2	
013	280_013	CCV	AR1248_500			10/06/16 18:29	1.0	3	1:PCB1016#5=1200
014	280_014	CCV	PCB500_100			10/06/16 18:56	1.0	1	
015	280_015	SAMPLE	281516-003	Soil	239605	10/06/16 19:24	1.0		
016	280_016	SAMPLE	281516-008	Soil	239605	10/06/16 19:51	1.0		
017	280_017	SAMPLE	281516-012	Soil	239605	10/06/16 20:18	1.0		
018	280_018	SAMPLE	281516-015	Soil	239605	10/06/16 20:46	1.0		
019	280_019	SAMPLE	281516-018	Soil	239605	10/06/16 21:13	1.0		
020	280_020	SAMPLE	281516-019	Soil	239605	10/06/16 21:40	1.0		
021	280_021	BLANK	QC854234	Soil	239790	10/06/16 22:08	1.0		
022	280_022	BS	QC854235	Soil	239790	10/06/16 22:35	1.0		
023	280_023	BSD	QC854236	Soil	239790	10/06/16 23:02	1.0		
024	280_024	SAMPLE	281612-001	Soil	239790	10/06/16 23:30	10.0		diluted (client history)
025	280_025	CCV	PCB500_100			10/06/16 23:57	1.0	1	
026	280_026	CCV	AR2154_500			10/07/16 00:24	1.0	2	
027	280_027	CCV	AR1248_500			10/07/16 00:52	1.0	3	
028	280_028	CCV	PCB500_100			10/07/16 01:19	1.0	1	
029	280_029	SAMPLE	281612-002	Soil	239790	10/07/16 01:46	10.0		diluted (client history)
030	280_030	SAMPLE	281612-003	Soil	239790	10/07/16 02:13	10.0		diluted (client history)
031	280_031	SAMPLE	281612-004	Soil	239790	10/07/16 02:40	10.0		diluted (client history)
032	280_032	SAMPLE	281612-005	Soil	239790	10/07/16 03:08	10.0		diluted (client history)
033	280_033	SAMPLE	281784-001	Miscell.	239790	10/07/16 03:35	1.0		3:PCB1016#1=1700
034	280_034	SAMPLE	281784-002	Miscell.	239790	10/07/16 04:02	1.0		3:PCB1016#3=37000
035	280_035	SAMPLE	281784-003	Miscell.	239790	10/07/16 04:29	1.0		6:PCB1260#2=5200
036	280_036	SAMPLE	281784-004	Miscell.	239790	10/07/16 04:57	1.0		3:PCB1016#5=2200
037	280_037	XCCV	PCB500_100			10/07/16 05:24	1.0	1	2:PCB1016#3=1400
038	280_038	CCV	AR2154_500			10/07/16 05:51	1.0	2	
039	280_039	CCV	AR1248_500			10/07/16 06:18	1.0	3	1:PCB1016#5=1500
040	280_040	CCV	PCB500_100			10/07/16 06:46	1.0	1	

JS1 10/07/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 40.

Standards used: 1=S30881 2=S29814 3=S29951

SAMPLE PREPARATION SUMMARY

Batch # : 239605 Analysis : 8081
Started By : AHT Prep Date : 28-SEP-2016 14:00 Finished By : AHT
Method : 3550B SOP Version : 8081_3550_rv16 Units : g
Spike #1 ID : S30591 Spike #2 ID : S30701 Spike #3 ID : S30784

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
281516-001		Soil	30.15	20	1	0.6633		.8			3620B	8081	
281516-003		Soil	29.64	20	1	0.6748		.8			3620B	8081, PCB	
281516-004		Soil	29.59	20	1	0.6759		.8			3620B	8081	
281516-005		Soil	30.22	20	1	0.6618		.8			3620B	8081	
281516-006		Soil	29.83	20	1	0.6705		.8			3620B	8081	
281516-008		Soil	29.85	20	1	0.67		.8			3620B	8081, PCB	
281516-009		Soil	29.67	20	1	0.6741		.8			3620B	8081	
281516-012		Soil	30.26	20	1	0.6609		.8			3620B	8081, PCB	
281516-015		Soil	30	20	1	0.6667		.8			3620B	8081, PCB	
281516-018		Soil	29.66	20	1	0.6743		.8			3620B	8081, PCB	
281516-019		Soil	29.68	20	1	0.6739		.8			3620B	8081, PCB	
281516-020		Soil	29.82	20	1	0.6707		.8			3620B	8081, PCB	
281516-021		Soil	29.62	20	1	0.6752		.8			3620B	8081, PCB	
281516-022		Soil	29.96	20	1	0.6676		.8			3620B	8081, PCB	
281516-023		Soil	30.1	20	1	0.6645		.8			3620B	8081, PCB	
281516-024		Soil	29.61	20	1	0.6754		1.6			3620B	8081, PCB	
281516-026		Soil	30.4	20	1	0.6579		1.6			3620B	8081, PCB	
281528-001		Soil	30.43	20	1	0.6572		.8				PCB	
281528-002		Soil	30.06	20	1	0.6653		.8				PCB	
QC853511	BLANK	Soil	29.83	20	1	0.6705		.8			3620B	PCB	
QC853512	LCS	Soil	30.37	20	1	0.6585		.8	1			PCB	
QC853513	MS	Soil	30	20	1	0.6667		.8	1			PCB	
QC853514	MSD	Soil	30.24	20	1	0.6614		.8	1			PCB	
QC853515	LCS	Soil	29.98	20	1	0.6671		.8		.4	3620B	8081	
QC853516	MS	Soil	29.77	20	1	0.6718		.8		.4	3620B	8081	
QC853535	MSD	Soil	29.81	20	1	0.6709		.8		.4	3620B	8081	

JS1 09/30/16 : Ready for PCB review.

EAH 09/30/16 : Reviewed for PCB and checked batch documents for pest.

JCD 10/04/16 : Pest ready for review

JS1: 09/30/16 JCD: 10/04/16 EAH: 10/04/16

PCB (8082) Soil Prep Log

LIMS Batch No: 239605

LIMS Analysis PCB (P/P)

Date Extracted: 9/28/2016

☑ EPA 3550b Sonication

☐ Other _____

Curtis & Tompkins, Ltd.

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BK 3907

Sample #	Container ID	Sample Wt (g)	Final Vol (mL)	Comments
281516-003	A	29.64	☐ 25.0 ☑ 20	OM Rich
-008		29.85	☐ 25.0 ☑ 20	Rocky, OM
-012		30.26	☐ 25.0 ☑ 20	
-015		30.00	☐ 25.0 ☑ 20	
-018		29.66	☐ 25.0 ☑ 20	Muddy
-019		29.68	☐ 25.0 ☑ 20	Rocky, OM
-020		29.87	☐ 25.0 ☑ 20	
-021		29.62	☐ 25.0 ☑ 20	MSS, Rocky, OM
-022		29.96	☐ 25.0 ☑ 20	Rocky, OM
-023		30.10	☐ 25.0 ☑ 20	
-024		29.61	☐ 25.0 ☑ 20	Muddy, Possible 2x surr
-026		30.40	☐ 25.0 ☑ 20	Possible 2x surr
281528-001		30.43	☐ 25.0 ☑ 20	Rocky
-002		30.06	☐ 25.0 ☑ 20	
MB QC 853511	N/A	29.83	☐ 25.0 ☑ 20	
LCS W		30.37	☐ 25.0 ☑ 20	
MS 13	A	30.00	☐ 25.0 ☑ 20	
MSD 14		30.24	☐ 25.0 ☑ 20	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	
			☐ 25.0 ☐	AHG 92916

☐ MS/MSD not included due to: ☐ insufficent volume, or ☐ other (reason) _____

☑ Balance ID: Wet02 Has been calibrated? ☑ Yes ☐ No

	Mfg & Lot # / LIMS # / Time	Initials / Date
Solvent-rinsed granular Na_2SO_4 weighed out for QC samples	EM15K230006	AHT 9/28/16
dried with CH_2Cl_2-rinsed ☑ granular Na_2SO_4 ☐ powder		
0.8 mL of surrogate solution was added to all samples	530591D	
1.0 mL of matrix spiking solution was added to all spikes	530701E	
1:1 CH_2Cl_2 (lot# EM56176):Acetone(lot# FC163343) was added to all	✓	
Solvent added at (time)	1400	
☑ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:	–	
Soxhlets off at:	n/a	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM083561506	
Solvent exchanged with Hexane, Lot#	FC164512	
Concentrated to final volume in boiling H2O bath	100°	
EPA 3665A Clean-up: vortexed w/ H_2SO_4 Lot#	FC152524	
Centrifuged for 1 min; 5mL transferred to labelled vial	✓	
Relinquished to PCB group	✓	

9/28/2016

Extraction Chemist / Date

Continued from page ____

Continued on page ____

9/29/16

Reviewed by / Date

8081 Soil Prep Log Curtis & Tompkins, Ltd.

Page 69 BK 3852

Extraction Method: ☑ EPA 3550b Sonication ☐ _____

Cleanup Method: ☒ EPA 3620b Florisil

LIMS Batch No: 239605

Date Extracted: 9/28/2016

Sample #	Container ID	Sample Wt (g)	Final Vol (mL)	Comments
281516-001	A	30.15	☑ 20.0 ☐	Rocky, OM
~~-002~~		~~29.60~~	~~☑ 20.0~~ ☐	AHT 9/28/16 Removed from batch
-003		29.64	☑ 20.0 ☐	OM rich
-004		29.59	☑ 20.0 ☐	Rocky, OM
-005		30.22	☑ 20.0 ☐	
-006		29.83	☑ 20.0 ☐	
-008		29.85	☑ 20.0 ☐	
-009		29.67	☑ 20.0 ☐	
-012		30.26	☑ 20.0 ☐	
-015		30.00	☑ 20.0 ☐	
-018		29.66	☑ 20.0 ☐	Muddy,
-019		29.68	☑ 20.0 ☐	Rocky, OM
-020		29.82	☑ 20.0 ☐	Rocky, OM
-021		29.62	☑ 20.0 ☐	MSS, Rocky, OM
-022		29.96	☑ 20.0 ☐	Rocky, OM
-023		30.10	☑ 20.0 ☐	
-024		29.61	☑ 20.0 ☐	Muddy, Possible 2x surrogate
-026		30.40	☑ 20.0 ☐	Muddy, Possible 2x surrogate
MB QC853511	N/A	29.83	☑ 20.0 ☐	
LCS 15		29.98	☑ 20.0 ☐	
MS 16	A	29.77	☑ 20.0 ☐	
MSD ~~17~~ 35		29.81	☑ 20.0 ☐	
SCO 9/28/16			☐ 20.0 ☐	
			☐ 20.0 ☐	
			~~☐ 20.0~~ ☐	AR6 92916

☐ MS/MSD not included due to: ☐ insufficent volume, or ☑ other (reason) _____

☑ Balance ID: Wet02 Has been calibrated? ☑ Yes ☐ No

	Mfg & Lot # / LIMS # / Time	Initials / Date
Solvent-rinsed granular Na_2SO_4 weighed out for QC samples	EM15K230006	AHT 9/28/16
dried with CH_2Cl_2-rinsed ☑ granular Na_2SO_4 ☐ powder		
0.8 mL of surrogate solution was added to all samples	S305910	
0.4 mL of spike solution was added to all spikes	S307846	
1:1 CH_2Cl_2 (lot# EM561716):Acetone(lot# FC163343) was added to all		
Solvent added at (time)	1400	
☑ sonicated 3 times w/ ≥100mL ☐ soxhlet extractors on at:	–	
soxhlets off at:	n/a	
Extracts filtered through baked, CH_2Cl_2-rinsed powdered Na_2SO_4	EM0835C506	
Exchanged 2x with Hexane	FC164512	
Concentrated to final volume in boiling H2O bath	100°	
☒ Florisil Cleanup Performed		
Extracts relinquished to Pesticide Group		

9/28/16

Extraction Chemist / Date

Continued from page _____

Continued on page _____

92916

Reviewed by / Date

Curtis & Tompkins, Ltd.

Florisil Cleanup

EPA 3620B

Prep Chemist: AHT
Cleanup Date: 09/28/16

Benchbook # **BK 3894**
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Sample #	Extraction Batch#	Initial Volume (mL)	Final Volume (mL)	Comments
281516-001	239605	☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-003		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-004		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-005		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-006		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-008		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-009		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-012		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-015		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-018		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-019		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-020		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-021		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-022		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-023		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-024		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
-026		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MB QC853511		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
LCS 15		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MS 16		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
MSD 17 35		☑ 1.0 ☐ ____	☑ 1.0 ☐ ____	
SCO 10/4/16		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	
		☐ 1.0 ☐ ____	☐ 1.0 ☐ ____	ARC 92916

☑ Extracts were cleaned up using Florisil cartridges
Florisil cartridges/ columns rinsed 3x with Hexane
Extracts were eluted with _____mL 9:1 Hexane/Acetone
Concentrated to volumes as noted above

	Mfg & Lot # / Time / Program	Initials / Date
	RES3571106	AHT 9/28/16
Hexane	FC164512	
Acetone	FC161873	
	FC162163	

09/28/16
Extraction Chemist / Date

Continued from page ____
Continued on page ____

92916
Reviewed by / Date

REPORTING SUMMARY FOR 281516 PCBS Soil

Sample ID	Analyte	Inst ID	Ch	Date & Time
281516-003	Aroclor-1016	GC25	A	10/06/16 19:24
281516-003	Aroclor-1221	GC06	A	09/29/16 21:30
281516-003	Aroclor-1232	GC06	A	09/29/16 21:30
281516-003	Aroclor-1242	GC06	A	09/29/16 21:30
281516-003	Aroclor-1248	GC06	A	09/29/16 21:30
281516-003	Aroclor-1254	GC06	A	09/29/16 21:30
281516-003	Aroclor-1260	GC06	A	09/29/16 21:30
281516-003	Aroclor-1262	GC06	A	09/29/16 21:30
281516-003	TCMX	GC25	A	10/06/16 19:24
281516-003	Decachlorobiphenyl	GC06	A	09/29/16 21:30
281516-008	Aroclor-1016	GC25	A	10/06/16 19:51
281516-008	Aroclor-1221	GC06	A	09/29/16 21:56
281516-008	Aroclor-1232	GC06	A	09/29/16 21:56
281516-008	Aroclor-1242	GC06	A	09/29/16 21:56
281516-008	Aroclor-1248	GC06	A	09/29/16 21:56
281516-008	Aroclor-1254	GC06	A	09/29/16 21:56
281516-008	Aroclor-1260	GC06	A	09/29/16 21:56
281516-008	Aroclor-1262	GC06	A	09/29/16 21:56
281516-008	TCMX	GC25	A	10/06/16 19:51
281516-008	Decachlorobiphenyl	GC06	A	09/29/16 21:56
281516-012	Aroclor-1016	GC25	A	10/06/16 20:18
281516-012	Aroclor-1221	GC06	A	09/29/16 22:23
281516-012	Aroclor-1232	GC06	A	09/29/16 22:23
281516-012	Aroclor-1242	GC06	A	09/29/16 22:23
281516-012	Aroclor-1248	GC06	A	09/29/16 22:23
281516-012	Aroclor-1254	GC06	A	09/29/16 22:23
281516-012	Aroclor-1260	GC06	A	09/29/16 22:23
281516-012	Aroclor-1262	GC06	A	09/29/16 22:23
281516-012	TCMX	GC25	A	10/06/16 20:18
281516-012	Decachlorobiphenyl	GC06	A	09/29/16 22:23
281516-015	Aroclor-1016	GC25	A	10/06/16 20:46
281516-015	Aroclor-1221	GC06	A	09/29/16 22:49
281516-015	Aroclor-1232	GC06	A	09/29/16 22:49
281516-015	Aroclor-1242	GC06	A	09/29/16 22:49
281516-015	Aroclor-1248	GC06	A	09/29/16 22:49
281516-015	Aroclor-1254	GC06	A	09/29/16 22:49
281516-015	Aroclor-1260	GC06	A	09/29/16 22:49
281516-015	Aroclor-1262	GC06	A	09/29/16 22:49
281516-015	TCMX	GC25	A	10/06/16 20:46
281516-015	Decachlorobiphenyl	GC06	A	09/29/16 22:49
281516-018	Aroclor-1016	GC25	A	10/06/16 21:13
281516-018	Aroclor-1221	GC06	A	09/29/16 23:16
281516-018	Aroclor-1232	GC06	A	09/29/16 23:16
281516-018	Aroclor-1242	GC06	A	09/29/16 23:16
281516-018	Aroclor-1248	GC06	A	09/29/16 23:16
281516-018	Aroclor-1254	GC06	A	09/29/16 23:16
281516-018	Aroclor-1260	GC06	A	09/29/16 23:16
281516-018	Aroclor-1262	GC06	A	09/29/16 23:16
281516-018	TCMX	GC25	A	10/06/16 21:13
281516-018	Decachlorobiphenyl	GC06	A	09/29/16 23:16

REPORTING SUMMARY FOR 281516 PCBS Soil

Sample ID	Analyte	Inst ID	Ch	Date & Time
281516-019	Aroclor-1016	GC25	A	10/06/16 21:40
281516-019	Aroclor-1221	GC06	A	09/29/16 23:42
281516-019	Aroclor-1232	GC06	A	09/29/16 23:42
281516-019	Aroclor-1242	GC06	A	09/29/16 23:42
281516-019	Aroclor-1248	GC06	A	09/29/16 23:42
281516-019	Aroclor-1254	GC06	A	09/29/16 23:42
281516-019	Aroclor-1260	GC06	A	09/29/16 23:42
281516-019	Aroclor-1262	GC06	A	09/29/16 23:42
281516-019	TCMX	GC25	A	10/06/16 21:40
281516-019	Decachlorobiphenyl	GC06	A	09/29/16 23:42
281516-020	Aroclor-1016	GC06	A	09/30/16 02:20
281516-020	Aroclor-1221	GC06	A	09/30/16 02:20
281516-020	Aroclor-1232	GC06	A	09/30/16 02:20
281516-020	Aroclor-1242	GC06	A	09/30/16 02:20
281516-020	Aroclor-1248	GC06	A	09/30/16 02:20
281516-020	Aroclor-1254	GC06	A	09/30/16 02:20
281516-020	Aroclor-1260	GC06	A	09/30/16 02:20
281516-020	Aroclor-1262	GC06	A	09/30/16 02:20
281516-020	TCMX	GC06	A	09/30/16 02:20
281516-020	Decachlorobiphenyl	GC06	A	09/30/16 02:20
281516-021	Aroclor-1016	GC06	A	09/30/16 02:47
281516-021	Aroclor-1221	GC06	A	09/30/16 02:47
281516-021	Aroclor-1232	GC06	A	09/30/16 02:47
281516-021	Aroclor-1242	GC06	A	09/30/16 02:47
281516-021	Aroclor-1248	GC06	A	09/30/16 02:47
281516-021	Aroclor-1254	GC06	A	09/30/16 02:47
281516-021	Aroclor-1260	GC06	A	09/30/16 02:47
281516-021	Aroclor-1262	GC06	A	09/30/16 02:47
281516-021	TCMX	GC06	A	09/30/16 02:47
281516-021	Decachlorobiphenyl	GC06	A	09/30/16 02:47
281516-022	Aroclor-1016	GC06	A	09/30/16 03:13
281516-022	Aroclor-1221	GC06	A	09/30/16 03:13
281516-022	Aroclor-1232	GC06	A	09/30/16 03:13
281516-022	Aroclor-1242	GC06	A	09/30/16 03:13
281516-022	Aroclor-1248	GC06	A	09/30/16 03:13
281516-022	Aroclor-1254	GC06	A	09/30/16 03:13
281516-022	Aroclor-1260	GC06	A	09/30/16 03:13
281516-022	Aroclor-1262	GC06	A	09/30/16 03:13
281516-022	TCMX	GC06	A	09/30/16 03:13
281516-022	Decachlorobiphenyl	GC06	A	09/30/16 03:13
281516-023	Aroclor-1016	GC06	A	09/30/16 03:39
281516-023	Aroclor-1221	GC06	A	09/30/16 03:39
281516-023	Aroclor-1232	GC06	A	09/30/16 03:39
281516-023	Aroclor-1242	GC06	A	09/30/16 03:39
281516-023	Aroclor-1248	GC06	A	09/30/16 03:39
281516-023	Aroclor-1254	GC06	A	09/30/16 03:39
281516-023	Aroclor-1260	GC06	A	09/30/16 03:39
281516-023	Aroclor-1262	GC06	A	09/30/16 03:39
281516-023	TCMX	GC06	A	09/30/16 03:39

REPORTING SUMMARY FOR 281516 PCBS Soil

Sample ID	Analyte	Inst ID	Ch	Date & Time
281516-023	Decachlorobiphenyl	GC06	A	09/30/16 03:39
281516-024	Aroclor-1016	GC06	A	09/30/16 04:06
281516-024	Aroclor-1221	GC06	A	09/30/16 04:06
281516-024	Aroclor-1232	GC06	A	09/30/16 04:06
281516-024	Aroclor-1242	GC06	A	09/30/16 04:06
281516-024	Aroclor-1248	GC06	A	09/30/16 04:06
281516-024	Aroclor-1254	GC06	A	09/30/16 04:06
281516-024	Aroclor-1260	GC06	A	09/30/16 04:06
281516-024	Aroclor-1262	GC06	A	09/30/16 04:06
281516-024	TCMX	GC06	A	09/30/16 04:06
281516-024	Decachlorobiphenyl	GC06	A	09/30/16 04:06
281516-026	Aroclor-1016	GC06	A	09/30/16 04:32
281516-026	Aroclor-1221	GC06	A	09/30/16 04:32
281516-026	Aroclor-1232	GC06	A	09/30/16 04:32
281516-026	Aroclor-1242	GC06	A	09/30/16 04:32
281516-026	Aroclor-1248	GC06	A	09/30/16 04:32
281516-026	Aroclor-1254	GC06	A	09/30/16 04:32
281516-026	Aroclor-1260	GC06	A	09/30/16 04:32
281516-026	Aroclor-1262	GC06	A	09/30/16 04:32
281516-026	TCMX	GC06	A	09/30/16 04:32
281516-026	Decachlorobiphenyl	GC06	A	09/30/16 04:32
QC853511	Aroclor-1016	GC06	A	09/30/16 11:28
QC853511	Aroclor-1221	GC06	A	09/30/16 11:28
QC853511	Aroclor-1232	GC06	A	09/30/16 11:28
QC853511	Aroclor-1242	GC06	A	09/30/16 11:28
QC853511	Aroclor-1248	GC06	A	09/30/16 11:28
QC853511	Aroclor-1254	GC06	A	09/30/16 11:28
QC853511	Aroclor-1260	GC06	A	09/30/16 11:28
QC853511	Aroclor-1262	GC06	A	09/30/16 11:28
QC853511	TCMX	GC06	A	09/30/16 11:28
QC853511	Decachlorobiphenyl	GC06	A	09/30/16 11:28
QC853512	Aroclor-1016	GC06	A	09/29/16 20:11
QC853512	Aroclor-1260	GC06	A	09/29/16 20:11
QC853512	TCMX	GC06	A	09/29/16 20:11
QC853512	Decachlorobiphenyl	GC06	A	09/29/16 20:11
QC853513	Aroclor-1016	GC06	A	09/29/16 20:37
QC853513	Aroclor-1260	GC06	A	09/29/16 20:37
QC853513	TCMX	GC06	A	09/29/16 20:37
QC853513	Decachlorobiphenyl	GC06	A	09/29/16 20:37
QC853514	Aroclor-1016	GC06	A	09/29/16 21:04
QC853514	Aroclor-1260	GC06	A	09/29/16 21:04
QC853514	TCMX	GC06	A	09/29/16 21:04
QC853514	Decachlorobiphenyl	GC06	A	09/29/16 21:04

Laboratory Job Number 281516

ANALYTICAL REPORT

Metals

Matrix: Soil

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-21	Basis:	dry
Lab ID:	281516-001	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 3%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	2.0	0.15	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	2.2	0.25	0.072	239884	10/06/16	10/11/16	EPA 3050B	EPA 6010B
Barium	55	0.25	0.053	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.19	0.099	0.012	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	0.73	0.25	0.025	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	10	0.25	0.062	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	2.6	0.25	0.030	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	4.8	0.25	0.083	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	8.9	0.25	0.069	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.029	0.017	0.0050	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	0.74	0.25	0.048	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	12	0.25	0.065	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.16	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.25	0.040	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	NA							
Vanadium	12	0.25	0.057	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	130	0.99	0.20	239884	10/06/16	10/11/16	EPA 3050B	EPA 6010B

NA= Not Analyzed
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-22	Basis:	dry
Lab ID:	281516-002	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 16%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	4.2	2.4	0.20	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	15	0.33	0.095	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	260	0.33	0.070	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.77	0.13	0.016	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.1	0.33	0.033	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	70	0.33	0.082	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	20	0.33	0.039	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	28	0.33	0.11	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	9.5	0.33	0.091	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.066	0.018	0.0055	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	1.1	0.33	0.064	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	160	0.33	0.086	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.4	0.21	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.33	0.052	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	0.32 J	0.65	0.18	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Vanadium	66	0.33	0.075	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	74	1.3	0.26	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-23	Basis:	dry
Lab ID:	281516-003	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 10%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.5 J	2.2	0.17	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	5.8	0.28	0.081	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	150	0.28	0.060	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.40	0.11	0.014	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.3	0.28	0.028	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	26	0.28	0.070	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	7.2	0.28	0.033	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	14	0.28	0.093	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	21	0.28	0.077	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.13	0.019	0.0057	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	1.4	0.28	0.054	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	33	0.28	0.073	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.18	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.28	0.044	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	0.24 J	0.56	0.16	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Vanadium	36	0.28	0.063	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	330	1.1	0.22	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-24	Basis:	dry
Lab ID:	281516-004	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 9%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	2.4	2.2	0.17	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	6.7	0.29	0.083	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	220	0.29	0.061	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.58	0.11	0.014	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	0.90	0.29	0.029	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	32	0.29	0.072	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	7.3	0.29	0.034	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	10	0.29	0.095	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	8.0	0.29	0.080	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.11	0.017	0.0052	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	1.2	0.29	0.056	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	37	0.29	0.075	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.18	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.29	0.046	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	NA							
Vanadium	42	0.29	0.065	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	84	1.1	0.23	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

NA= Not Analyzed
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-25	Basis:	dry
Lab ID:	281516-005	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 7%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	2.0 J	2.2	0.17	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	8.6	0.28	0.082	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	180	0.28	0.061	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.41	0.11	0.014	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.7	0.28	0.029	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	43	0.28	0.071	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	11	0.28	0.034	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	26	0.28	0.094	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	45	0.28	0.079	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.41	0.017	0.0051	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	2.6	0.28	0.055	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	66	0.28	0.074	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.18	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.28	0.045	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	0.65	0.57	0.16	239884	10/06/16	10/11/16	EPA 3050B	EPA 6010B
Vanadium	48	0.28	0.065	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	400	1.1	0.23	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-26	Basis:	dry
Lab ID:	281516-006	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 7%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	3.0	2.2	0.17	239884	10/06/16	10/11/16	EPA 3050B	EPA 6010B
Arsenic	9.1	0.28	0.081	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	200	0.28	0.060	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.45	0.11	0.014	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.5	0.28	0.028	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	48	0.28	0.070	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	12	0.28	0.033	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	23	0.28	0.092	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	30	0.28	0.077	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.28	0.019	0.0056	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	2.1	0.28	0.054	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	81	0.28	0.073	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.18	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.28	0.044	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	NA							
Vanadium	49	0.28	0.063	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	110	1.1	0.22	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

NA= Not Analyzed
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-27	Basis:	dry
Lab ID:	281516-007	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 10%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	2.9	2.2	0.17	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	7.2	0.29	0.084	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	190	0.29	0.062	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.57	0.12	0.014	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.2	0.29	0.030	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	35	0.29	0.073	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	7.6	0.29	0.035	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	13	0.29	0.096	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	32	0.29	0.081	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.13	0.018	0.0054	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	1.4	0.29	0.057	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	42	0.29	0.076	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.18	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.29	0.046	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	0.34 J	0.58	0.16	239884	10/06/16	10/11/16	EPA 3050B	EPA 6010B
Vanadium	43	0.29	0.066	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	400	1.2	0.23	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-28	Basis:	dry
Lab ID:	281516-008	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 8%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	2.0 J	2.2	0.18	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	7.0	0.30	0.087	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	190	0.30	0.064	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.55	0.12	0.015	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.1	0.30	0.030	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	32	0.30	0.075	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	7.1	0.30	0.036	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	9.0	0.30	0.10	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	6.2	0.30	0.083	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.23	0.017	0.0050	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	2.3	0.30	0.058	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	32	0.30	0.079	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.19	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.30	0.048	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	0.91	0.60	0.17	239884	10/06/16	10/11/16	EPA 3050B	EPA 6010B
Vanadium	41	0.30	0.068	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	53	1.2	0.24	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-29	Basis:	dry
Lab ID:	281516-009	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 9%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	2.4	2.1	0.15	239884	10/06/16	10/11/16	EPA 3050B	EPA 6010B
Arsenic	9.3	0.26	0.075	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	200	0.26	0.055	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.58	0.10	0.013	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.1	0.26	0.026	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	32	0.26	0.065	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	9.5	0.26	0.031	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	11	0.26	0.086	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	7.7	0.26	0.072	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.11	0.018	0.0053	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	2.8	0.26	0.050	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	37	0.26	0.068	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.1	0.16	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.041	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	0.80	0.51	0.14	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Vanadium	40	0.26	0.059	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	52	1.0	0.21	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-30	Basis:	dry
Lab ID:	281516-010	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/26/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 11%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.3 J	2.2	0.18	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	6.6	0.30	0.087	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	180	0.30	0.064	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.54	0.12	0.015	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.3	0.30	0.030	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	31	0.30	0.075	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	7.7	0.30	0.036	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	9.5	0.30	0.10	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	6.1	0.30	0.083	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.16	0.018	0.0055	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	1.4	0.30	0.058	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	34	0.30	0.079	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.19	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.30	0.048	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	1.1	0.60	0.17	239884	10/06/16	10/11/16	EPA 3050B	EPA 6010B
Vanadium	40	0.30	0.068	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	48	1.2	0.24	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-31	Basis:	dry
Lab ID:	281516-011	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 8%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	2.6	2.1	0.15	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	7.4	0.26	0.074	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	260	0.26	0.055	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.49	0.10	0.013	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.3	0.26	0.026	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	32	0.26	0.065	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	8.5	0.26	0.031	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	11	0.26	0.085	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	9.2	0.26	0.071	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.20	0.019	0.0056	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	1.8	0.26	0.050	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	36	0.26	0.067	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.1	0.16	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.041	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	0.39 J	0.51	0.14	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Vanadium	41	0.26	0.058	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	110	1.0	0.21	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-32	Basis:	dry
Lab ID:	281516-012	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 7%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.7 J	2.0	0.15	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	8.9	0.25	0.072	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	160	0.25	0.053	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.50	0.10	0.012	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.6	0.25	0.025	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	28	0.25	0.063	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	7.6	0.25	0.030	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	9.4	0.25	0.083	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	6.5	0.25	0.069	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.15	0.017	0.0052	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	2.1	0.25	0.049	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	29	0.25	0.066	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.0	0.16	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.25	0.040	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	0.73	0.50	0.14	239884	10/06/16	10/11/16	EPA 3050B	EPA 6010B
Vanadium	37	0.25	0.057	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	54	1.0	0.20	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-33	Basis:	dry
Lab ID:	281516-013	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 7%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.9 J	2.2	0.17	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	7.7	0.28	0.082	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	320	0.28	0.061	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.47	0.11	0.014	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.2	0.28	0.029	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	39	0.28	0.071	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	8.6	0.28	0.034	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	13	0.28	0.094	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	18	0.28	0.079	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.15	0.017	0.0050	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	1.6	0.28	0.055	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	41	0.28	0.074	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.18	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.28	0.045	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	0.55 J	0.57	0.16	239884	10/06/16	10/11/16	EPA 3050B	EPA 6010B
Vanadium	42	0.28	0.065	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	100	1.1	0.23	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-34	Basis:	dry
Lab ID:	281516-014	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 7%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.6 J	2.1	0.16	239884	10/06/16	10/11/16	EPA 3050B	EPA 6010B
Arsenic	6.4	0.26	0.077	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	170	0.26	0.057	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.51	0.11	0.013	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.3	0.26	0.027	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	30	0.26	0.066	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	7.9	0.26	0.032	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	10	0.26	0.088	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	11	0.26	0.073	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.52	0.018	0.0055	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	1.6	0.26	0.051	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	33	0.26	0.069	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.1	0.17	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.042	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	NA							
Vanadium	37	0.26	0.060	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	78	1.1	0.21	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
NA= Not Analyzed
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-35	Basis:	dry
Lab ID:	281516-015	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 6%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	2.7	2.1	0.17	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	7.7	0.28	0.080	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	170	0.28	0.059	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.52	0.11	0.014	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.3	0.28	0.028	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	29	0.28	0.070	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	7.7	0.28	0.033	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	10	0.28	0.092	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	8.3	0.28	0.077	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.19	0.019	0.0057	239683	09/30/16	09/30/16	METHOD	EPA 7471A
Molybdenum	1.5	0.28	0.054	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	31	0.28	0.073	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.1	0.18	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.28	0.044	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	0.54 J	0.55	0.16	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Vanadium	37	0.28	0.063	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	61	1.1	0.22	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-36	Basis:	dry
Lab ID:	281516-016	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 6%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.7 J	2.1	0.17	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	6.3	0.29	0.085	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	160	0.29	0.063	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.49	0.12	0.014	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.2	0.29	0.030	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	29	0.29	0.074	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	8.1	0.29	0.035	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	12	0.29	0.097	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	11	0.29	0.081	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.15	0.017	0.0052	239739	10/03/16	10/03/16	METHOD	EPA 7471A
Molybdenum	1.4	0.29	0.057	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	35	0.29	0.077	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.1	0.19	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.29	0.047	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	0.42 J	0.58	0.16	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Vanadium	39	0.29	0.067	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	91	1.2	0.23	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-37	Basis:	dry
Lab ID:	281516-017	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 17%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	2.3 J	2.4	0.19	239884	10/06/16	10/11/16	EPA 3050B	EPA 6010B
Arsenic	8.4	0.32	0.093	239884	10/06/16	10/11/16	EPA 3050B	EPA 6010B
Barium	230	0.32	0.069	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.77	0.13	0.016	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	1.1	0.32	0.033	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	39	0.32	0.081	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	9.5	0.32	0.038	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	10	0.32	0.11	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	8.0	0.32	0.089	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.10	0.021	0.0062	239739	10/03/16	10/03/16	METHOD	EPA 7471A
Molybdenum	1.3	0.32	0.063	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	40	0.32	0.084	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.4	0.20	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.32	0.051	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	ND	0.64	0.18	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Vanadium	45	0.32	0.073	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	55	1.3	0.26	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-38	Basis:	dry
Lab ID:	281516-018	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 16%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	2.3 J	2.4	0.19	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	5.3	0.32	0.094	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	180	0.32	0.069	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.51	0.13	0.016	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	0.63	0.32	0.033	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	30	0.32	0.081	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	13	0.32	0.039	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	9.6	0.32	0.11	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	8.2	0.32	0.090	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.056	0.021	0.0064	239739	10/03/16	10/03/16	METHOD	EPA 7471A
Molybdenum	0.85	0.32	0.063	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	23	0.32	0.085	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.4	0.21	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.32	0.052	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	ND	0.65	0.18	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Vanadium	43	0.32	0.074	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	29	1.3	0.26	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-39	Basis:	dry
Lab ID:	281516-019	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 8%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.7 J	2.1	0.15	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Arsenic	7.9	0.26	0.074	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Barium	190	0.26	0.055	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Beryllium	0.55	0.10	0.013	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cadmium	0.99	0.26	0.026	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Chromium	33	0.26	0.065	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Cobalt	9.5	0.26	0.031	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Copper	12	0.26	0.085	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Lead	6.2	0.26	0.071	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Mercury	0.095	0.019	0.0057	239739	10/03/16	10/03/16	METHOD	EPA 7471A
Molybdenum	1.4	0.26	0.050	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Nickel	37	0.26	0.067	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Selenium	ND	2.1	0.16	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.041	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Thallium	1.0	0.51	0.14	239884	10/06/16	10/11/16	EPA 3050B	EPA 6010B
Vanadium	43	0.26	0.058	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B
Zinc	43	1.0	0.21	239884	10/06/16	10/10/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-40	Basis:	dry
Lab ID:	281516-020	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 5%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	4.0	1.9	0.14	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	6.3	0.24	0.070	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Barium	170	0.24	0.052	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.49	0.097	0.012	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	0.86	0.24	0.025	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	30	0.24	0.061	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	10	0.24	0.029	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Copper	11	0.24	0.081	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Lead	8.2	0.24	0.067	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.069	0.016	0.0049	239739	10/03/16	10/03/16	METHOD	EPA 7471A
Molybdenum	1.0	0.24	0.047	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	30	0.24	0.064	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	1.9	0.15	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.24	0.039	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	0.20 J	0.48	0.14	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	38	0.24	0.055	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	38	0.97	0.19	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-41	Basis:	dry
Lab ID:	281516-021	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 8%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.3 J	2.2	0.17	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	6.7	0.29	0.083	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Barium	210	0.29	0.061	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.59	0.11	0.014	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	1.0	0.29	0.029	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	32	0.29	0.072	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	11	0.29	0.034	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Copper	13	0.29	0.095	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Lead	8.0	0.29	0.080	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.081	0.018	0.0053	239739	10/03/16	10/03/16	METHOD	EPA 7471A
Molybdenum	1.4	0.29	0.056	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	41	0.29	0.075	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.18	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.29	0.046	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	0.33 J	0.57	0.16	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	44	0.29	0.065	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	57	1.1	0.23	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-42	Basis:	dry
Lab ID:	281516-022	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 7%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	1.3 J	2.1	0.15	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	6.7	0.26	0.075	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Barium	190	0.26	0.056	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.55	0.10	0.013	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	0.91	0.26	0.026	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	30	0.26	0.065	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	11	0.26	0.031	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Copper	11	0.26	0.086	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Lead	8.6	0.26	0.072	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.18	0.018	0.0054	239739	10/03/16	10/03/16	METHOD	EPA 7471A
Molybdenum	1.1	0.26	0.051	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	31	0.26	0.068	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.1	0.17	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.041	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	ND	0.52	0.15	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	39	0.26	0.059	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	41	1.0	0.21	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-43	Basis:	dry
Lab ID:	281516-023	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 10%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	4.2	2.2	0.17	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	6.1	0.29	0.083	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Barium	170	0.29	0.061	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.51	0.11	0.014	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	0.96	0.29	0.029	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	28	0.29	0.072	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	7.8	0.29	0.034	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Copper	9.2	0.29	0.095	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Lead	6.4	0.29	0.080	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.16	0.017	0.0052	239739	10/03/16	10/03/16	METHOD	EPA 7471A
Molybdenum	1.2	0.29	0.056	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	31	0.29	0.075	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.18	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.29	0.046	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	0.50 J	0.57	0.16	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	35	0.29	0.065	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	41	1.1	0.23	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-44	Basis:	dry
Lab ID:	281516-024	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 14%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	4.9	2.2	0.17	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	7.2	0.28	0.081	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Barium	190	0.28	0.060	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.55	0.11	0.014	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	1.0	0.28	0.029	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	29	0.28	0.070	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	8.5	0.28	0.033	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Copper	10	0.28	0.093	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Lead	12	0.28	0.078	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.14	0.020	0.0060	239739	10/03/16	10/03/16	METHOD	EPA 7471A
Molybdenum	1.4	0.28	0.055	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	32	0.28	0.074	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.2	0.18	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.28	0.045	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	0.23 J	0.56	0.16	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	36	0.28	0.064	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	45	1.1	0.22	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-45	Basis:	dry
Lab ID:	281516-025	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 9%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	4.6	2.1	0.16	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	7.2	0.26	0.077	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Barium	200	0.26	0.057	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.53	0.11	0.013	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	1.2	0.26	0.027	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	30	0.26	0.067	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	7.6	0.26	0.032	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Copper	9.6	0.26	0.088	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Lead	6.4	0.26	0.074	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.16	0.017	0.0052	239739	10/03/16	10/03/16	METHOD	EPA 7471A
Molybdenum	1.6	0.26	0.052	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	33	0.26	0.070	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.1	0.17	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.26	0.042	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	0.33 J	0.53	0.15	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	39	0.26	0.060	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	45	1.1	0.21	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

California Title 22 Metals

Lab #:	281516	Project#:	106101
Client:	Remedy Engineering	Location:	SJ Columbine Reservoir Sampling
Field ID:	HA-46	Basis:	dry
Lab ID:	281516-026	Diln Fac:	1.000
Matrix:	Soil	Sampled:	09/27/16
Units:	mg/Kg	Received:	09/27/16

Moisture: 17%

Analyte	Result	RL	MDL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	4.7	2.4	0.19	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Arsenic	8.2	0.32	0.092	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Barium	190	0.32	0.068	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Beryllium	0.65	0.13	0.016	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Cadmium	1.1	0.32	0.032	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Chromium	37	0.32	0.080	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Cobalt	8.8	0.32	0.038	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Copper	12	0.32	0.11	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Lead	7.1	0.32	0.088	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Mercury	0.14	0.019	0.0057	239739	10/03/16	10/03/16	METHOD	EPA 7471A
Molybdenum	1.3	0.32	0.062	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Nickel	39	0.32	0.083	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Selenium	ND	2.4	0.20	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Silver	ND	0.32	0.051	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Thallium	0.59 J	0.63	0.18	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Vanadium	45	0.32	0.072	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B
Zinc	48	1.3	0.25	239887	10/06/16	10/07/16	EPA 3050B	EPA 6010B

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	239683
Lab ID:	QC853808	Prepared:	09/30/16
Matrix:	Soil	Analyzed:	09/30/16
Units:	mg/Kg		

Result	RL	MDL
0.0050 J	0.015	0.0046

J= Estimated value
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	239683
Matrix:	Soil	Prepared:	09/30/16
Units:	mg/Kg	Analyzed:	09/30/16
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC853809	0.2232	0.2443	109	80-120		
BSD	QC853810	0.2049	0.2236	109	80-120	0	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	HA-25	Batch#:	239683
MSS Lab ID:	281516-005	Sampled:	09/26/16
Matrix:	Soil	Received:	09/27/16
Units:	mg/Kg	Prepared:	09/30/16
Basis:	dry	Analyzed:	09/30/16

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	Moisture	RPD	Lim
MS	QC853811	0.4058	0.2444	0.7966	160 *	69-142	7%		
MSD	QC853812		0.2358	0.6828	117	69-142	7%	14	36

*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	EPA 7471A
Analyte:	Mercury	Basis:	dry
Field ID:	HA-25	Diln Fac:	5.000
Type:	Serial Dilution	Batch#:	239683
MSS Lab ID:	281516-005	Sampled:	09/26/16
Lab ID:	QC853813	Received:	09/27/16
Matrix:	Soil	Analyzed:	09/30/16
Units:	mg/Kg		

MSS Result	MSS RL	Result	RL	Moisture	% Diff	Lim
0.4058	0.01707	0.4015	0.08534	7%	1	10

RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	239739
Lab ID:	QC854032	Prepared:	10/03/16
Matrix:	Soil	Analyzed:	10/03/16
Units:	mg/Kg		

Result	RL	MDL
ND	0.017	0.0050

ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	EPA 7471A
Analyte:	Mercury	Batch#:	239739
Matrix:	Soil	Prepared:	10/03/16
Units:	mg/Kg	Analyzed:	10/03/16
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC854033	0.1953	0.2082	107	80-120		
BSD	QC854034	0.2083	0.2018	97	80-120	10	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	239739
MSS Lab ID:	281451-001	Sampled:	09/26/16
Matrix:	Soil	Received:	09/26/16
Units:	mg/Kg	Prepared:	10/03/16
Basis:	as received	Analyzed:	10/03/16

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC854035	0.05055	0.2155	0.2962	114	69-142		
MSD	QC854036		0.1923	0.2555	107	69-142	6	36

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	EPA 7471A
Analyte:	Mercury	Basis:	as received
Field ID:	ZZZZZZZZZZ	Diln Fac:	5.000
Type:	Serial Dilution	Batch#:	239739
MSS Lab ID:	281451-001	Sampled:	09/26/16
Lab ID:	QC854037	Received:	09/26/16
Matrix:	Soil	Analyzed:	10/03/16
Units:	mg/Kg		

MSS Result	MSS RL	Result	RL	% Diff	Lim
0.05055	0.01587	0.08277	0.07937	NC	10

NC= Not Calculated
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC854590	Batch#:	239884
Matrix:	Soil	Prepared:	10/06/16
Units:	mg/Kg	Analyzed:	10/10/16

Analyte	Result	RL	MDL
Antimony	ND	2.0	0.16
Arsenic	ND	0.27	0.077
Barium	ND	0.27	0.057
Beryllium	ND	0.11	0.013
Cadmium	ND	0.27	0.027
Chromium	0.091 J	0.27	0.067
Cobalt	ND	0.27	0.032
Copper	ND	0.27	0.089
Lead	ND	0.27	0.074
Molybdenum	ND	0.27	0.052
Nickel	ND	0.27	0.070
Selenium	ND	2.0	0.17
Silver	ND	0.27	0.042
Thallium	ND	0.53	0.15
Vanadium	ND	0.27	0.061
Zinc	ND	1.1	0.21

J= Estimated value
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	239884
Units:	mg/Kg	Prepared:	10/06/16
Diln Fac:	1.000	Analyzed:	10/10/16

Type: BS Lab ID: QC854591

Analyte	Spiked	Result	%REC	Limits
Antimony	53.76	58.67	109	80-120
Arsenic	53.76	58.44	109	80-120
Barium	53.76	56.74	106	80-120
Beryllium	26.88	27.79	103	80-120
Cadmium	53.76	58.05	108	80-120
Chromium	53.76	57.91	108	80-120
Cobalt	53.76	59.51	111	80-120
Copper	53.76	57.10	106	80-120
Lead	53.76	58.61	109	80-120
Molybdenum	53.76	55.85	104	80-120
Nickel	53.76	56.71	105	80-120
Selenium	53.76	55.72	104	80-120
Silver	5.376	5.506	102	80-120
Thallium	53.76	55.55	103	80-120
Vanadium	53.76	56.75	106	80-120
Zinc	53.76	58.78	109	80-120

Type: BSD Lab ID: QC854592

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	48.08	53.23	111	80-120	1	20
Arsenic	48.08	52.42	109	80-120	0	20
Barium	48.08	49.78	104	80-120	2	20
Beryllium	24.04	25.07	104	80-120	1	20
Cadmium	48.08	50.82	106	80-120	2	20
Chromium	48.08	50.69	105	80-120	2	20
Cobalt	48.08	52.31	109	80-120	2	20
Copper	48.08	50.16	104	80-120	2	20
Lead	48.08	52.78	110	80-120	1	20
Molybdenum	48.08	50.20	104	80-120	1	20
Nickel	48.08	49.67	103	80-120	2	20
Selenium	48.08	49.52	103	80-120	1	20
Silver	4.808	4.906	102	80-120	0	20
Thallium	48.08	50.26	105	80-120	1	20
Vanadium	48.08	49.76	104	80-120	2	20
Zinc	48.08	50.64	105	80-120	4	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Field ID:	HA-21	Batch#:	239884
MSS Lab ID:	281516-001	Sampled:	09/26/16
Matrix:	Soil	Received:	09/27/16
Units:	mg/Kg	Prepared:	10/06/16
Basis:	dry	Analyzed:	10/10/16
Diln Fac:	1.000		

Type: MS Moisture: 3%
Lab ID: QC854593

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<0.1482	56.03	34.26	61	15-120
Arsenic	2.171	56.03	62.40	107	69-120
Barium	55.40	56.03	114.1	105	35-154
Beryllium	0.1898	28.01	29.00	103	75-120
Cadmium	0.7268	56.03	57.94	102	71-120
Chromium	10.14	56.03	70.58	108	57-133
Cobalt	2.642	56.03	61.15	104	56-125
Copper	4.773	56.03	63.32	104	54-144
Lead	8.904	56.03	67.89	105	53-125
Molybdenum	0.7416	56.03	55.38	98	66-120
Nickel	11.89	56.03	69.73	103	44-141
Selenium	<0.1583	56.03	55.64	99	61-120
Silver	<0.03952	5.603	5.672	101	69-120
Thallium	0.5647	56.03	55.35	98	59-120
Vanadium	12.11	56.03	71.43	106	52-144
Zinc	133.6	56.03	200.7	120	45-145

Type: MSD Moisture: 3%
Lab ID: QC854594

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	55.43	33.52	60	15-120	1	41
Arsenic	55.43	59.45	103	69-120	4	35
Barium	55.43	109.9	98	35-154	3	36
Beryllium	27.71	28.17	101	75-120	2	20
Cadmium	55.43	55.92	100	71-120	2	25
Chromium	55.43	67.62	104	57-133	3	33
Cobalt	55.43	59.29	102	56-125	2	36
Copper	55.43	60.82	101	54-144	3	38
Lead	55.43	64.84	101	53-125	4	42
Molybdenum	55.43	53.17	95	66-120	3	20
Nickel	55.43	67.44	100	44-141	2	39
Selenium	55.43	52.57	95	61-120	5	33
Silver	5.543	5.386	97	69-120	4	22
Thallium	55.43	52.07	93	59-120	5	27
Vanadium	55.43	68.14	101	52-144	4	29
Zinc	55.43	198.0	116	45-145	1	39

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Field ID:	HA-21	Basis:	dry
Type:	Serial Dilution	Diln Fac:	5.000
MSS Lab ID:	281516-001	Batch#:	239884
Lab ID:	QC854595	Sampled:	09/26/16
Matrix:	Soil	Received:	09/27/16
Units:	mg/Kg	Analyzed:	10/11/16

Moisture: 3%

Analyte	MSS Result	MSS RL	Result	RL	% Diff	Lim
Antimony	ND	1.983	ND	2.478	NC	10
Arsenic			NA			
Barium	55.40	0.2478	56.24	1.239	2	10
Beryllium	0.1898	0.09913	0.2125 J	0.4956	NC	10
Cadmium	0.7268	0.2478	0.7296 J	1.239	NC	10
Chromium	10.14	0.2478	10.08	1.239	1	10
Cobalt	2.642	0.2478	2.605	1.239	1	10
Copper	4.773	0.2479	4.050	1.240	15 *	10
Lead	8.904	0.2478	8.789	1.239	1	10
Molybdenum	0.7416	0.2478	0.8350 J	1.239	NC	10
Nickel	11.89	0.2478	12.10	1.239	2	10
Selenium	ND	1.983	ND	2.478	NC	10
Silver	ND	0.2478	0.3162 J	1.239	NC	10
Thallium	0.5647	0.4956	1.870 J	2.478	NC	10
Vanadium	12.11	0.2478	11.99	1.239	1	10
Zinc	133.6	0.9913	133.1	4.956	0	10

*= Value outside of QC limits; see narrative
J= Estimated value
NA= Not Analyzed
NC= Not Calculated
ND= Not Detected at or above MDL
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Field ID:	HA-21	Basis:	dry
Type:	Post Digest Spike	Diln Fac:	1.000
MSS Lab ID:	281516-001	Batch#:	239884
Lab ID:	QC854596	Sampled:	09/26/16
Matrix:	Soil	Received:	09/27/16
Units:	mg/Kg	Analyzed:	10/11/16

Moisture: 3%

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony			NA		
Arsenic	2.171	4.956	6.396	85	75-125
Barium	55.40	4.956	60.00	93 NM	75-125
Beryllium	0.1898	4.956	5.459	106	75-125
Cadmium	0.7268	4.956	5.716	101	75-125
Chromium	10.14	4.956	14.98	98	75-125
Cobalt	2.642	4.956	7.374	95	75-125
Copper	4.773	4.956	9.605	97	75-125
Lead	8.904	4.956	13.38	90	75-125
Molybdenum	0.7416	4.956	5.668	99	75-125
Nickel	11.89	4.956	16.45	92	75-125
Selenium	<0.1583	4.956	4.205	85	75-125
Silver	<0.03952	4.956	5.186	105	75-125
Thallium	0.5647	2.478	3.073	101	75-125
Vanadium	12.11	4.956	17.02	99	75-125
Zinc	133.6	4.956	138.4	96 NM	75-125

NA= Not Analyzed

NM= Not Meaningful: Sample concentration > 4X spike concentration

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC854610	Batch#:	239887
Matrix:	Soil	Prepared:	10/06/16
Units:	mg/Kg	Analyzed:	10/07/16

Analyte	Result	RL	MDL
Antimony	ND	2.0	0.15
Arsenic	ND	0.25	0.073
Barium	ND	0.25	0.054
Beryllium	ND	0.10	0.013
Cadmium	ND	0.25	0.026
Chromium	ND	0.25	0.064
Cobalt	ND	0.25	0.030
Copper	ND	0.25	0.084
Lead	ND	0.25	0.070
Molybdenum	ND	0.25	0.049
Nickel	ND	0.25	0.066
Selenium	ND	2.0	0.16
Silver	0.073 J	0.25	0.040
Thallium	ND	0.51	0.14
Vanadium	ND	0.25	0.058
Zinc	2.9 b	1.0	0.20

J= Estimated value
b= See narrative
ND= Not Detected at or above MDL
RL= Reporting Limit
MDL= Method Detection Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	239887
Units:	mg/Kg	Prepared:	10/06/16
Diln Fac:	1.000	Analyzed:	10/07/16

Type: BS Lab ID: QC854611

Analyte	Spiked	Result	%REC	Limits
Antimony	54.35	58.59	108	80-120
Arsenic	54.35	58.63	108	80-120
Barium	54.35	55.62	102	80-120
Beryllium	27.17	27.71	102	80-120
Cadmium	54.35	56.73	104	80-120
Chromium	54.35	55.82	103	80-120
Cobalt	54.35	56.63	104	80-120
Copper	54.35	55.58	102	80-120
Lead	54.35	58.08	107	80-120
Molybdenum	54.35	55.27	102	80-120
Nickel	54.35	55.18	102	80-120
Selenium	54.35	56.44	104	80-120
Silver	5.435	5.335	98	80-120
Thallium	54.35	56.56	104	80-120
Vanadium	54.35	54.93	101	80-120
Zinc	54.35	57.72	106	80-120

Type: BSD Lab ID: QC854612

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	48.54	49.02	101	80-120	7	20
Arsenic	48.54	50.18	103	80-120	4	20
Barium	48.54	48.79	101	80-120	2	20
Beryllium	24.27	24.57	101	80-120	1	20
Cadmium	48.54	49.86	103	80-120	2	20
Chromium	48.54	49.02	101	80-120	2	20
Cobalt	48.54	49.75	102	80-120	2	20
Copper	48.54	48.69	100	80-120	2	20
Lead	48.54	49.39	102	80-120	5	20
Molybdenum	48.54	47.14	97	80-120	5	20
Nickel	48.54	48.49	100	80-120	2	20
Selenium	48.54	48.32	100	80-120	4	20
Silver	4.854	4.676	96	80-120	2	20
Thallium	48.54	47.89	99	80-120	5	20
Vanadium	48.54	48.11	99	80-120	2	20
Zinc	48.54	49.91	103	80-120	3	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#:	239887
MSS Lab ID:	281716-001	Sampled:	10/03/16
Matrix:	Soil	Received:	10/03/16
Units:	mg/Kg	Prepared:	10/06/16
Basis:	dry	Analyzed:	10/07/16
Diln Fac:	1.000		

Type: MS Moisture: 11%
Lab ID: QC854613

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	8.959	53.00	25.73	32	15-120
Arsenic	9.445	53.00	63.34	102	69-120
Barium	160.8	53.00	208.3	90	35-154
Beryllium	0.5537	26.50	26.41	98	75-120
Cadmium	0.9643	53.00	50.97	94	71-120
Chromium	52.84	53.00	101.4	92	57-133
Cobalt	14.45	53.00	62.97	92	56-125
Copper	61.89	53.00	115.9	102	54-144
Lead	61.81	53.00	127.7	124	53-125
Molybdenum	0.6856	53.00	47.56	88	66-120
Nickel	52.41	53.00	98.16	86	44-141
Selenium	<0.1869	53.00	48.72	92	61-120
Silver	<0.04666	5.300	4.797	91	69-120
Thallium	0.3076	53.00	46.90	88	59-120
Vanadium	59.94	53.00	111.4	97	52-144
Zinc	128.0	53.00	186.6	111	45-145

Type: MSD Moisture: 11%
Lab ID: QC854614

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	59.14	30.12	36	15-120	6	41
Arsenic	59.14	69.17	101	69-120	1	35
Barium	59.14	211.3	85	35-154	1	36
Beryllium	29.57	29.28	97	75-120	0	20
Cadmium	59.14	55.63	92	71-120	2	25
Chromium	59.14	105.7	89	57-133	2	33
Cobalt	59.14	68.25	91	56-125	1	36
Copper	59.14	117.2	94	54-144	4	38
Lead	59.14	123.2	104	53-125	9	42
Molybdenum	59.14	52.91	88	66-120	0	20
Nickel	59.14	100.6	82	44-141	3	39
Selenium	59.14	53.38	90	61-120	2	33
Silver	5.914	5.209	88	69-120	3	22
Thallium	59.14	52.09	88	59-120	0	27
Vanadium	59.14	114.9	93	52-144	2	29
Zinc	59.14	187.2	100	45-145	3	39

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Basis:	dry
Type:	Serial Dilution	Diln Fac:	5.000
MSS Lab ID:	281716-001	Batch#:	239887
Lab ID:	QC854615	Sampled:	10/03/16
Matrix:	Soil	Received:	10/03/16
Units:	mg/Kg	Analyzed:	10/07/16

Moisture: 11%

Analyte	MSS Result	MSS RL	Result	RL	% Diff	Lim
Antimony	8.959	2.247	8.146	2.926	9	10
Arsenic	9.445	0.2926	9.341	1.463	1	10
Barium	160.8	0.2926	164.2	1.463	2	10
Beryllium	0.5537	0.1170	0.5702 J	0.5852	NC	10
Cadmium	0.9643	0.2926	0.9838 J	1.463	NC	10
Chromium	52.84	0.2926	53.74	1.463	2	10
Cobalt	14.45	0.2926	15.08	1.463	4	10
Copper	61.89	0.2927	60.69	1.464	2	10
Lead	61.81	0.2926	66.87	1.463	8	10
Molybdenum	0.6856	0.2926	0.8683 J	1.463	NC	10
Nickel	52.41	0.2926	55.07	1.463	5	10
Selenium	ND	2.247	ND	2.926	NC	10
Silver	ND	0.2926	ND	1.463	NC	10
Thallium	0.3076	0.5852	2.426 J	2.926	NC	10
Vanadium	59.94	0.2926	59.37	1.463	1	10
Zinc	128.0	1.170	139.1	5.852	9	10

J= Estimated value
NC= Not Calculated
ND= Not Detected at or above MDL
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

California Title 22 Metals

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	EPA 3050B
Project#:	106101	Analysis:	EPA 6010B
Field ID:	ZZZZZZZZZZ	Basis:	dry
Type:	Post Digest Spike	Diln Fac:	1.000
MSS Lab ID:	281716-001	Batch#:	239887
Lab ID:	QC854616	Sampled:	10/03/16
Matrix:	Soil	Received:	10/03/16
Units:	mg/Kg	Analyzed:	10/07/16

Moisture: 11%

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	8.959	5.852	15.76	116	75-125
Arsenic	9.445	5.852	18.15	149 *	75-125
Barium	160.8	5.852	158.4	-41 NM	75-125
Beryllium	0.5537	5.852	7.035	111	75-125
Cadmium	0.9643	5.852	7.352	109	75-125
Chromium	52.84	5.852	56.53	63 NM	75-125
Cobalt	14.45	5.852	20.75	108	75-125
Copper	61.89	5.852	64.87	51 NM	75-125
Lead	61.81	5.852	69.80	137 NM	75-125
Molybdenum	0.6856	5.852	6.465	99	75-125
Nickel	52.41	5.852	56.22	65 NM	75-125
Selenium	<0.1869	5.852	5.349	91	75-125
Silver	<0.04666	5.852	5.406	92	75-125
Thallium	0.3076	2.926	3.371	105	75-125
Vanadium	59.94	5.852	62.80	49 NM	75-125
Zinc	128.0	5.852	133.8	98 NM	75-125

*= Value outside of QC limits; see narrative

NM= Not Meaningful: Sample concentration > 4X spike concentration

REPORTING SUMMARY FOR 281516 METALS Soil
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	SB	ASA	BAE	BED	CRO	COU	PBG	HGO	MNI	SEG	AGL	TL	VN	ZN
281516-001	MET44	09/30/16 14:46	1.0														
281516-001	MET44	09/30/16 15:40	1.0								+						
281516-001	MET09	10/10/16 09:14	1.0	+	+	+	+	+	+	+	+	+	+	+	+	+	
281516-001	MET09	10/10/16 17:31	1.0														
281516-001	MET09	10/11/16 01:40	1.0		+										+		+
281516-002	MET44	09/30/16 14:47	1.0														
281516-002	MET44	09/30/16 15:41	1.0								+						
281516-002	MET09	10/10/16 09:21	1.0	+	+	+	+	+	+	+	+	+	+	+	+	+	+
281516-003	MET44	09/30/16 14:48	1.0														
281516-003	MET44	09/30/16 15:42	1.0								+						
281516-003	MET09	10/10/16 09:23	1.0	+	+	+	+	+	+	+	+	+	+	+	+	+	+
281516-004	MET44	09/30/16 14:49	1.0														
281516-004	MET44	09/30/16 15:43	1.0								+						
281516-004	MET09	10/10/16 09:25	1.0	+	+	+	+	+	+	+	+	+	+	+	+	+	+
281516-004	MET09	10/10/16 17:44	1.0														
281516-004	MET09	10/11/16 01:43	1.0												+		
281516-005	MET44	09/30/16 13:32	1.0														
281516-005	MET44	09/30/16 14:10	1.0														
281516-005	MET44	09/30/16 14:33	1.0														
281516-005	MET44	09/30/16 15:27	1.0								+						
281516-005	MET09	10/10/16 09:32	1.0	+	+	+	+	+	+	+	+	+	+	+	+	+	+
281516-005	MET09	10/10/16 17:46	1.0														
281516-005	MET09	10/11/16 01:45	1.0												+		
281516-006	MET44	09/30/16 14:50	1.0														
281516-006	MET44	09/30/16 15:44	1.0								+						
281516-006	MET09	10/10/16 09:34	1.0		+	+	+	+	+	+	+	+	+	+	+	+	+
281516-006	MET09	10/10/16 17:49	1.0														
281516-006	MET09	10/11/16 01:48	1.0	+											+		
281516-007	MET44	09/30/16 14:51	1.0														
281516-007	MET44	09/30/16 15:47	1.0								+						
281516-007	MET09	10/10/16 09:36	1.0	+	+	+	+	+	+	+	+	+	+	+	+	+	+
281516-007	MET09	10/10/16 17:51	1.0														
281516-007	MET09	10/11/16 01:50	1.0												+		
281516-008	MET44	09/30/16 14:52	1.0														
281516-008	MET44	09/30/16 15:49	1.0								+						
281516-008	MET09	10/10/16 09:38	1.0	+	+	+	+	+	+	+	+	+	+	+	+	+	+
281516-008	MET09	10/10/16 17:53	1.0														
281516-008	MET09	10/11/16 01:56	1.0												+		
281516-009	MET44	09/30/16 14:54	1.0														
281516-009	MET44	09/30/16 15:50	1.0								+						
281516-009	MET09	10/10/16 09:40	1.0		+	+	+	+	+	+	+	+	+	+	+	+	+
281516-009	MET09	10/10/16 17:55	1.0														
281516-009	MET09	10/11/16 01:58	1.0	+													
281516-010	MET44	09/30/16 15:51	1.0								+						

REPORTING SUMMARY FOR 281516 METALS Soil
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	MO	NI	SE	AG	TL	VN	ZN
281516-010	MET09	10/10/16 09:42	1.0		+	+	+	+	+	+	+	+		+	+	+	+		+	+
281516-010	MET09	10/10/16 17:57	1.0	+																
281516-010	MET09	10/11/16 02:01	1.0															+		
281516-011	MET44	09/30/16 15:52	1.0										+							
281516-011	MET09	10/10/16 09:44	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281516-012	MET44	09/30/16 15:53	1.0										+							
281516-012	MET09	10/10/16 09:46	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+		+	+
281516-012	MET09	10/10/16 18:00	1.0																	
281516-012	MET09	10/11/16 02:03	1.0															+		
281516-013	MET44	09/30/16 15:54	1.0										+							
281516-013	MET09	10/10/16 09:48	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+		+	+
281516-013	MET09	10/10/16 18:02	1.0																	
281516-013	MET09	10/11/16 02:05	1.0															+		
281516-014	MET44	09/30/16 15:55	1.0										+							
281516-014	MET09	10/10/16 09:51	1.0		+	+	+	+	+	+	+	+		+	+	+	+		+	+
281516-014	MET09	10/10/16 18:11	1.0																	
281516-014	MET09	10/11/16 02:07	1.0	+														+		
281516-015	MET44	09/30/16 15:57	1.0										+							
281516-015	MET09	10/10/16 14:00	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281516-016	MET44	10/03/16 14:31	1.0										+							
281516-016	MET09	10/10/16 14:02	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281516-017	MET44	10/03/16 14:32	1.0										+							
281516-017	MET09	10/10/16 14:04	1.0			+	+	+	+	+	+	+		+	+	+	+	+	+	+
281516-017	MET09	10/11/16 02:09	1.0	+	+															
281516-018	MET44	10/03/16 14:33	1.0										+							
281516-018	MET09	10/10/16 14:06	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281516-019	MET44	10/03/16 14:34	1.0										+							
281516-019	MET09	10/10/16 14:08	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+		+	+
281516-019	MET09	10/11/16 02:11	1.0															+		
281516-020	MET44	10/03/16 14:36	1.0										+							
281516-020	MET09	10/07/16 00:37	1.0																	
281516-020	MET09	10/07/16 15:44	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
281516-021	MET44	10/03/16 14:37	1.0										+							
281516-021	MET09	10/07/16 00:41	1.0	+	+	+	+	+	+	+	+	+		+	+		+		+	+
281516-021	MET09	10/07/16 15:46	1.0													+		+		
281516-022	MET44	10/03/16 14:38	1.0										+							
281516-022	MET09	10/07/16 00:44	1.0	+	+	+	+	+	+	+	+	+		+	+		+		+	+
281516-022	MET09	10/07/16 15:48	1.0													+		+		
281516-023	MET44	10/03/16 14:39	1.0										+							
281516-023	MET09	10/07/16 00:46	1.0																	

REPORTING SUMMARY FOR 281516 METALS Soil
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	SB	ASA	BAE	BED	CRO	CRU	CPB	HG	MOI	NIE	SEG	ALL	VN	ZN
281516-023	MET09	10/07/16 15:50	1.0	+	+	+	+	+	+	+		+	+	+	+	+	+
281516-023	MET09	10/07/16 18:31	1.0												+		
281516-024	MET44	10/03/16 14:40	1.0								+						
281516-024	MET09	10/07/16 00:48	1.0														
281516-024	MET09	10/07/16 15:52	1.0	+	+	+	+	+	+	+		+	+	+	+	+	+
281516-025	MET44	10/03/16 14:41	1.0								+						
281516-025	MET09	10/07/16 00:51	1.0														
281516-025	MET09	10/07/16 15:54	1.0	+	+	+	+	+	+	+		+	+	+	+	+	+
281516-026	MET44	10/03/16 14:45	1.0								+						
281516-026	MET09	10/07/16 00:53	1.0														
281516-026	MET09	10/07/16 15:56	1.0	+	+	+	+	+	+	+		+	+	+	+	+	+
QC853808	MET44	09/30/16 13:28	1.0														
QC853808	MET44	09/30/16 14:06	1.0														
QC853808	MET44	09/30/16 14:30	1.0														
QC853808	MET44	09/30/16 15:24	1.0								+						
QC853809	MET44	09/30/16 13:30	1.0														
QC853809	MET44	09/30/16 14:07	1.0														
QC853809	MET44	09/30/16 14:31	1.0														
QC853809	MET44	09/30/16 15:25	1.0								+						
QC853810	MET44	09/30/16 13:31	1.0														
QC853810	MET44	09/30/16 14:08	1.0														
QC853810	MET44	09/30/16 14:32	1.0														
QC853810	MET44	09/30/16 15:26	1.0								+						
QC853811	MET44	09/30/16 13:33	1.0														
QC853811	MET44	09/30/16 14:11	1.0														
QC853811	MET44	09/30/16 14:34	1.0														
QC853811	MET44	09/30/16 15:28	1.0														
QC853811	MET44	09/30/16 16:36	1.0								+						
QC853812	MET44	09/30/16 13:34	1.0														
QC853812	MET44	09/30/16 14:12	1.0														
QC853812	MET44	09/30/16 14:35	1.0														
QC853812	MET44	09/30/16 15:29	1.0														
QC853812	MET44	09/30/16 16:37	1.0								+						
QC853813	MET44	09/30/16 13:35	5.0														
QC853813	MET44	09/30/16 14:13	5.0														
QC853813	MET44	09/30/16 14:37	5.0														
QC853813	MET44	09/30/16 15:30	5.0														
QC853813	MET44	09/30/16 16:39	5.0								+						
QC854032	MET44	10/03/16 14:17	1.0								+						
QC854033	MET44	10/03/16 14:18	1.0								+						
QC854034	MET44	10/03/16 14:20	1.0								+						

REPORTING SUMMARY FOR 281516 METALS Soil
Curtis & Tompkins Laboratories

Lab ID	Inst ID	Analyzed	IDF	SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	MO	NI	SE	AG	TL	V	ZN
QC854035	MET44	10/03/16 14:22	1.0										+							
QC854036	MET44	10/03/16 14:23	1.0										+							
QC854037	MET44	10/03/16 14:24	5.0										+							
QC854590	MET09	10/10/16 09:09	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	
QC854590	MET09	10/10/16 17:29	1.0																	+
QC854591	MET09	10/10/16 09:12	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854592	MET09	10/10/16 09:13	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854593	MET09	10/10/16 09:17	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854594	MET09	10/10/16 09:19	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854595	MET09	10/10/16 17:33	5.0																	
QC854595	MET09	10/11/16 01:36	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854596	MET09	10/10/16 17:42	1.0																	
QC854596	MET09	10/11/16 01:38	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854610	MET09	10/07/16 00:13	1.0																	
QC854610	MET09	10/07/16 08:45	1.0																	
QC854610	MET09	10/07/16 11:14	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854611	MET09	10/07/16 00:15	1.0																	
QC854611	MET09	10/07/16 08:47	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854612	MET09	10/07/16 00:17	1.0																	
QC854612	MET09	10/07/16 08:49	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854613	MET09	10/07/16 00:22	1.0																	
QC854613	MET09	10/07/16 08:52	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854614	MET09	10/07/16 00:24	1.0																	
QC854614	MET09	10/07/16 08:54	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854615	MET09	10/07/16 00:32	5.0																	
QC854615	MET09	10/07/16 09:10	5.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+
QC854616	MET09	10/07/16 00:35	1.0																	
QC854616	MET09	10/07/16 09:13	1.0	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+

ICP Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96404076

Instrument : MET09 Begun : 10/06/16 14:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_0816	ICALBLK				10/06/16 14:36	1.0		
002	met09_sn_0816	ICAL	L1			10/06/16 14:38	1.0	1	
003	met09_sn_0816	ICAL	L2			10/06/16 14:41	1.0	2	
004	met09_sn_0816	ICAL	L3			10/06/16 14:43	1.0	3	
005	met09_sn_0816	ICAL	L4			10/06/16 14:45	1.0	4	
006	met09_sn_0816	ICAL	L5			10/06/16 14:47	1.0	5	
007	met09_sn_0816	ICV				10/06/16 14:49	1.0	6	
008	met09_sn_0816	XCRI				10/06/16 14:52	1.0	7	
009	met09_sn_0816	CRI				10/06/16 14:56	1.0	7	
010	met09_sn_0816	ICB				10/06/16 14:58	1.0		
011	met09_sn_0816	ICSA				10/06/16 15:01	1.0	8	10:AL=500000
012	met09_sn_0816	XICSAB				10/06/16 15:06	1.0	9	
013	met09_sn_0816	ICSAB				10/06/16 15:10	1.0	9	5:MG=500000
014	met09_sn_0816	SAMPLE	281278-001	Filtrate	239654	10/06/16 15:12	100.0		
015	met09_sn_0816	CCV				10/06/16 15:14	1.0	10	
016	met09_sn_0816	CCB				10/06/16 15:16	1.0		
017	met09_sn_0816	CCB				10/06/16 15:18	1.0		
018	met09_sn_0816	X	RINSE			10/06/16 15:26	1.0		
019	met09_sn_0816	BS	QC854124	TCLP Leachate	239761	10/06/16 15:28	1.0		
020	met09_sn_0816	BSD	QC854125	TCLP Leachate	239761	10/06/16 15:31	1.0		
021	met09_sn_0816	MSS	281579-005	TCLP Leachate	239761	10/06/16 15:33	10.0		1:NA=160000
022	met09_sn_0816	MS	QC854126	TCLP Leachate	239761	10/06/16 15:35	10.0		
023	met09_sn_0816	MSD	QC854127	TCLP Leachate	239761	10/06/16 15:38	10.0		
024	met09_sn_0816	SAMPLE	281247-001	TCLP Leachate	239761	10/06/16 15:40	500.0		
025	met09_sn_0816	SAMPLE	281247-002	TCLP Leachate	239761	10/06/16 15:43	500.0		
026	met09_sn_0816	SAMPLE	281247-003	TCLP Leachate	239761	10/06/16 15:45	500.0		
027	met09_sn_0816	SAMPLE	281247-004	TCLP Leachate	239761	10/06/16 15:47	500.0		
028	met09_sn_0816	CCV				10/06/16 15:50	1.0	10	
029	met09_sn_0816	CCB				10/06/16 15:52	1.0		
030	met09_sn_0816	CCB				10/06/16 15:54	1.0		
031	met09_sn_0816	X	RINSE			10/06/16 15:56	1.0		
032	met09_sn_0816	BLANK	QC854140	Air	239766	10/06/16 15:58	1.0		
033	met09_sn_0816	BS	QC854141	Air	239766	10/06/16 16:01	1.0		
034	met09_sn_0816	BSD	QC854142	Air	239766	10/06/16 16:03	1.0		
035	met09_sn_0816	MSS	281160-021	Air	239766	10/06/16 16:06	1.0		5:NA=120000
036	met09_sn_0816	MS	QC854143	Air	239766	10/06/16 16:09	1.0		
037	met09_sn_0816	MSD	QC854144	Air	239766	10/06/16 16:12	1.0		
038	met09_sn_0816	SAMPLE	281160-022	Air	239766	10/06/16 16:14	1.0		5:NA=130000
039	met09_sn_0816	SAMPLE	281160-023	Air	239766	10/06/16 16:17	1.0		5:NA=120000
040	met09_sn_0816	SAMPLE	281160-024	Air	239766	10/06/16 16:20	1.0		4:NA=120000
041	met09_sn_0816	CCV				10/06/16 16:23	1.0	10	
042	met09_sn_0816	CCB				10/06/16 16:25	1.0		
043	met09_sn_0816	CCB				10/06/16 16:27	1.0		
044	met09_sn_0816	SAMPLE	281160-025	Air	239766	10/06/16 16:30	1.0		5:NA=130000
045	met09_sn_0816	SAMPLE	281160-026	Air	239766	10/06/16 16:33	1.0		5:NA=130000
046	met09_sn_0816	SAMPLE	281160-027	Air	239766	10/06/16 16:36	1.0		5:NA=130000
047	met09_sn_0816	SAMPLE	281160-028	Air	239766	10/06/16 16:39	1.0		5:NA=120000
048	met09_sn_0816	SAMPLE	281160-029	Air	239766	10/06/16 16:42	1.0		5:NA=120000
049	met09_sn_0816	SAMPLE	281160-030	Air	239766	10/06/16 16:45	1.0		5:NA=130000
050	met09_sn_0816	SAMPLE	281160-031	Air	239766	10/06/16 16:48	1.0		4:NA=120000
051	met09_sn_0816	SAMPLE	281160-032	Air	239766	10/06/16 16:51	1.0		4:NA=120000
052	met09_sn_0816	SAMPLE	281160-033	Air	239766	10/06/16 16:54	1.0		4:NA=120000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96404076

Instrument : MET09 Begun : 10/06/16 14:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_0816	SAMPLE	281160-034	Air	239766	10/06/16 16:57	1.0		4:NA=120000
054	met09_sn_0816	CCV				10/06/16 17:00	1.0	10	
055	met09_sn_0816	CCB				10/06/16 17:03	1.0		
056	met09_sn_0816	CCB				10/06/16 17:05	1.0		
057	met09_sn_0816	SAMPLE	281160-035	Air	239766	10/06/16 17:07	1.0		5:NA=130000
058	met09_sn_0816	CCV				10/06/16 17:10	1.0	10	
059	met09_sn_0816	CCB				10/06/16 17:12	1.0		
060	met09_sn_0816	CCB				10/06/16 17:14	1.0		
061	met09_sn_0816	BLANK	QC854123	TCLP Leachate	239761	10/06/16 17:52	10.0		1:NA=160000
062	met09_sn_0816	SAMPLE	281707-001	TCLP Leachate	239761	10/06/16 17:58	10.0		
063	met09_sn_0816	SAMPLE	281587-001	Soil	239688	10/06/16 18:01	1.0		2:FE=260000
064	met09_sn_0816	SAMPLE	281600-001	WET Leachate	239719	10/06/16 18:04	10.0		1:NA=160000
065	met09_sn_0816	SAMPLE	281760-005	Soil	239839	10/06/16 18:06	1.0		2:FE=380000
066	met09_sn_0816	SAMPLE	281820-001	WET Leachate	239618	10/06/16 18:08	10.0		1:NA=160000
067	met09_sn_0816	SAMPLE	281587-001	Soil	239688	10/06/16 18:11	1.0		2:FE=260000
068	met09_sn_0816	SAMPLE	281821-001	WET Leachate	239618	10/06/16 18:14	10.0		1:NA=160000
069	met09_sn_0816	X	RINSE			10/06/16 18:16	1.0		
070	met09_sn_0816	CCV				10/06/16 18:19	1.0	10	
071	met09_sn_0816	CCB				10/06/16 18:21	1.0		
072	met09_sn_0816	CCB				10/06/16 18:23	1.0		
073	met09_sn_0816	X	RINSE			10/06/16 19:06	1.0		
074	met09_sn_0816	MS	QC853884	Filtrate	239702	10/06/16 19:09	10.0		
075	met09_sn_0816	MSD	QC853885	Filtrate	239702	10/06/16 19:11	10.0		
076	met09_sn_0816	SER	QC853886	Filtrate	239702	10/06/16 19:13	25.0		
077	met09_sn_0816	PDS	QC853887	Filtrate	239702	10/06/16 19:16	5.0	11 12 13	1:MG=120000
078	met09_sn_0816	MSS	281322-001	Filtrate	239702	10/06/16 19:19	5.0		1:MG=110000
079	met09_sn_0816	X	RINSE			10/06/16 19:22	1.0		
080	met09_sn_0816	BS	QC854124	TCLP Leachate	239761	10/06/16 19:24	1.0		
081	met09_sn_0816	BSD	QC854125	TCLP Leachate	239761	10/06/16 19:27	1.0		
082	met09_sn_0816	MS	QC854126	TCLP Leachate	239761	10/06/16 19:29	10.0		
083	met09_sn_0816	CCV				10/06/16 19:32	1.0	10	
084	met09_sn_0816	CCB				10/06/16 19:34	1.0		
085	met09_sn_0816	CCB				10/06/16 19:36	1.0		
086	met09_sn_0816	MSD	QC854127	TCLP Leachate	239761	10/06/16 19:38	10.0		
087	met09_sn_0816	SAMPLE	281580-005	TCLP Leachate	239761	10/06/16 19:40	10.0		1:NA=160000
088	met09_sn_0816	SAMPLE	281580-010	TCLP Leachate	239761	10/06/16 19:43	10.0		1:NA=150000
089	met09_sn_0816	?SAMPLE	281716-001		239761	10/06/16 19:45	10.0		
090	met09_sn_0816	?SAMPLE	281762-001		239761	10/06/16 19:48	10.0		
091	met09_sn_0816	?SAMPLE	281072-001		239761	10/06/16 19:50	10.0		
092	met09_sn_0816	?SAMPLE	281549-001		239761	10/06/16 19:52	10.0		
093	met09_sn_0816	?SAMPLE	281568-009		239761	10/06/16 19:55	10.0		
094	met09_sn_0816	?SAMPLE	281589-001		239761	10/06/16 19:57	10.0		
095	met09_sn_0816	?SAMPLE	281591-001		239761	10/06/16 19:59	10.0		
096	met09_sn_0816	CCV				10/06/16 20:02	1.0	10	
097	met09_sn_0816	CCB				10/06/16 20:04	1.0		
098	met09_sn_0816	CCB				10/06/16 20:06	1.0		
099	met09_sn_0816	X	RINSE			10/06/16 20:08	1.0		
100	met09_sn_0816	BLANK	QC854412	Soil	239837	10/06/16 20:11	1.0		
101	met09_sn_0816	BS	QC854413	Soil	239837	10/06/16 20:13	1.0		
102	met09_sn_0816	BSD	QC854414	Soil	239837	10/06/16 20:16	1.0		
103	met09_sn_0816	MSS	281460-001	Soil	239837	10/06/16 20:18	1.0		5:FE=420000
104	met09_sn_0816	MS	QC854415	Soil	239837	10/06/16 20:20	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96404076

Instrument : MET09 Begun : 10/06/16 14:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met09_sn_0816	MSD	QC854416	Soil	239837	10/06/16 20:22	1.0		
106	met09_sn_0816	SER	QC854417	Soil	239837	10/06/16 20:24	5.0		
107	met09_sn_0816	PDS	QC854418	Soil	239837	10/06/16 20:27	1.0	11 12 13	
108	met09_sn_0816	SAMPLE	281460-002	Soil	239837	10/06/16 20:30	1.0		5:FE=380000
109	met09_sn_0816	CCV				10/06/16 20:32	1.0	10	
110	met09_sn_0816	CCB				10/06/16 20:34	1.0		
111	met09_sn_0816	CCB				10/06/16 20:36	1.0		
112	met09_sn_0816	SAMPLE	281460-003	Soil	239837	10/06/16 20:38	1.0		3:FE=290000
113	met09_sn_0816	SAMPLE	281460-004	Soil	239837	10/06/16 20:41	1.0		5:FE=390000
114	met09_sn_0816	SAMPLE	281460-005	Soil	239837	10/06/16 20:43	1.0		5:FE=390000
115	met09_sn_0816	SAMPLE	281460-006	Soil	239837	10/06/16 20:45	1.0		4:FE=360000
116	met09_sn_0816	SAMPLE	281460-007	Soil	239837	10/06/16 20:48	1.0		5:FE=360000
117	met09_sn_0816	SAMPLE	281460-008	Soil	239837	10/06/16 20:50	1.0		5:CA=420000
118	met09_sn_0816	SAMPLE	281460-009	Soil	239837	10/06/16 20:52	1.0		3:FE=390000
119	met09_sn_0816	SAMPLE	281460-010	Soil	239837	10/06/16 20:54	1.0		4:FE=410000
120	met09_sn_0816	SAMPLE	281460-011	Soil	239837	10/06/16 20:56	1.0		4:FE=400000
121	met09_sn_0816	SAMPLE	281460-012	Soil	239837	10/06/16 20:58	1.0		5:FE=380000
122	met09_sn_0816	CCV				10/06/16 21:00	1.0	10	
123	met09_sn_0816	CCB				10/06/16 21:02	1.0		
124	met09_sn_0816	CCB				10/06/16 21:04	1.0		
125	met09_sn_0816	SAMPLE	281460-013	Soil	239837	10/06/16 21:07	1.0		5:FE=340000
126	met09_sn_0816	SAMPLE	281460-014	Soil	239837	10/06/16 21:09	1.0		4:FE=390000
127	met09_sn_0816	SAMPLE	281460-015	Soil	239837	10/06/16 21:11	1.0		3:FE=420000
128	met09_sn_0816	SAMPLE	281460-016	Soil	239837	10/06/16 21:13	1.0		4:FE=340000
129	met09_sn_0816	SAMPLE	281460-017	Soil	239837	10/06/16 21:15	1.0		5:FE=340000
130	met09_sn_0816	SAMPLE	281460-018	Soil	239837	10/06/16 21:17	1.0		5:FE=350000
131	met09_sn_0816	SAMPLE	281460-019	Soil	239837	10/06/16 21:19	1.0		4:FE=270000
132	met09_sn_0816	SAMPLE	281460-020	Soil	239837	10/06/16 21:21	1.0		5:FE=370000
133	met09_sn_0816	X	RINSE			10/06/16 21:24	1.0		
134	met09_sn_0816	BLANK	QC853969	Soil	239722	10/06/16 21:26	1.0		
135	met09_sn_0816	CCV				10/06/16 21:29	1.0	10	
136	met09_sn_0816	CCB				10/06/16 21:31	1.0		
137	met09_sn_0816	CCB				10/06/16 21:33	1.0		
138	met09_sn_0816	BS	QC853970	Soil	239722	10/06/16 21:35	1.0		1:SR=4800
139	met09_sn_0816	BSD	QC853971	Soil	239722	10/06/16 21:37	1.0		1:SR=4800
140	met09_sn_0816	MSS	281632-001	Soil	239722	10/06/16 21:40	1.0		5:FE=430000
141	met09_sn_0816	MS	QC853972	Soil	239722	10/06/16 21:42	1.0		
142	met09_sn_0816	MSD	QC853973	Soil	239722	10/06/16 21:44	1.0		
143	met09_sn_0816	SER	QC853974	Soil	239722	10/06/16 21:46	5.0		
144	met09_sn_0816	PDS	QC853975	Soil	239722	10/06/16 21:49	1.0	11 12 13	5:FE=430000
145	met09_sn_0816	SAMPLE	281632-002	Soil	239722	10/06/16 21:51	1.0		5:FE=470000
146	met09_sn_0816	CCV				10/06/16 21:53	1.0	10	
147	met09_sn_0816	CCB				10/06/16 21:56	1.0		
148	met09_sn_0816	CCB				10/06/16 21:58	1.0		
149	met09_sn_0816	CCV				10/06/16 22:22	1.0	10	
150	met09_sn_0816	CCB				10/06/16 22:25	1.0		
151	met09_sn_0816	CCB				10/06/16 22:27	1.0		
152	met09_sn_0816	CCV				10/06/16 22:31	1.0	10	
153	met09_sn_0816	CCB				10/06/16 22:33	1.0		
154	met09_sn_0816	CCB				10/06/16 22:35	1.0		
155	met09_sn_0816	X	RINSE			10/06/16 23:04	1.0		
156	met09_sn_0816	BLANK	QC854487	Miscell.	239855	10/06/16 23:06	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96404076

Instrument : MET09 Begun : 10/06/16 14:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
157	met09_sn_0816	BS	QC854488	Miscell.	239855	10/06/16 23:09	1.0		
158	met09_sn_0816	BSD	QC854489	Miscell.	239855	10/06/16 23:11	1.0		
159	met09_sn_0816	SAMPLE	280433-001	Miscell.	239855	10/06/16 23:13	1.0		
160	met09_sn_0816	SAMPLE	280434-001	Miscell.	239855	10/06/16 23:16	1.0		
161	met09_sn_0816	SAMPLE	280436-001	Miscell.	239855	10/06/16 23:18	1.0		
162	met09_sn_0816	SAMPLE	281687-001	Miscell.	239855	10/06/16 23:20	1.0		
163	met09_sn_0816	X	RINSE			10/06/16 23:23	1.0		
164	met09_sn_0816	BLANK	QC854280	Water	239804	10/06/16 23:25	1.0		
165	met09_sn_0816	CCV				10/06/16 23:28	1.0	10	
166	met09_sn_0816	CCB				10/06/16 23:30	1.0		
167	met09_sn_0816	CCB				10/06/16 23:32	1.0		
168	met09_sn_0816	BS	QC854281	Water	239804	10/06/16 23:34	1.0		
169	met09_sn_0816	BSD	QC854282	Water	239804	10/06/16 23:37	1.0		
170	met09_sn_0816	MSS	281743-001	Water	239804	10/06/16 23:39	1.0		
171	met09_sn_0816	MS	QC854283	Water	239804	10/06/16 23:41	1.0		
172	met09_sn_0816	MSD	QC854284	Water	239804	10/06/16 23:44	1.0		
173	met09_sn_0816	X	RINSE			10/06/16 23:46	1.0		
174	met09_sn_0816	SAMPLE	281761-001	Soil	239839	10/06/16 23:48	1.0		4:FE=550000
175	met09_sn_0816	SAMPLE	281761-002	Soil	239839	10/06/16 23:51	1.0		5:FE=590000
176	met09_sn_0816	SAMPLE	281762-005	Soil	239839	10/06/16 23:53	1.0		5:FE=570000
177	met09_sn_0816	MS	QC854051	Soil	239743	10/06/16 23:55	1.0		
178	met09_sn_0816	CCV				10/06/16 23:57	1.0	10	
179	met09_sn_0816	CCB				10/06/16 23:59	1.0		
180	met09_sn_0816	CCB				10/07/16 00:01	1.0		
181	met09_sn_0816	MSD	QC854052	Soil	239743	10/07/16 00:04	1.0		
182	met09_sn_0816	SAMPLE	281655-001	Soil	239743	10/07/16 00:06	1.0		6:CA=1300000
183	met09_sn_0816	SAMPLE	281785-001	Soil	239839	10/07/16 00:08	1.0		6:FE=850000
184	met09_sn_0816	X	RINSE			10/07/16 00:10	1.0		
185	met09_sn_0816	BLANK	QC854610	Soil	239887	10/07/16 00:13	1.0		
186	met09_sn_0816	BS	QC854611	Soil	239887	10/07/16 00:15	1.0		
187	met09_sn_0816	BSD	QC854612	Soil	239887	10/07/16 00:17	1.0		
188	met09_sn_0816	MSS	281716-001	Soil	239887	10/07/16 00:20	1.0		4:FE=580000
189	met09_sn_0816	MS	QC854613	Soil	239887	10/07/16 00:22	1.0		6:FE=640000
190	met09_sn_0816	MSD	QC854614	Soil	239887	10/07/16 00:24	1.0		6:FE=570000
191	met09_sn_0816	CCV				10/07/16 00:26	1.0	10	
192	met09_sn_0816	CCB				10/07/16 00:28	1.0		
193	met09_sn_0816	CCB				10/07/16 00:30	1.0		
194	met09_sn_0816	SER	QC854615	Soil	239887	10/07/16 00:32	5.0		1:FE=130000
195	met09_sn_0816	PDS	QC854616	Soil	239887	10/07/16 00:35	1.0		4:FE=580000
196	met09_sn_0816	SAMPLE	281516-020	Soil	239887	10/07/16 00:37	1.0		2:FE=360000
197	met09_sn_0816	SAMPLE	281516-021	Soil	239887	10/07/16 00:41	1.0		4:FE=360000
198	met09_sn_0816	SAMPLE	281516-022	Soil	239887	10/07/16 00:44	1.0		4:FE=350000
199	met09_sn_0816	SAMPLE	281516-023	Soil	239887	10/07/16 00:46	1.0		4:FE=340000
200	met09_sn_0816	SAMPLE	281516-024	Soil	239887	10/07/16 00:48	1.0		3:FE=370000
201	met09_sn_0816	SAMPLE	281516-025	Soil	239887	10/07/16 00:51	1.0		5:FE=400000
202	met09_sn_0816	SAMPLE	281516-026	Soil	239887	10/07/16 00:53	1.0		4:FE=360000
203	met09_sn_0816	SAMPLE	281657-001	Soil	239887	10/07/16 00:55	1.0		3:FE=420000
204	met09_sn_0816	CCV				10/07/16 00:57	1.0	10	
205	met09_sn_0816	CCB				10/07/16 00:59	1.0		
206	met09_sn_0816	CCB				10/07/16 01:01	1.0		
207	met09_sn_0816	SAMPLE	281666-005	Soil	239887	10/07/16 01:04	1.0		9:FE=3000000
208	met09_sn_0816	SAMPLE	281713-001	Soil	239887	10/07/16 01:06	1.0		4:FE=400000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96404076

Instrument : MET09 Begun : 10/06/16 14:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
209	met09_sn_0816	?SAMPLE	281728-001		239887	10/07/16 01:08	1.0		
210	met09_sn_0816	SAMPLE	281790-001	Soil	239887	10/07/16 01:10	1.0		1:FE=390000
211	met09_sn_0816	SAMPLE	281810-001	Soil	239887	10/07/16 01:13	1.0		7:FE=620000
212	met09_sn_0816	SAMPLE	281813-001	Soil	239887	10/07/16 01:15	1.0		
213	met09_sn_0816	SAMPLE	281813-002	Soil	239887	10/07/16 01:18	1.0		6:CA=1000000
214	met09_sn_0816	SAMPLE	281813-003	Soil	239887	10/07/16 01:20	1.0		
215	met09_sn_0816	SAMPLE	281813-004	Soil	239887	10/07/16 01:22	1.0		5:CA=1000000
216	met09_sn_0816	SAMPLE	281655-001	Soil	239743	10/07/16 01:24	1.0		6:CA=1300000
217	met09_sn_0816	CCV				10/07/16 01:27	1.0	10	
218	met09_sn_0816	CCB				10/07/16 01:29	1.0		
219	met09_sn_0816	CCB				10/07/16 01:31	1.0		

MNA 10/07/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 180.

Standards used: 1=S30721 2=S31085 3=S31084 4=S31086 5=S30418 6=S30836 7=S30723 8=S31001 9=S31075 10=S30837 11=S29983 12=S29984 13=S30560

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96404076

Date : 10/06/16 Reference : met09_sn_0816
Sequence : MET09 10/06/16 Analyzed : 10/06/16 14:38

#	Type	Sample ID	Y A
		ICAL STD	11903873
		LOWER LIMIT	3571162
		UPPER LIMIT	23807746
010	ICB		12022007
011	ICSA		11143859
013	ICSAB		11086029
015	CCV		11810869
016	CCB		12060851
017	CCB		12153832
019	BS	QC854124	11883299
020	BSD	QC854125	11814711
021	MSS	281579-005	11410120
022	MS	QC854126	11387952
023	MSD	QC854127	11684881
024	SAMPLE	281247-001	11890920
025	SAMPLE	281247-002	11940432
026	SAMPLE	281247-003	11938637
027	SAMPLE	281247-004	11950174
028	CCV		11650584
029	CCB		11940231
030	CCB		11996343
032	BLANK	QC854140	12389335
033	BS	QC854141	11960079
034	BSD	QC854142	11950988
035	MSS	281160-021	11870553
036	MS	QC854143	11756547
037	MSD	QC854144	11782109
038	SAMPLE	281160-022	11899824
039	SAMPLE	281160-023	11708445
040	SAMPLE	281160-024	11758595
041	CCV		11687643
042	CCB		11867344
043	CCB		11997972
044	SAMPLE	281160-025	11743642
045	SAMPLE	281160-026	11737826
046	SAMPLE	281160-027	11738289
047	SAMPLE	281160-028	11778070
048	SAMPLE	281160-029	11704378
049	SAMPLE	281160-030	11777130
050	SAMPLE	281160-031	11798300
051	SAMPLE	281160-032	11693695
052	SAMPLE	281160-033	11704817
053	SAMPLE	281160-034	11818791
054	CCV		11658206
055	CCB		11768799
056	CCB		11979607
057	SAMPLE	281160-035	11689190
058	CCV		11700094
059	CCB		11819678
060	CCB		11848436
061	BLANK	QC854123	11672503

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96404076

Date : 10/06/16 Reference : met09_sn_0816
Sequence : MET09 10/06/16 Analyzed : 10/06/16 14:38

#	Type	Sample ID	Y A
062	SAMPLE	281707-001	15372680
063	SAMPLE	281587-001	11724633
064	SAMPLE	281600-001	11577859
065	SAMPLE	281760-005	11781240
066	SAMPLE	281820-001	11772844
067	SAMPLE	281587-001	11809060
068	SAMPLE	281821-001	11709276
070	CCV		11765493
071	CCB		11853790
072	CCB		16798793
074	MS	QC853884	11430005
075	MSD	QC853885	11243066
076	SER	QC853886	11423606
077	PDS	QC853887	10914774
080	BS	QC854124	11681884
081	BSD	QC854125	11555258
082	MS	QC854126	11359947
083	CCV		11408197
084	CCB		11771846
085	CCB		11498749
086	MSD	QC854127	11423799
087	SAMPLE	281580-005	11258322
088	SAMPLE	281580-010	11493126
096	CCV		11666692
097	CCB		11743926
098	CCB		11801494
100	BLANK	QC854412	12071565
101	BS	QC854413	11727361
102	BSD	QC854414	11774156
103	MSS	281460-001	11692400
104	MS	QC854415	11431700
105	MSD	QC854416	11551751
106	SER	QC854417	11572965
107	PDS	QC854418	11783651
108	SAMPLE	281460-002	11575521
109	CCV		11567106
110	CCB		11674994
111	CCB		11881261
112	SAMPLE	281460-003	11521885
113	SAMPLE	281460-004	11568160
114	SAMPLE	281460-005	11555977
115	SAMPLE	281460-006	11480144
116	SAMPLE	281460-007	11604951
117	SAMPLE	281460-008	11630552
118	SAMPLE	281460-009	11513168
119	SAMPLE	281460-010	11536265
120	SAMPLE	281460-011	11447138
121	SAMPLE	281460-012	11336019
122	CCV		11580432
123	CCB		11779591
124	CCB		11856335
125	SAMPLE	281460-013	11621030

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96404076

Date : 10/06/16 Reference : met09_sn_0816
Sequence : MET09 10/06/16 Analyzed : 10/06/16 14:38

#	Type	Sample ID	Y A
126	SAMPLE	281460-014	11647762
127	SAMPLE	281460-015	11576505
128	SAMPLE	281460-016	11459589
129	SAMPLE	281460-017	11577705
130	SAMPLE	281460-018	11448471
131	SAMPLE	281460-019	11634983
132	SAMPLE	281460-020	11380134
134	BLANK	QC853969	11805514
135	CCV		11235395
136	CCB		11904029
137	CCB		11795594
138	BS	QC853970	11789481
139	BSD	QC853971	11808057
141	MS	QC853972	11259881
142	MSD	QC853973	11113835
143	SER	QC853974	11556249
144	PDS	QC853975	11438536
146	CCV		11563767
147	CCB		11799214
148	CCB		11682759
149	CCV		16484553
150	CCB		11795281
151	CCB		11670591
152	CCV		11339039
153	CCB		11441444
154	CCB		11713383
156	BLANK	QC854487	12097467
157	BS	QC854488	11558956
158	BSD	QC854489	11530054
159	SAMPLE	280433-001	11639712
160	SAMPLE	280434-001	11828691
161	SAMPLE	280436-001	11663943
162	SAMPLE	281687-001	11836024
164	BLANK	QC854280	11862861
165	CCV		11370486
166	CCB		11583923
167	CCB		11698062
168	BS	QC854281	11713745
169	BSD	QC854282	11588467
170	MSS	281743-001	11406260
171	MS	QC854283	11500798
172	MSD	QC854284	11321833
174	SAMPLE	281761-001	11460488
175	SAMPLE	281761-002	11239494
176	SAMPLE	281762-005	11333923
177	MS	QC854051	10700869
178	CCV		11360015
179	CCB		11575749
180	CCB		11514439
181	MSD	QC854052	10792001
182	SAMPLE	281655-001	10855492
183	SAMPLE	281785-001	11183015

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96404076

Date : 10/06/16 Reference : met09_sn_0816
Sequence : MET09 10/06/16 Analyzed : 10/06/16 14:38

#	Type	Sample ID	Y	A
185	BLANK	QC854610	11816679	
186	BS	QC854611	11535939	
187	BSD	QC854612	11674606	
188	MSS	281716-001	11245448	
189	MS	QC854613	11121240	
190	MSD	QC854614	11337562	
191	CCV		11317937	
192	CCB		11467671	
193	CCB		11563900	
194	SER	QC854615	11424718	
196	SAMPLE	281516-020	11603781	
197	SAMPLE	281516-021	11469265	
198	SAMPLE	281516-022	11378371	
199	SAMPLE	281516-023	11375401	
200	SAMPLE	281516-024	11505857	
201	SAMPLE	281516-025	11299806	
202	SAMPLE	281516-026	11302308	
203	SAMPLE	281657-001	11400723	
204	CCV		11305945	
205	CCB		11573621	
206	CCB		11359537	
207	SAMPLE	281666-005	10704940	
208	SAMPLE	281713-001	11304128	
210	SAMPLE	281790-001	11479143	
211	SAMPLE	281810-001	11242072	
212	SAMPLE	281813-001	19392159	
213	SAMPLE	281813-002	10829869	
214	SAMPLE	281813-003	24968076	*
215	SAMPLE	281813-004	10961687	
216	SAMPLE	281655-001	10735189	
217	CCV		11251162	
218	CCB		11508745	
219	CCB		11486804	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 METALS Soil: EPA 6010B

Inst : MET09
Calnum : 96404076001
Units : ug/L

Date : 06-OCT-2016 14:36
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_0816	96404076002	L1	06-OCT-2016 14:38	S30721
L2	met09_sn_0816	96404076003	L2	06-OCT-2016 14:41	S31085
L3	met09_sn_0816	96404076004	L3	06-OCT-2016 14:43	S31084
L4	met09_sn_0816	96404076005	L4	06-OCT-2016 14:45	S31086
L5	met09_sn_0816	96404076006	L5	06-OCT-2016 14:47	S30418

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	3.2400	2.3610	2.3875	2.4012		LOR0	0.00000	0.41648		2.5974	1.000	0.995	
Arsenic	A	2.6000	2.0230	2.0275	2.0488		LOR0	0.00000	0.48813		2.1748	1.000	0.995	
Barium	A	73.160	73.412	75.266	71.667		LOR0	0.00000	0.01395		73.376	1.000	0.995	
Beryllium	A	6569.7	6267.8	6269.0			LOR0	0.00000	1.60E-4		6368.8	1.000	0.995	
Cadmium	A	136.50	132.74	137.11	128.12		LOR0	0.00000	0.00780		133.62	1.000	0.995	
Chromium	A	151.28	191.90	196.48	190.32		LOR0	0.00000	0.00525		182.50	1.000	0.995	
Cobalt	A	39.360	37.996	39.096	37.378		LOR0	0.00000	0.02674		38.457	1.000	0.995	
Copper	A	394.06	348.29	346.70	333.25		LOR0	0.00000	0.00300		355.58	1.000	0.995	
Lead	A	20.820	16.889	17.281	16.602		LOR0	0.00000	0.06021		17.898	1.000	0.995	
Molybdenum	A	20.000	18.900	19.121	18.752		LOR0	0.00000	0.05332		19.193	1.000	0.995	
Nickel	A	94.120	101.08	105.98	101.63		LOR0	0.00000	0.00984		100.70	1.000	0.995	
Selenium	A	3.1900	2.6420	2.7570	2.7892		LOR0	0.00000	0.35857		2.8445	1.000	0.995	
Silver	A	82.040	81.115	81.501	79.970		LOR0	0.00000	0.01250		81.156	1.000	0.995	
Thallium	A	2.1600	2.2630	2.2948	2.2275		LOR0	0.00000	0.44879		2.2363	1.000	0.995	
Vanadium	A	264.22	225.65	229.83	224.01		LOR0	0.00000	0.00446		235.93	1.000	0.995	
Zinc	A	58.695	56.930	58.519	55.950		LOR0	0.00000	0.01786		57.524	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	**35**	100.00	-2	1000.0	-1	10000	0		
Arsenic	A	5.0000	**27**	100.00	-1	1000.0	-1	10000	0		
Barium	A	5.0000	2	100.00	2	1000.0	5	10000	0		
Beryllium	A	2.0000	5	100.00	0	1000.0	0				
Cadmium	A	5.0000	6	100.00	4	1000.0	7	10000	0		
Chromium	A	5.0000	**-21**	100.00	1	1000.0	3	10000	0		
Cobalt	A	5.0000	5	100.00	2	1000.0	5	10000	0		
Copper	A	5.0000	18	100.00	4	1000.0	4	10000	0		
Lead	A	5.0000	**25**	100.00	2	1000.0	4	10000	0		
Molybdenum	A	5.0000	7	100.00	1	1000.0	2	10000	0		
Nickel	A	5.0000	-7	100.00	-1	1000.0	4	10000	0		
Selenium	A	10.000	14	100.00	-5	1000.0	-1	10000	0		
Silver	A	5.0000	3	20.000	1	200.00	2	2000.0	0		
Thallium	A	10.000	-3	100.00	2	1000.0	3	10000	0		
Vanadium	A	5.0000	18	100.00	1	1000.0	3	10000	0		
Zinc	A	20.000	5	100.00	2	1000.0	5	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281516 METALS Soil
EPA 6010B

Inst : MET09
Calnum : 96404076001 Cal Date : 06-OCT-2016

ICV 96404076007 (06-OCT-2016) stds: S30836

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	4879	ug/L	-2	10	
Arsenic	A	5000	4901	ug/L	-2	10	
Barium	A	5000	5221	ug/L	4	10	
Beryllium	A	500.0	504.9	ug/L	1	10	
Cadmium	A	5000	5269	ug/L	5	10	
Chromium	A	5000	5214	ug/L	4	10	
Cobalt	A	5000	5109	ug/L	2	10	
Copper	A	5000	5207	ug/L	4	10	
Lead	A	5000	4921	ug/L	-2	10	
Molybdenum	A	5000	4935	ug/L	-1	10	
Nickel	A	5000	5168	ug/L	3	10	
Selenium	A	5000	4854	ug/L	-3	10	
Silver	A	1000	1036	ug/L	4	10	
Thallium	A	5000	4846	ug/L	-3	10	
Vanadium	A	5000	5213	ug/L	4	10	
Zinc	A	5000	5198	ug/L	4	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076010.3 File : met09_sn_0816 Time : 06-OCT-2016 14:58
Cal : 96404076001 Caldate : 06-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	12022007	0.99

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076011.3 File : met09_sn_0816 Time : 06-OCT-2016 15:01
Cal : 96404076001 Caldate : 06-OCT-2016
Standards: S31001

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[0.6618]	10.00	ug/L	
Arsenic	A	[-3.324]	5.000	ug/L	
Barium	A	[0.2850]	5.000	ug/L	
Beryllium	A	[0.4959]	2.000	ug/L	
Cadmium	A	[1.490]	5.000	ug/L	
Cobalt	A	[-0.4257]	5.000	ug/L	
Lead	A	[0.2015]	5.000	ug/L	
Molybdenum	A	[0.1276]	5.000	ug/L	
Selenium	A	[5.271]	10.00	ug/L	
Silver	A	[-2.358]	5.000	ug/L	
Thallium	A	[-3.721]	10.00	ug/L	
Zinc	A	[9.315]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec	Flags
Chromium	A	20000	19760	ug/L	99	
Copper	A	20000	20750	ug/L	104	
Manganese	A	20000	19110	ug/L	96	
Nickel	A	20000	19240	ug/L	96	
Vanadium	A	20000	20390	ug/L	102	
Aluminum	R	500000	504000	ug/L	101	
Calcium	R	500000	485800	ug/L	97	
Iron	R	200000	198400	ug/L	99	
Magnesium	R	500000	494000	ug/L	99	
Titanium	R	20000	20850	ug/L	104	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11143859	-6.38

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076013.3 File : met09_sn_0816 Time : 06-OCT-2016 15:10
Cal : 96404076001 Caldate : 06-OCT-2016
Standards: S31075

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	486.1	ug/L	-3	20	
Arsenic	A	500.0	475.2	ug/L	-5	20	
Barium	A	500.0	521.4	ug/L	4	20	
Beryllium	A	500.0	539.1	ug/L	8	20	
Cadmium	A	1000	1039	ug/L	4	20	
Chromium	A	500.0	508.7	ug/L	2	20	
Cobalt	A	500.0	505.0	ug/L	1	20	
Copper	A	500.0	495.6	ug/L	-1	20	
Lead	A	1000	958.3	ug/L	-4	20	
Molybdenum	A	500.0	505.7	ug/L	1	20	
Nickel	A	1000	1004	ug/L	0	20	
Selenium	A	500.0	480.5	ug/L	-4	20	
Silver	A	1000	1098	ug/L	10	20	
Thallium	A	500.0	492.6	ug/L	-1	20	
Vanadium	A	500.0	543.9	ug/L	9	20	
Zinc	A	1000	1013	ug/L	1	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11086029	-6.87

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076191 File : met09_sn_0816 Time : 07-OCT-2016 00:26
Cal : 96404076001 Caldate : 06-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.5974	2.1635	5000	4505	ug/L	-10	10	
Arsenic	A	2.1748	1.8581	5000	4535	ug/L	-9	10	
Barium	A	73.376	71.322	5000	4973	ug/L	-1	10	
Beryllium	A	6368.8	6245.4	500.0	498.1	ug/L	0	10	
Cadmium	A	133.62	124.57	5000	4858	ug/L	-3	10	
Chromium	A	182.50	190.92	5000	5014	ug/L	0	10	
Cobalt	A	38.457	36.087	5000	4825	ug/L	-3	10	
Copper	A	355.58	335.25	5000	5028	ug/L	1	10	
Lead	A	17.898	15.972	5000	4808	ug/L	-4	10	
Molybdenum	A	19.193	17.289	5000	4609	ug/L	-8	10	
Nickel	A	100.70	99.586	5000	4898	ug/L	-2	10	
Selenium	A	2.8445	2.4767	5000	4440	ug/L	**-11**	10	c- ***
Silver	A	81.156	80.408	1000	1005	ug/L	1	10	
Thallium	A	2.2363	1.9856	5000	4456	ug/L	**-11**	10	c- ***
Vanadium	A	235.93	224.90	5000	5019	ug/L	0	10	
Zinc	A	57.524	52.759	5000	4713	ug/L	-6	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11317937	-4.92

-=low bias c=CCV

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076193 File : met09_sn_0816 Time : 07-OCT-2016 00:30
Cal : 96404076001 Caldate : 06-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11563900	-2.86

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076204 File : met09_sn_0816 Time : 07-OCT-2016 00:57
Cal : 96404076001 Caldate : 06-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.5974	2.1835	5000	4547	ug/L	-9	10	
Arsenic	A	2.1748	1.8895	5000	4612	ug/L	-8	10	
Barium	A	73.376	70.206	5000	4896	ug/L	-2	10	
Beryllium	A	6368.8	6212.1	500.0	495.5	ug/L	-1	10	
Cadmium	A	133.62	122.00	5000	4758	ug/L	-5	10	
Chromium	A	182.50	188.06	5000	4939	ug/L	-1	10	
Cobalt	A	38.457	35.853	5000	4794	ug/L	-4	10	
Copper	A	355.58	331.16	5000	4967	ug/L	-1	10	
Lead	A	17.898	15.745	5000	4740	ug/L	-5	10	
Molybdenum	A	19.193	16.867	5000	4496	ug/L	-10	10	
Nickel	A	100.70	98.038	5000	4821	ug/L	-4	10	
Selenium	A	2.8445	2.4978	5000	4478	ug/L	-10	10	
Silver	A	81.156	79.598	1000	995.2	ug/L	0	10	
Thallium	A	2.2363	1.9996	5000	4487	ug/L	-10	10	
Vanadium	A	235.93	221.47	5000	4942	ug/L	-1	10	
Zinc	A	57.524	51.499	5000	4600	ug/L	-8	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11305945	-5.02

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96404076205 File : met09_sn_0816 Time : 07-OCT-2016 00:59
Cal : 96404076001 Caldate : 06-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	11903873	11573621	-2.77

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96405096

Instrument : MET09 Begun : 10/07/16 07:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_0816	ICALBLK				10/07/16 07:36	1.0		
002	met09_sn_0816	ICAL	L1			10/07/16 07:39	1.0	1	
003	met09_sn_0816	ICAL	L2			10/07/16 07:41	1.0	2	
004	met09_sn_0816	ICAL	L3			10/07/16 07:44	1.0	3	
005	met09_sn_0816	ICAL	L4			10/07/16 07:45	1.0	4	
006	met09_sn_0816	ICAL	L5			10/07/16 07:47	1.0	5	
007	met09_sn_0816	ICV				10/07/16 07:49	1.0	6	
008	met09_sn_0816	XCRI				10/07/16 07:51	1.0	7	
009	met09_sn_0816	CRI				10/07/16 07:54	1.0	7	
010	met09_sn_0816	ICB				10/07/16 07:56	1.0		
011	met09_sn_0816	ICSA				10/07/16 07:58	1.0	8	10:AL=500000
012	met09_sn_0816	XICSAB				10/07/16 08:28	1.0	9	
013	met09_sn_0816	ICSAB				10/07/16 08:30	1.0	9	5:AL=500000
014	met09_sn_0816	CCV				10/07/16 08:31	1.0	10	
015	met09_sn_0816	CCB				10/07/16 08:33	1.0		
016	met09_sn_0816	PDS	QC853887	Filtrate	239702	10/07/16 08:36	25.0	11 12 13	1:NA=180000
017	met09_sn_0816	SAMPLE	281655-001	Soil	239743	10/07/16 08:38	1.0		6:CA=1300000
018	met09_sn_0816	SAMPLE	281770-001	WET Leachate	239853	10/07/16 08:40	10.0		1:NA=130000
019	met09_sn_0816	SAMPLE	281771-001	WET Leachate	239853	10/07/16 08:43	10.0		1:NA=130000
020	met09_sn_0816	BLANK	QC854610	Soil	239887	10/07/16 08:45	1.0		
021	met09_sn_0816	BS	QC854611	Soil	239887	10/07/16 08:47	1.0		
022	met09_sn_0816	BSD	QC854612	Soil	239887	10/07/16 08:49	1.0		
023	met09_sn_0816	MSS	281716-001	Soil	239887	10/07/16 08:50	1.0		4:FE=550000
024	met09_sn_0816	MS	QC854613	Soil	239887	10/07/16 08:52	1.0		6:FE=600000
025	met09_sn_0816	MSD	QC854614	Soil	239887	10/07/16 08:54	1.0		
026	met09_sn_0816	CCV				10/07/16 08:56	1.0	10	
027	met09_sn_0816	CCB				10/07/16 08:59	1.0		
028	met09_sn_0816	SAMPLE	281813-002	Soil	239887	10/07/16 09:01	1.0		6:CA=970000
029	met09_sn_0816	SAMPLE	281813-003	Soil	239887	10/07/16 09:03	1.0		6:FE=560000
030	met09_sn_0816	SAMPLE	281813-004	Soil	239887	10/07/16 09:05	1.0		5:CA=960000
031	met09_sn_0816	MSS	281716-001	Soil	239887	10/07/16 09:08	1.0		4:FE=550000
032	met09_sn_0816	SER	QC854615	Soil	239887	10/07/16 09:10	5.0		
033	met09_sn_0816	PDS	QC854616	Soil	239887	10/07/16 09:13	1.0	11 12 13	4:FE=550000
034	met09_sn_0816	SAMPLE	281790-001	Soil	239887	10/07/16 09:15	1.0		1:FE=370000
035	met09_sn_0816	SAMPLE	281810-001	Soil	239887	10/07/16 09:17	1.0		7:FE=580000
036	met09_sn_0816	SAMPLE	281813-001	Soil	239887	10/07/16 09:19	1.0		6:CA=990000
037	met09_sn_0816	?SAMPLE	281716-001		239853	10/07/16 09:21	10.0		
038	met09_sn_0816	CCV				10/07/16 09:24	1.0	10	
039	met09_sn_0816	CCB				10/07/16 09:26	1.0		
040	met09_sn_0816	CCB				10/07/16 09:28	1.0		
041	met09_sn_0816	?SAMPLE	281756-001		239853	10/07/16 09:30	10.0		
042	met09_sn_0816	SAMPLE	281760-005	WET Leachate	239853	10/07/16 09:32	10.0		1:NA=130000
043	met09_sn_0816	?SAMPLE	281775-009		239853	10/07/16 09:35	10.0		
044	met09_sn_0816	CCV				10/07/16 09:45	1.0	10	
045	met09_sn_0816	CCB				10/07/16 09:47	1.0		
046	met09_sn_0816	CCV				10/07/16 09:52	1.0	10	
047	met09_sn_0816	CCB				10/07/16 09:54	1.0		
048	met09_sn_0816	X	RINSE			10/07/16 09:57	1.0		
049	met09_sn_0816	BLANK	QC854697	TCLP Leachate	239909	10/07/16 10:00	10.0		1:NA=140000
050	met09_sn_0816	BS	QC854698	TCLP Leachate	239909	10/07/16 10:02	1.0		
051	met09_sn_0816	BSD	QC854699	TCLP Leachate	239909	10/07/16 10:04	1.0		
052	met09_sn_0816	MSS	281793-001	TCLP Leachate	239909	10/07/16 10:07	10.0		1:NA=140000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96405096

Instrument : MET09 Begun : 10/07/16 07:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_0816	MS	QC854700	TCLP Leachate	239909	10/07/16 10:15	10.0		
054	met09_sn_0816	MSD	QC854701	TCLP Leachate	239909	10/07/16 10:17	10.0		
055	met09_sn_0816	SAMPLE	281793-002	TCLP Leachate	239909	10/07/16 10:20	10.0		1:NA=130000
056	met09_sn_0816	SAMPLE	281600-001		239909	10/07/16 10:22	10.0		
057	met09_sn_0816	SAMPLE	281756-001		239909	10/07/16 10:24	10.0		
058	met09_sn_0816	CCV				10/07/16 10:27	1.0	10	
059	met09_sn_0816	CCB				10/07/16 10:29	1.0		
060	met09_sn_0816	CCV				10/07/16 10:32	1.0	10	
061	met09_sn_0816	CCB				10/07/16 10:34	1.0		
062	met09_sn_0816	SAMPLE	281760-005	TCLP Leachate	239909	10/07/16 10:38	10.0		1:NA=140000
063	met09_sn_0816	SAMPLE	281775-009		239909	10/07/16 10:41	10.0		
064	met09_sn_0816	SAMPLE	281921-001	TCLP Leachate	239909	10/07/16 10:43	10.0		1:NA=130000
065	met09_sn_0816	SAMPLE	281809-001		239909	10/07/16 10:46	10.0		
066	met09_sn_0816	X	RINSE			10/07/16 10:48	1.0		
067	met09_sn_0816	XBLANK	QC853742	Water	239663	10/07/16 10:51	1.0		
068	met09_sn_0816	XBS	QC853743	Water	239663	10/07/16 10:53	1.0		
069	met09_sn_0816	XBSD	QC853744	Water	239663	10/07/16 10:55	1.0		
070	met09_sn_0816	XMSS	281582-002	Water	239663	10/07/16 10:58	1.0		
071	met09_sn_0816	XMS	QC853745	Water	239663	10/07/16 11:00	1.0		
072	met09_sn_0816	CCV				10/07/16 11:02	1.0	10	
073	met09_sn_0816	CCB				10/07/16 11:04	1.0		
074	met09_sn_0816	CCB				10/07/16 11:07	1.0		
075	met09_sn_0816	X	RINSE			10/07/16 11:11	1.0		
076	met09_sn_0816	BLANK	QC854610	Soil	239887	10/07/16 11:14	1.0		
077	met09_sn_0816	BLANK	QC853742	Water	239663	10/07/16 11:16	1.0		
078	met09_sn_0816	XBS	QC853743	Water	239663	10/07/16 11:18	1.0		
079	met09_sn_0816	XBSD	QC853744	Water	239663	10/07/16 11:25	1.0		
080	met09_sn_0816	XMSS	281582-002	Water	239663	10/07/16 11:28	1.0		
081	met09_sn_0816	CCV				10/07/16 12:10	1.0	10	
082	met09_sn_0816	CCB				10/07/16 12:12	1.0		
083	met09_sn_0816	X	RINSE			10/07/16 12:16	1.0		
084	met09_sn_0816	SAMPLE	281813-001	Soil	239887	10/07/16 12:19	1.0		6:CA=890000
085	met09_sn_0816	SAMPLE	281813-002	Soil	239887	10/07/16 12:21	1.0		6:CA=980000
086	met09_sn_0816	SAMPLE	281813-003	Soil	239887	10/07/16 12:23	1.0		6:FE=570000
087	met09_sn_0816	SAMPLE	281813-004	Soil	239887	10/07/16 12:25	1.0		6:CA=970000
088	met09_sn_0816	X	RINSE			10/07/16 12:28	1.0		
089	met09_sn_0816	BS	QC853743	Water	239663	10/07/16 12:30	1.0		
090	met09_sn_0816	BSD	QC853744	Water	239663	10/07/16 12:33	1.0		
091	met09_sn_0816	MSS	281582-002	Water	239663	10/07/16 12:35	1.0		
092	met09_sn_0816	MS	QC853745	Water	239663	10/07/16 12:38	1.0		
093	met09_sn_0816	CCV				10/07/16 12:40	1.0	10	
094	met09_sn_0816	CCB				10/07/16 12:42	1.0		
095	met09_sn_0816	MSD	QC853746	Water	239663	10/07/16 12:44	1.0		
096	met09_sn_0816	SER	QC853747	Water	239663	10/07/16 12:47	5.0		
097	met09_sn_0816	PDS	QC853748	Water	239663	10/07/16 12:49	1.0	11 12 13	
098	met09_sn_0816	SAMPLE	281394-001	Water	239663	10/07/16 12:51	1.0		
099	met09_sn_0816	SAMPLE	281394-002	Water	239663	10/07/16 12:54	1.0		
100	met09_sn_0816	SAMPLE	281394-003	Water	239663	10/07/16 12:56	1.0		
101	met09_sn_0816	SAMPLE	281394-004	Water	239663	10/07/16 12:58	1.0		
102	met09_sn_0816	SAMPLE	281394-005	Water	239663	10/07/16 13:01	1.0		
103	met09_sn_0816	SAMPLE	281394-006	Water	239663	10/07/16 13:03	1.0		
104	met09_sn_0816	SAMPLE	281394-007	Water	239663	10/07/16 13:05	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96405096

Instrument : MET09 Begun : 10/07/16 07:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met09_sn_0816	CCV				10/07/16 13:08	1.0	10	
106	met09_sn_0816	CCB				10/07/16 13:10	1.0		
107	met09_sn_0816	SAMPLE	281394-008	Water	239663	10/07/16 13:13	1.0		
108	met09_sn_0816	SAMPLE	281394-009	Water	239663	10/07/16 13:15	1.0		
109	met09_sn_0816	SAMPLE	281394-010	Water	239663	10/07/16 13:17	1.0		
110	met09_sn_0816	SAMPLE	281394-011	Water	239663	10/07/16 13:20	1.0		
111	met09_sn_0816	X	RINSE			10/07/16 13:31	1.0		
112	met09_sn_0816	XSAMPLE	281616-001	Soil	239789	10/07/16 13:33	1.0		
113	met09_sn_0816	SAMPLE	281394-012	Water	239663	10/07/16 13:36	1.0		
114	met09_sn_0816	XSAMPLE	281600-001	WET Leachate	239719	10/07/16 13:38	10.0		
115	met09_sn_0816	XSAMPLE	281579-010	WET Leachate	239719	10/07/16 13:40	10.0		
116	met09_sn_0816	CCV				10/07/16 13:43	1.0	10	
117	met09_sn_0816	CCB				10/07/16 13:45	1.0		
118	met09_sn_0816	X	RINSE			10/07/16 13:48	1.0		
119	met09_sn_0816	BS	QC853743	Water	239663	10/07/16 13:50	1.0		
120	met09_sn_0816	BSD	QC853744	Water	239663	10/07/16 13:53	1.0		
121	met09_sn_0816	SAMPLE	281616-001	Soil	239789	10/07/16 13:55	1.0		3:FE=400000
122	met09_sn_0816	SAMPLE	281600-001	WET Leachate	239719	10/07/16 13:57	10.0		1:NA=130000
123	met09_sn_0816	SAMPLE	281579-010	WET Leachate	239719	10/07/16 13:59	10.0		1:NA=120000
124	met09_sn_0816	SAMPLE	281820-001	WET Leachate	239618	10/07/16 14:02	10.0		1:NA=140000
125	met09_sn_0816	SAMPLE	281821-001	WET Leachate	239618	10/07/16 14:04	10.0		1:NA=130000
126	met09_sn_0816	SAMPLE	281640-001	Soil	239789	10/07/16 14:07	1.0		3:FE=380000
127	met09_sn_0816	SAMPLE	281660-001	Soil	239789	10/07/16 14:09	1.0		6:CA=840000
128	met09_sn_0816	CCV				10/07/16 14:11	1.0	10	
129	met09_sn_0816	XCCB				10/07/16 14:13	1.0		
130	met09_sn_0816	CCB				10/07/16 14:15	1.0		
131	met09_sn_0816	SAMPLE	281660-002	Soil	239789	10/07/16 14:17	1.0		3:FE=470000
132	met09_sn_0816	SAMPLE	281660-003	Soil	239789	10/07/16 14:19	1.0		3:FE=470000
133	met09_sn_0816	SAMPLE	281664-003	Soil	239789	10/07/16 14:21	1.0		6:FE=570000
134	met09_sn_0816	SAMPLE	281295-004	Water	239635	10/07/16 14:24	1.0		
135	met09_sn_0816	X	RINSE			10/07/16 14:26	1.0		
136	met09_sn_0816	SAMPLE	281295-003	Water	239635	10/07/16 14:28	100.0		
137	met09_sn_0816	SAMPLE	281295-005	Water	239635	10/07/16 14:31	100.0		
138	met09_sn_0816	SAMPLE	281616-001	Soil	239789	10/07/16 14:33	1.0		3:FE=410000
139	met09_sn_0816	SAMPLE	281295-006	Water	239635	10/07/16 14:35	1.0		
140	met09_sn_0816	BLANK	QC853742	Water	239663	10/07/16 14:38	1.0		
141	met09_sn_0816	CCV				10/07/16 14:40	1.0	10	
142	met09_sn_0816	CCB				10/07/16 14:42	1.0		
143	met09_sn_0816	SAMPLE	281387-002	Water	239635	10/07/16 14:45	1.0		1:CA=140000
144	met09_sn_0816	SAMPLE	281412-001	Water	239635	10/07/16 14:47	1.0		
145	met09_sn_0816	SAMPLE	281443-001	Water	239635	10/07/16 14:49	1.0		
146	met09_sn_0816	X	RINSE			10/07/16 14:52	1.0		
147	met09_sn_0816	SAMPLE	281456-002	Water	239635	10/07/16 14:54	100.0		
148	met09_sn_0816	SAMPLE	281456-003	Water	239635	10/07/16 14:57	100.0		
149	met09_sn_0816	PDS	QC854418	Soil	239837	10/07/16 14:59	1.0	11 12 13	5:FE=400000
150	met09_sn_0816	MSS	281460-001	Soil	239837	10/07/16 15:01	1.0		5:FE=390000
151	met09_sn_0816	SAMPLE	281460-002	Soil	239837	10/07/16 15:03	1.0		4:FE=370000
152	met09_sn_0816	SAMPLE	281460-004	Soil	239837	10/07/16 15:05	1.0		5:FE=360000
153	met09_sn_0816	CCV				10/07/16 15:07	1.0	10	
154	met09_sn_0816	XCCB				10/07/16 15:10	1.0		
155	met09_sn_0816	CCB				10/07/16 15:12	1.0		
156	met09_sn_0816	SAMPLE	281460-005	Soil	239837	10/07/16 15:14	1.0		4:FE=370000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96405096

Instrument : MET09 Begun : 10/07/16 07:36
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
157	met09_sn_0816	SAMPLE	281460-006	Soil	239837	10/07/16 15:16	1.0		4:CA=340000
158	met09_sn_0816	SAMPLE	281460-008	Soil	239837	10/07/16 15:18	1.0		4:CA=410000
159	met09_sn_0816	SAMPLE	281460-009	Soil	239837	10/07/16 15:20	1.0		3:FE=360000
160	met09_sn_0816	SAMPLE	281460-010	Soil	239837	10/07/16 15:22	1.0		4:FE=380000
161	met09_sn_0816	SAMPLE	281460-012	Soil	239837	10/07/16 15:24	1.0		5:FE=350000
162	met09_sn_0816	SAMPLE	281460-013	Soil	239837	10/07/16 15:27	1.0		4:FE=310000
163	met09_sn_0816	SAMPLE	281460-014	Soil	239837	10/07/16 15:29	1.0		4:FE=350000
164	met09_sn_0816	SAMPLE	281460-016	Soil	239837	10/07/16 15:31	1.0		4:FE=320000
165	met09_sn_0816	SAMPLE	281460-017	Soil	239837	10/07/16 15:33	1.0		5:FE=310000
166	met09_sn_0816	CCV				10/07/16 15:35	1.0	10	
167	met09_sn_0816	CCB				10/07/16 15:37	1.0		
168	met09_sn_0816	SAMPLE	281460-019	Soil	239837	10/07/16 15:39	1.0		4:FE=270000
169	met09_sn_0816	SAMPLE	281460-020	Soil	239837	10/07/16 15:42	1.0		5:FE=340000
170	met09_sn_0816	SAMPLE	281516-020	Soil	239887	10/07/16 15:44	1.0		3:FE=330000
171	met09_sn_0816	SAMPLE	281516-021	Soil	239887	10/07/16 15:46	1.0		4:FE=340000
172	met09_sn_0816	SAMPLE	281516-022	Soil	239887	10/07/16 15:48	1.0		4:FE=330000
173	met09_sn_0816	SAMPLE	281516-023	Soil	239887	10/07/16 15:50	1.0		4:FE=310000
174	met09_sn_0816	SAMPLE	281516-024	Soil	239887	10/07/16 15:52	1.0		3:FE=340000
175	met09_sn_0816	SAMPLE	281516-025	Soil	239887	10/07/16 15:54	1.0		5:FE=370000
176	met09_sn_0816	SAMPLE	281516-026	Soil	239887	10/07/16 15:56	1.0		4:FE=340000
177	met09_sn_0816	SAMPLE	281657-001	Soil	239887	10/07/16 15:59	1.0		3:FE=410000
178	met09_sn_0816	CCV				10/07/16 16:01	1.0	10	
179	met09_sn_0816	CCB				10/07/16 16:03	1.0		
180	met09_sn_0816	SAMPLE	281666-005	Soil	239887	10/07/16 16:05	1.0		8:FE=2700000
181	met09_sn_0816	SAMPLE	281713-001	Soil	239887	10/07/16 16:07	1.0		4:FE=380000
182	met09_sn_0816	X	RINSE			10/07/16 16:10	1.0		
183	met09_sn_0816	SAMPLE	281598-002	Miscell.	239839	10/07/16 16:12	500.0		
184	met09_sn_0816	SAMPLE	281598-003	Miscell.	239839	10/07/16 16:15	100.0		
185	met09_sn_0816	SAMPLE	281598-008	Miscell.	239839	10/07/16 16:17	100.0		
186	met09_sn_0816	SAMPLE	281598-005	Miscell.	239839	10/07/16 16:19	5.0		2:CA=1200000
187	met09_sn_0816	SAMPLE	281659-002	Soil	239839	10/07/16 16:22	1.0		2:FE=290000
188	met09_sn_0816	CCV				10/07/16 16:24	1.0	10	
189	met09_sn_0816	CCB				10/07/16 16:26	1.0		
190	met09_sn_0816	CCV				10/07/16 16:34	1.0	10	
191	met09_sn_0816	CCB				10/07/16 16:36	1.0		

TLO 10/07/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 64.

MNA 10/07/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 65 through 175.

Standards used: 1=S30721 2=S31085 3=S31084 4=S31086 5=S30418 6=S30836 7=S30723 8=S31001 9=S31075 10=S30837 11=S29983 12=S29984 13=S30560

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96405096

Date : 10/07/16 Reference : met09_sn_0816
Sequence : MET09 10/07/16 Analyzed : 10/07/16 07:39

#	Type	Sample ID	Y A
		ICAL STD	12467800
		LOWER LIMIT	3740340
		UPPER LIMIT	24935601
010	ICB		12298797
011	ICSA		11568290
013	ICSAB		11334271
014	CCV		12141353
015	CCB		12383186
016	PDS	QC853887	11886618
017	SAMPLE	281655-001	11686210
018	SAMPLE	281770-001	12061145
019	SAMPLE	281771-001	12073769
020	BLANK	QC854610	12533192
021	BS	QC854611	12137174
022	BSD	QC854612	12319330
023	MSS	281716-001	12033865
024	MS	QC854613	11863625
025	MSD	QC854614	12023077
026	CCV		12145035
027	CCB		12361800
028	SAMPLE	281813-002	11595458
029	SAMPLE	281813-003	11699511
030	SAMPLE	281813-004	11755825
031	MSS	281716-001	11863588
032	SER	QC854615	12218224
033	PDS	QC854616	12124888
034	SAMPLE	281790-001	12329217
035	SAMPLE	281810-001	12286918
036	SAMPLE	281813-001	11833356
038	CCV		12113314
039	CCB		12174112
040	CCB		12111819
042	SAMPLE	281760-005	11918352
044	CCV		12157357
045	CCB		12360712
046	CCV		12075131
047	CCB		12155593
049	BLANK	QC854697	12074016
050	BS	QC854698	12129027
051	BSD	QC854699	12319469
052	MSS	281793-001	11943259
053	MS	QC854700	12192919
054	MSD	QC854701	12101084
055	SAMPLE	281793-002	12055379
058	CCV		12101731
059	CCB		12220342
060	CCV		12216234
061	CCB		12287280
062	SAMPLE	281760-005	12064557
064	SAMPLE	281921-001	12112147
072	CCV		11988399

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96405096

Date : 10/07/16 Reference : met09_sn_0816
Sequence : MET09 10/07/16 Analyzed : 10/07/16 07:39

#	Type	Sample ID	Y A
073	CCB		12459785
074	CCB		12474104
076	BLANK	QC854610	12605287
077	BLANK	QC853742	12494562
081	CCV		12337863
082	CCB		12491303
084	SAMPLE	281813-001	12128507
085	SAMPLE	281813-002	11974712
086	SAMPLE	281813-003	12145943
087	SAMPLE	281813-004	11711390
089	BS	QC853743	12360737
090	BSD	QC853744	12362349
091	MSS	281582-002	12394575
092	MS	QC853745	12216080
093	CCV		12222160
094	CCB		12409984
095	MSD	QC853746	12237249
096	SER	QC853747	12449396
097	PDS	QC853748	12204846
098	SAMPLE	281394-001	12677538
099	SAMPLE	281394-002	12714822
100	SAMPLE	281394-003	12428275
101	SAMPLE	281394-004	12608072
102	SAMPLE	281394-005	12555028
103	SAMPLE	281394-006	12604930
104	SAMPLE	281394-007	12392989
105	CCV		12071954
106	CCB		12251871
109	SAMPLE	281394-010	12562610
110	SAMPLE	281394-011	12570755
113	SAMPLE	281394-012	12482224
116	CCV		12150180
117	CCB		12475069
119	BS	QC853743	12491653
120	BSD	QC853744	12208880
121	SAMPLE	281616-001	12313944
122	SAMPLE	281600-001	12006151
123	SAMPLE	281579-010	11951219
124	SAMPLE	281820-001	12043025
125	SAMPLE	281821-001	12071018
126	SAMPLE	281640-001	12410236
127	SAMPLE	281660-001	11706557
128	CCV		12116198
130	CCB		12296911
131	SAMPLE	281660-002	12194909
132	SAMPLE	281660-003	12225842
133	SAMPLE	281664-003	12011444
134	SAMPLE	281295-004	12439210
136	SAMPLE	281295-003	12272576
137	SAMPLE	281295-005	12583695
138	SAMPLE	281616-001	12275578
139	SAMPLE	281295-006	12813530

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96405096

Date : 10/07/16 Reference : met09_sn_0816
Sequence : MET09 10/07/16 Analyzed : 10/07/16 07:39

#	Type	Sample ID	Y A
140	BLANK	QC853742	12431732
141	CCV		12208490
142	CCB		12322072
143	SAMPLE	281387-002	12308331
145	SAMPLE	281443-001	12360921
149	PDS	QC854418	12148500
150	MSS	281460-001	12146382
151	SAMPLE	281460-002	12075696
152	SAMPLE	281460-004	12105338
153	CCV		12015191
155	CCB		12001753
156	SAMPLE	281460-005	11945685
157	SAMPLE	281460-006	12000861
158	SAMPLE	281460-008	11833725
159	SAMPLE	281460-009	12028212
160	SAMPLE	281460-010	11925525
161	SAMPLE	281460-012	11758905
162	SAMPLE	281460-013	11884433
163	SAMPLE	281460-014	11897330
164	SAMPLE	281460-016	11771683
165	SAMPLE	281460-017	11966524
166	CCV		11888247
167	CCB		12179743
168	SAMPLE	281460-019	12129366
169	SAMPLE	281460-020	11868509
170	SAMPLE	281516-020	12151611
171	SAMPLE	281516-021	12230860
172	SAMPLE	281516-022	11909597
173	SAMPLE	281516-023	11928850
174	SAMPLE	281516-024	12009155
175	SAMPLE	281516-025	12028717
176	SAMPLE	281516-026	12052764
177	SAMPLE	281657-001	12161689
178	CCV		11846122
179	CCB		12213063
180	SAMPLE	281666-005	11341620
181	SAMPLE	281713-001	11945097
183	SAMPLE	281598-002	12125317
184	SAMPLE	281598-003	12155204
185	SAMPLE	281598-008	12034406
186	SAMPLE	281598-005	11680336
187	SAMPLE	281659-002	11953499
188	CCV		11808084
189	CCB		11968464
190	CCV		11765695
191	CCB		12044593

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 METALS Soil: EPA 6010B

Inst : MET09
Calnum : 96405096001
Units : ug/L

Date : 07-OCT-2016 07:36
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_0816	96405096002	L1	07-OCT-2016 07:39	S30721
L2	met09_sn_0816	96405096003	L2	07-OCT-2016 07:41	S31085
L3	met09_sn_0816	96405096004	L3	07-OCT-2016 07:44	S31084
L4	met09_sn_0816	96405096005	L4	07-OCT-2016 07:45	S31086
L5	met09_sn_0816	96405096006	L5	07-OCT-2016 07:47	S30418

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	4.3000	3.4720	3.5891	3.6271		LOR0	0.00000	0.27573		3.7471	1.000	0.995	
Arsenic	A	1.5800	2.8330	2.8567	2.9572		LOR0	0.00000	0.33827		2.5567	1.000	0.995	
Barium	A	100.78	98.296	100.65	98.971		LOR0	0.00000	0.01010		99.674	1.000	0.995	
Beryllium	A	8086.5	7869.0	7951.7			LOR0	0.00000	1.26E-4		7969.1	1.000	0.995	
Cadmium	A	201.36	203.15	205.28	197.11		LOR0	0.00000	0.00507		201.72	1.000	0.995	
Chromium	A	229.08	244.01	246.85	245.73		LOR0	0.00000	0.00407		241.42	1.000	0.995	
Cobalt	A	48.080	48.148	49.741	49.105		LOR0	0.00000	0.02036		48.768	1.000	0.995	
Copper	A	386.36	413.22	416.25	410.33		LOR0	0.00000	0.00244		406.54	1.000	0.995	
Lead	A	18.940	22.420	22.493	22.475		LOR0	0.00000	0.04449		21.582	1.000	0.995	
Molybdenum	A	31.260	30.093	30.000	30.700		LOR0	0.00000	0.03258		30.513	1.000	0.995	
Nickel	A	127.74	138.42	138.24	137.19		LOR0	0.00000	0.00729		135.40	1.000	0.995	
Selenium	A	2.4500	4.1090	4.1531	4.3298		LOR0	0.00000	0.23105		3.7605	1.000	0.995	
Silver	A	85.100	90.000	94.914	96.199		LOR0	0.00000	0.01040		91.553	1.000	0.995	
Thallium	A	3.9800	3.5070	3.4857	3.4403		LOR0	0.00000	0.29063		3.6033	1.000	0.995	
Vanadium	A	242.66	278.87	283.09	284.68		LOR0	0.00000	0.00351		272.33	1.000	0.995	
Zinc	A	82.495	87.620	91.209	90.571		LOR0	0.00000	0.01104		87.974	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	19	100.00	-4	1000.0	-1	10000	0		
Arsenic	A	5.0000	**-47**	100.00	-4	1000.0	-3	10000	0		
Barium	A	5.0000	2	100.00	-1	1000.0	2	10000	0		
Beryllium	A	2.0000	2	100.00	-1	1000.0	0				
Cadmium	A	5.0000	2	100.00	3	1000.0	4	10000	0		
Chromium	A	5.0000	-7	100.00	-1	1000.0	0	10000	0		
Cobalt	A	5.0000	-2	100.00	-2	1000.0	1	10000	0		
Copper	A	5.0000	-6	100.00	1	1000.0	1	10000	0		
Lead	A	5.0000	-16	100.00	0	1000.0	0	10000	0		
Molybdenum	A	5.0000	2	100.00	-2	1000.0	-2	10000	0		
Nickel	A	5.0000	-7	100.00	1	1000.0	1	10000	0		
Selenium	A	10.000	**-43**	100.00	-5	1000.0	-4	10000	0		
Silver	A	5.0000	-12	20.000	-6	200.00	-1	2000.0	0		
Thallium	A	10.000	16	100.00	2	1000.0	1	10000	0		
Vanadium	A	5.0000	-15	100.00	-2	1000.0	-1	10000	0		
Zinc	A	20.000	-9	100.00	-3	1000.0	1	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281516 METALS Soil
EPA 6010B

Inst : MET09
Calnum : 96405096001 Cal Date : 07-OCT-2016

ICV 96405096007 (07-OCT-2016) stds: S30836

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	5026	ug/L	1	10	
Arsenic	A	5000	5065	ug/L	1	10	
Barium	A	5000	5063	ug/L	1	10	
Beryllium	A	500.0	508.4	ug/L	2	10	
Cadmium	A	5000	5129	ug/L	3	10	
Chromium	A	5000	5059	ug/L	1	10	
Cobalt	A	5000	5011	ug/L	0	10	
Copper	A	5000	5018	ug/L	0	10	
Lead	A	5000	5134	ug/L	3	10	
Molybdenum	A	5000	5003	ug/L	0	10	
Nickel	A	5000	5002	ug/L	0	10	
Selenium	A	5000	5009	ug/L	0	10	
Silver	A	1000	1003	ug/L	0	10	
Thallium	A	5000	4941	ug/L	-1	10	
Vanadium	A	5000	5028	ug/L	1	10	
Zinc	A	5000	5063	ug/L	1	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096010 File : met09_sn_0816 Time : 07-OCT-2016 07:56
Cal : 96405096001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12298797	-1.36

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096011 File : met09_sn_0816 Time : 07-OCT-2016 07:58
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S31001

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[4.174]	10.00	ug/L	
Arsenic	A	[1.499]	5.000	ug/L	
Barium	A	[0.6741]	5.000	ug/L	
Beryllium	A	[0.09501]	2.000	ug/L	
Cadmium	A	[1.101]	5.000	ug/L	
Cobalt	A	[0.005480]	5.000	ug/L	
Lead	A	[-1.886]	5.000	ug/L	
Molybdenum	A	[-0.7128]	5.000	ug/L	
Selenium	A	[8.751]	10.00	ug/L	
Silver	A	[-3.953]	5.000	ug/L	
Thallium	A	[1.739]	10.00	ug/L	
Zinc	A	[6.995]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec	Flags
Chromium	A	20000	19390	ug/L	97	
Copper	A	20000	20200	ug/L	101	
Manganese	A	20000	19110	ug/L	96	
Nickel	A	20000	18750	ug/L	94	
Vanadium	A	20000	19910	ug/L	100	
Aluminum	R	500000	497300	ug/L	99	
Calcium	R	500000	473200	ug/L	95	
Iron	R	200000	196200	ug/L	98	
Magnesium	R	500000	489900	ug/L	98	
Titanium	R	20000	20680	ug/L	103	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	11568290	-7.21

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096013 File : met09_sn_0816 Time : 07-OCT-2016 08:30
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S31075

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	535.7	ug/L	7	20	
Arsenic	A	500.0	509.9	ug/L	2	20	
Barium	A	500.0	513.0	ug/L	3	20	
Beryllium	A	500.0	526.9	ug/L	5	20	
Cadmium	A	1000	1024	ug/L	2	20	
Chromium	A	500.0	503.8	ug/L	1	20	
Cobalt	A	500.0	506.0	ug/L	1	20	
Copper	A	500.0	487.9	ug/L	-2	20	
Lead	A	1000	992.9	ug/L	-1	20	
Molybdenum	A	500.0	501.3	ug/L	0	20	
Nickel	A	1000	986.2	ug/L	-1	20	
Selenium	A	500.0	534.0	ug/L	7	20	
Silver	A	1000	1088	ug/L	9	20	
Thallium	A	500.0	506.1	ug/L	1	20	
Vanadium	A	500.0	536.4	ug/L	7	20	
Zinc	A	1000	993.2	ug/L	-1	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	11334271	-9.09

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096014 File : met09_sn_0816 Time : 07-OCT-2016 08:31
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	3.7471	3.6606	5000	5047	ug/L	1	10	
Arsenic	A	2.5567	2.9903	5000	5058	ug/L	1	10	
Barium	A	99.674	94.917	5000	4794	ug/L	-4	10	
Beryllium	A	7969.1	7827.4	500.0	492.2	ug/L	-2	10	
Cadmium	A	201.72	191.69	5000	4861	ug/L	-3	10	
Chromium	A	241.42	236.95	5000	4821	ug/L	-4	10	
Cobalt	A	48.768	47.436	5000	4829	ug/L	-3	10	
Copper	A	406.54	392.12	5000	4777	ug/L	-4	10	
Lead	A	21.582	22.169	5000	4932	ug/L	-1	10	
Molybdenum	A	30.513	29.043	5000	4731	ug/L	-5	10	
Nickel	A	135.40	130.48	5000	4755	ug/L	-5	10	
Selenium	A	3.7605	4.3496	5000	5025	ug/L	0	10	
Silver	A	91.553	91.835	1000	954.8	ug/L	-5	10	
Thallium	A	3.6033	3.3666	5000	4892	ug/L	-2	10	
Vanadium	A	272.33	272.46	5000	4786	ug/L	-4	10	
Zinc	A	87.974	86.645	5000	4783	ug/L	-4	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12141353	-2.62

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096015 File : met09_sn_0816 Time : 07-OCT-2016 08:33
Cal : 96405096001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12383186	-0.68

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096026 File : met09_sn_0816 Time : 07-OCT-2016 08:56
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	3.7471	3.5537	5000	4899	ug/L	-2	10	
Arsenic	A	2.5567	2.9112	5000	4924	ug/L	-2	10	
Barium	A	99.674	95.926	5000	4845	ug/L	-3	10	
Beryllium	A	7969.1	7833.8	500.0	492.6	ug/L	-1	10	
Cadmium	A	201.72	193.73	5000	4912	ug/L	-2	10	
Chromium	A	241.42	240.29	5000	4889	ug/L	-2	10	
Cobalt	A	48.768	48.492	5000	4937	ug/L	-1	10	
Copper	A	406.54	396.10	5000	4826	ug/L	-3	10	
Lead	A	21.582	22.753	5000	5062	ug/L	1	10	
Molybdenum	A	30.513	29.183	5000	4754	ug/L	-5	10	
Nickel	A	135.40	132.18	5000	4817	ug/L	-4	10	
Selenium	A	3.7605	4.1887	5000	4839	ug/L	-3	10	
Silver	A	91.553	93.211	1000	969.1	ug/L	-3	10	
Thallium	A	3.6033	3.2481	5000	4720	ug/L	-6	10	
Vanadium	A	272.33	275.83	5000	4845	ug/L	-3	10	
Zinc	A	87.974	87.570	5000	4834	ug/L	-3	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12145035	-2.59

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096027 File : met09_sn_0816 Time : 07-OCT-2016 08:59
Cal : 96405096001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12361800	-0.85

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096038 File : met09_sn_0816 Time : 07-OCT-2016 09:24
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	3.7471	3.6100	5000	4977	ug/L	0	10	
Arsenic	A	2.5567	2.9752	5000	5032	ug/L	1	10	
Barium	A	99.674	95.746	5000	4836	ug/L	-3	10	
Beryllium	A	7969.1	7758.1	500.0	487.9	ug/L	-2	10	
Cadmium	A	201.72	192.84	5000	4890	ug/L	-2	10	
Chromium	A	241.42	241.89	5000	4922	ug/L	-2	10	
Cobalt	A	48.768	48.897	5000	4978	ug/L	0	10	
Copper	A	406.54	397.04	5000	4837	ug/L	-3	10	
Lead	A	21.582	22.701	5000	5050	ug/L	1	10	
Molybdenum	A	30.513	28.894	5000	4707	ug/L	-6	10	
Nickel	A	135.40	132.97	5000	4846	ug/L	-3	10	
Selenium	A	3.7605	4.2209	5000	4876	ug/L	-2	10	
Silver	A	91.553	93.757	1000	974.7	ug/L	-3	10	
Thallium	A	3.6033	3.2515	5000	4725	ug/L	-5	10	
Vanadium	A	272.33	277.48	5000	4874	ug/L	-3	10	
Zinc	A	87.974	86.823	5000	4793	ug/L	-4	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12113314	-2.84

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096039 File : met09_sn_0816 Time : 07-OCT-2016 09:26
Cal : 96405096001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12174112	-2.36

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096072 File : met09_sn_0816 Time : 07-OCT-2016 11:02
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	3.7471	3.5510	5000	4896	ug/L	-2	10	
Arsenic	A	2.5567	2.9071	5000	4917	ug/L	-2	10	
Barium	A	99.674	96.832	5000	4891	ug/L	-2	10	
Beryllium	A	7969.1	7832.3	500.0	492.5	ug/L	-1	10	
Cadmium	A	201.72	192.89	5000	4891	ug/L	-2	10	
Chromium	A	241.42	241.98	5000	4924	ug/L	-2	10	
Cobalt	A	48.768	49.165	5000	5006	ug/L	0	10	
Copper	A	406.54	404.14	5000	4924	ug/L	-2	10	
Lead	A	21.582	22.632	5000	5035	ug/L	1	10	
Molybdenum	A	30.513	29.091	5000	4739	ug/L	-5	10	
Nickel	A	135.40	133.07	5000	4850	ug/L	-3	10	
Selenium	A	3.7605	4.1533	5000	4798	ug/L	-4	10	
Silver	A	91.553	94.172	1000	979.1	ug/L	-2	10	
Thallium	A	3.6033	3.2511	5000	4724	ug/L	-6	10	
Vanadium	A	272.33	278.32	5000	4889	ug/L	-2	10	
Zinc	A	87.974	86.756	5000	4789	ug/L	-4	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	11988399	-3.85

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096074 File : met09_sn_0816 Time : 07-OCT-2016 11:07
Cal : 96405096001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12474104	0.05

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096081 File : met09_sn_0816 Time : 07-OCT-2016 12:10
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	3.7471	3.4231	5000	4719	ug/L	-6	10	
Arsenic	A	2.5567	2.8327	5000	4791	ug/L	-4	10	
Barium	A	99.674	94.240	5000	4760	ug/L	-5	10	
Beryllium	A	7969.1	7942.2	500.0	499.5	ug/L	0	10	
Cadmium	A	201.72	188.67	5000	4784	ug/L	-4	10	
Chromium	A	241.42	234.80	5000	4777	ug/L	-4	10	
Cobalt	A	48.768	46.867	5000	4772	ug/L	-5	10	
Copper	A	406.54	389.88	5000	4750	ug/L	-5	10	
Lead	A	21.582	21.759	5000	4841	ug/L	-3	10	
Molybdenum	A	30.513	28.354	5000	4619	ug/L	-8	10	
Nickel	A	135.40	129.82	5000	4731	ug/L	-5	10	
Selenium	A	3.7605	4.0611	5000	4692	ug/L	-6	10	
Silver	A	91.553	90.936	1000	945.4	ug/L	-5	10	
Thallium	A	3.6033	3.1757	5000	4615	ug/L	-8	10	
Vanadium	A	272.33	270.18	5000	4746	ug/L	-5	10	
Zinc	A	87.974	85.004	5000	4692	ug/L	-6	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12337863	-1.04

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096082 File : met09_sn_0816 Time : 07-OCT-2016 12:12
Cal : 96405096001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12491303	0.19

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096166 File : met09_sn_0816 Time : 07-OCT-2016 15:35
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	3.7471	3.4771	5000	4794	ug/L	-4	10	
Arsenic	A	2.5567	2.8432	5000	4809	ug/L	-4	10	
Barium	A	99.674	94.178	5000	4757	ug/L	-5	10	
Beryllium	A	7969.1	7805.1	500.0	490.8	ug/L	-2	10	
Cadmium	A	201.72	185.31	5000	4699	ug/L	-6	10	
Chromium	A	241.42	237.21	5000	4826	ug/L	-3	10	
Cobalt	A	48.768	47.448	5000	4831	ug/L	-3	10	
Copper	A	406.54	393.00	5000	4788	ug/L	-4	10	
Lead	A	21.582	21.906	5000	4873	ug/L	-3	10	
Molybdenum	A	30.513	27.605	5000	4497	ug/L	-10	10	
Nickel	A	135.40	129.64	5000	4725	ug/L	-6	10	
Selenium	A	3.7605	4.0236	5000	4648	ug/L	-7	10	
Silver	A	91.553	92.442	1000	961.1	ug/L	-4	10	
Thallium	A	3.6033	3.1801	5000	4621	ug/L	-8	10	
Vanadium	A	272.33	272.51	5000	4787	ug/L	-4	10	
Zinc	A	87.974	82.622	5000	4561	ug/L	-9	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	11888247	-4.65

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096167 File : met09_sn_0816 Time : 07-OCT-2016 15:37
Cal : 96405096001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12179743	-2.31

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096178 File : met09_sn_0816 Time : 07-OCT-2016 16:01
Cal : 96405096001 Caldate : 07-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	3.7471	3.3641	5000	4638	ug/L	-7	10	
Arsenic	A	2.5567	2.7651	5000	4677	ug/L	-6	10	
Barium	A	99.674	95.027	5000	4800	ug/L	-4	10	
Beryllium	A	7969.1	7683.5	500.0	483.2	ug/L	-3	10	
Cadmium	A	201.72	186.24	5000	4722	ug/L	-6	10	
Chromium	A	241.42	238.76	5000	4858	ug/L	-3	10	
Cobalt	A	48.768	47.543	5000	4840	ug/L	-3	10	
Copper	A	406.54	396.21	5000	4827	ug/L	-3	10	
Lead	A	21.582	21.913	5000	4875	ug/L	-3	10	
Molybdenum	A	30.513	27.701	5000	4512	ug/L	-10	10	
Nickel	A	135.40	130.54	5000	4757	ug/L	-5	10	
Selenium	A	3.7605	3.8823	5000	4485	ug/L	-10	10	
Silver	A	91.553	93.196	1000	968.9	ug/L	-3	10	
Thallium	A	3.6033	3.1083	5000	4517	ug/L	-10	10	
Vanadium	A	272.33	274.88	5000	4828	ug/L	-3	10	
Zinc	A	87.974	82.897	5000	4576	ug/L	-8	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	11846122	-4.99

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405096179 File : met09_sn_0816 Time : 07-OCT-2016 16:03
Cal : 96405096001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12467800	12213063	-2.04

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96405655

Instrument : MET09 Begun : 10/07/16 16:55
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_0816	ICALBLK				10/07/16 16:55	1.0		
002	met09_sn_0816	ICAL	L1			10/07/16 16:58	1.0	1	
003	met09_sn_0816	ICAL	L2			10/07/16 17:00	1.0	2	
004	met09_sn_0816	ICAL	L3			10/07/16 17:02	1.0	3	
005	met09_sn_0816	ICAL	L4			10/07/16 17:04	1.0	4	
006	met09_sn_0816	ICAL	L5			10/07/16 17:06	1.0	5	
007	met09_sn_0816	XICV				10/07/16 17:08	1.0	6	
008	met09_sn_0816	ICV				10/07/16 17:09	1.0	6	
009	met09_sn_0816	XCRI				10/07/16 17:10	1.0	7	
010	met09_sn_0816	CRI				10/07/16 17:12	1.0	7	
011	met09_sn_0816	XICB				10/07/16 17:15	1.0		
012	met09_sn_0816	ICB				10/07/16 17:18	1.0		
013	met09_sn_0816	ICSA				10/07/16 17:20	1.0	8	10:AL=510000
014	met09_sn_0816	XICSAB				10/07/16 17:44	1.0	9	
015	met09_sn_0816	ICSAB				10/07/16 18:11	1.0	9	5:AL=520000
016	met09_sn_0816	X	RINSE			10/07/16 18:24	1.0		
017	met09_sn_0816	MSS	281460-001	Soil	239837	10/07/16 18:26	1.0		
018	met09_sn_0816	SAMPLE	281460-005	Soil	239837	10/07/16 18:29	1.0		5:FE=380000
019	met09_sn_0816	SAMPLE	281516-023	Soil	239887	10/07/16 18:31	1.0		4:FE=320000
020	met09_sn_0816	SAMPLE	281160-018	Air	239724	10/07/16 18:33	1.0		3:BA=51000
021	met09_sn_0816	SAMPLE	281160-020	Air	239724	10/07/16 18:36	1.0		4:NA=110000
022	met09_sn_0816	SAMPLE	281160-023	Air	239766	10/07/16 18:39	1.0		
023	met09_sn_0816	SAMPLE	281160-034	Air	239766	10/07/16 18:42	1.0		5:NA=120000
024	met09_sn_0816	X	RINSE			10/07/16 18:45	1.0		
025	met09_sn_0816	BLANK	QC853618	Water	239635	10/07/16 18:47	1.0		
026	met09_sn_0816	CCV				10/07/16 18:50	1.0	10	
027	met09_sn_0816	CCB				10/07/16 18:52	1.0		
028	met09_sn_0816	CCB				10/07/16 18:54	1.0		
029	met09_sn_0816	BS	QC853619	Water	239635	10/07/16 18:56	1.0		
030	met09_sn_0816	BSD	QC853620	Water	239635	10/07/16 18:58	1.0		
031	met09_sn_0816	MS	QC853621	Water	239635	10/07/16 19:01	1.0		1:CA=110000
032	met09_sn_0816	MSD	QC853622	Water	239635	10/07/16 19:03	1.0		1:CA=110000
033	met09_sn_0816	X	RINSE			10/07/16 19:05	1.0		
034	met09_sn_0816	BLANK	QC854543	Water	239872	10/07/16 19:08	1.0		
035	met09_sn_0816	BS	QC854544	Water	239872	10/07/16 19:10	1.0		
036	met09_sn_0816	BSD	QC854545	Water	239872	10/07/16 19:13	1.0		
037	met09_sn_0816	MSS	281794-003	Water	239872	10/07/16 19:15	1.0		
038	met09_sn_0816	MS	QC854546	Water	239872	10/07/16 19:17	1.0		
039	met09_sn_0816	CCV				10/07/16 19:20	1.0	10	
040	met09_sn_0816	CCB				10/07/16 19:22	1.0		
041	met09_sn_0816	CCV				10/07/16 19:25	1.0	10	
042	met09_sn_0816	CCB				10/07/16 19:27	1.0		
043	met09_sn_0816	MSD	QC854547	Water	239872	10/07/16 19:29	1.0		
044	met09_sn_0816	SER	QC854548	Water	239872	10/07/16 19:32	5.0		
045	met09_sn_0816	PDS	QC854549	Water	239872	10/07/16 19:34	1.0	11 12 13	
046	met09_sn_0816	SAMPLE	281534-001	Water	239872	10/07/16 19:36	1.0		
047	met09_sn_0816	SAMPLE	281535-001	Water	239872	10/07/16 19:39	1.0		
048	met09_sn_0816	SAMPLE	281646-017	Water	239872	10/07/16 19:41	1.0		1:NA=160000
049	met09_sn_0816	SAMPLE	281658-005	Water	239872	10/07/16 19:43	1.0		3:MG=200000
050	met09_sn_0816	SAMPLE	281724-001	Water	239872	10/07/16 19:47	1.0		
051	met09_sn_0816	SAMPLE	281767-001	Water	239872	10/07/16 19:49	1.0		5:NA=330000
052	met09_sn_0816	SAMPLE	281767-002	Water	239872	10/07/16 19:51	1.0		4:CA=220000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96405655

Instrument : MET09 Begun : 10/07/16 16:55
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_0816	CCV				10/07/16 19:54	1.0	10	
054	met09_sn_0816	CCB				10/07/16 19:56	1.0		
055	met09_sn_0816	CCB				10/07/16 19:58	1.0		
056	met09_sn_0816	SAMPLE	281767-003	Water	239872	10/07/16 20:01	1.0		3:CA=390000
057	met09_sn_0816	SAMPLE	281773-001	Water	239872	10/07/16 20:04	1.0		3:CA=500000
058	met09_sn_0816	SAMPLE	281773-002	Water	239872	10/07/16 20:07	1.0		3:CA=550000
059	met09_sn_0816	SAMPLE	281773-003	Water	239872	10/07/16 20:10	1.0		3:CA=790000
060	met09_sn_0816	SAMPLE	281773-005	Water	239872	10/07/16 20:13	1.0		5:NA=510000
061	met09_sn_0816	SAMPLE	281773-006	Water	239872	10/07/16 20:16	1.0		5:NA=510000
062	met09_sn_0816	SAMPLE	281773-007	Water	239872	10/07/16 20:20	1.0		
063	met09_sn_0816	SAMPLE	281828-001	Water	239872	10/07/16 20:22	1.0		4:CA=380000
064	met09_sn_0816	SAMPLE	281828-002	Water	239872	10/07/16 20:25	1.0		3:CA=620000
065	met09_sn_0816	SAMPLE	281828-003	Water	239872	10/07/16 20:28	1.0		
066	met09_sn_0816	CCV				10/07/16 20:31	1.0	10	
067	met09_sn_0816	CCB				10/07/16 20:33	1.0		
068	met09_sn_0816	CCB				10/07/16 20:35	1.0		
069	met09_sn_0816	SAMPLE	281829-001	Water	239872	10/07/16 20:37	1.0		3:CA=330000
070	met09_sn_0816	CCV				10/07/16 20:40	1.0	10	
071	met09_sn_0816	CCB				10/07/16 20:42	1.0		
072	met09_sn_0816	X	RINSE			10/07/16 21:18	1.0		
073	met09_sn_0816	BLANK	QC854757	Water	239927	10/07/16 21:21	1.0		
074	met09_sn_0816	BS	QC854758	Water	239927	10/07/16 21:23	1.0		
075	met09_sn_0816	BSD	QC854759	Water	239927	10/07/16 21:25	1.0		
076	met09_sn_0816	MSS	281773-004	Water	239927	10/07/16 21:28	1.0		3:CA=580000
077	met09_sn_0816	MS	QC854760	Water	239927	10/07/16 21:31	1.0		
078	met09_sn_0816	MSD	QC854761	Water	239927	10/07/16 21:34	1.0		
079	met09_sn_0816	SAMPLE	281791-001	Water	239927	10/07/16 21:37	1.0		1:NA=490000
080	met09_sn_0816	SAMPLE	281791-002	Water	239927	10/07/16 21:40	1.0		3:CA=380000
081	met09_sn_0816	SAMPLE	281791-003	Water	239927	10/07/16 21:43	1.0		3:CA=410000
082	met09_sn_0816	CCV				10/07/16 21:46	1.0	10	
083	met09_sn_0816	CCB				10/07/16 21:48	1.0		
084	met09_sn_0816	SAMPLE	281791-004	Water	239927	10/07/16 21:50	1.0		3:CA=470000
085	met09_sn_0816	SAMPLE	281791-005	Water	239927	10/07/16 21:53	1.0		3:CA=530000
086	met09_sn_0816	SAMPLE	281791-006	Water	239927	10/07/16 21:56	1.0		2:CA=260000
087	met09_sn_0816	SAMPLE	281843-001	Water	239927	10/07/16 21:59	1.0		
088	met09_sn_0816	SAMPLE	281849-001	Water	239927	10/07/16 22:02	1.0		5:CA=210000
089	met09_sn_0816	SAMPLE	281865-001	Water	239927	10/07/16 22:04	1.0		
090	met09_sn_0816	SAMPLE	281865-002	Water	239927	10/07/16 22:06	1.0		
091	met09_sn_0816	SAMPLE	281865-003	Water	239927	10/07/16 22:09	1.0		
092	met09_sn_0816	X	RINSE			10/07/16 22:11	1.0		
093	met09_sn_0816	BLANK	QC854816	Soil	239937	10/07/16 22:13	1.0		
094	met09_sn_0816	CCV				10/07/16 22:16	1.0	10	
095	met09_sn_0816	CCB				10/07/16 22:18	1.0		
096	met09_sn_0816	BS	QC854817	Soil	239937	10/07/16 22:20	1.0		
097	met09_sn_0816	BSD	QC854818	Soil	239937	10/07/16 22:22	1.0		
098	met09_sn_0816	MSS	281646-001	Soil	239937	10/07/16 22:23	1.0		6:FE=600000
099	met09_sn_0816	MS	QC854819	Soil	239937	10/07/16 22:25	1.0		
100	met09_sn_0816	MSD	QC854820	Soil	239937	10/07/16 22:27	1.0		
101	met09_sn_0816	SAMPLE	281646-002	Soil	239937	10/07/16 22:30	1.0		5:FE=620000
102	met09_sn_0816	SAMPLE	281646-004	Soil	239937	10/07/16 22:32	1.0		6:FE=670000
103	met09_sn_0816	SAMPLE	281646-005	Soil	239937	10/07/16 22:34	1.0		5:FE=750000
104	met09_sn_0816	SAMPLE	281646-007	Soil	239937	10/07/16 22:36	1.0		6:FE=600000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96405655

Instrument : MET09 Begun : 10/07/16 16:55
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met09_sn_0816	SAMPLE	281646-008	Soil	239937	10/07/16 22:38	1.0		6:FE=510000
106	met09_sn_0816	CCV				10/07/16 22:40	1.0	10	
107	met09_sn_0816	CCB				10/07/16 22:43	1.0		
108	met09_sn_0816	SAMPLE	281646-011	Soil	239937	10/07/16 22:45	1.0		6:FE=570000
109	met09_sn_0816	SAMPLE	281646-012	Soil	239937	10/07/16 22:47	1.0		5:FE=600000
110	met09_sn_0816	SAMPLE	281725-001	Soil	239937	10/07/16 22:49	1.0		5:FE=410000
111	met09_sn_0816	SAMPLE	281725-002	Soil	239937	10/07/16 22:51	1.0		5:CA=1200000
112	met09_sn_0816	SAMPLE	281725-003	Soil	239937	10/07/16 22:54	1.0		5:FE=360000
113	met09_sn_0816	SAMPLE	281725-004	Soil	239937	10/07/16 22:56	1.0		5:FE=470000
114	met09_sn_0816	SAMPLE	281756-001	Soil	239937	10/07/16 22:58	1.0		4:FE=430000
115	met09_sn_0816	SAMPLE	281788-001	Soil	239937	10/07/16 23:00	1.0		7:CA=790000
116	met09_sn_0816	SAMPLE	281788-002	Soil	239937	10/07/16 23:02	1.0		7:CA=740000
117	met09_sn_0816	SAMPLE	281851-001	Soil	239937	10/07/16 23:04	1.0		2:FE=170000
118	met09_sn_0816	CCV				10/07/16 23:06	1.0	10	
119	met09_sn_0816	CCB				10/07/16 23:08	1.0		
120	met09_sn_0816	SAMPLE	281852-001	Soil	239937	10/07/16 23:11	1.0		1:FE=240000
121	met09_sn_0816	SAMPLE	281893-001	Soil	239937	10/07/16 23:13	1.0		5:FE=390000
122	met09_sn_0816	X	RINSE			10/07/16 23:15	1.0		
123	met09_sn_0816	SAMPLE	281321-002	Filtrate	239702	10/07/16 23:18	1.0		2:MG=190000
124	met09_sn_0816	SAMPLE	281321-003	Filtrate	239702	10/07/16 23:21	1.0		2:MG=180000
125	met09_sn_0816	SAMPLE	281321-004	Filtrate	239702	10/07/16 23:24	1.0		4:MG=590000

MNA 10/07/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 57.

Standards used: 1=S30721 2=S31085 3=S31084 4=S31086 5=S30418 6=S30836 7=S30723 8=S31001 9=S31075 10=S30837 11=S29983 12=S29984 13=S30560

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96405655

Date : 10/07/16 Reference : met09_sn_0816
Sequence : MET09 10/07/16 Analyzed : 10/07/16 16:58

#	Type	Sample ID	Y A
		ICAL STD	12584080
		LOWER LIMIT	3775224
		UPPER LIMIT	25168160
012	ICB		12530929
013	ICSA		11629862
015	ICSAB		11561384
017	MSS	281460-001	15583276
018	SAMPLE	281460-005	12390029
019	SAMPLE	281516-023	12224439
020	SAMPLE	281160-018	12531014
021	SAMPLE	281160-020	12520880
022	SAMPLE	281160-023	22009891
023	SAMPLE	281160-034	12340742
025	BLANK	QC853618	12532301
026	CCV		12390299
027	CCB		12527826
028	CCB		12527272
029	BS	QC853619	12402863
030	BSD	QC853620	12281942
031	MS	QC853621	12493069
032	MSD	QC853622	12353125
034	BLANK	QC854543	12703536
035	BS	QC854544	12652121
036	BSD	QC854545	12355594
037	MSS	281794-003	12399058
038	MS	QC854546	12052066
039	CCV		12284105
040	CCB		12822320
041	CCV		12402462
042	CCB		12672803
043	MSD	QC854547	12456646
044	SER	QC854548	12534030
045	PDS	QC854549	12597099
046	SAMPLE	281534-001	12397915
047	SAMPLE	281535-001	12478088
048	SAMPLE	281646-017	12325179
049	SAMPLE	281658-005	11881234
050	SAMPLE	281724-001	12518583
051	SAMPLE	281767-001	12055773
052	SAMPLE	281767-002	11647366
053	CCV		12252797
054	CCB		12493074
055	CCB		12682921
056	SAMPLE	281767-003	11328606
057	SAMPLE	281773-001	11572655
058	SAMPLE	281773-002	11515008
059	SAMPLE	281773-003	11456903
060	SAMPLE	281773-005	11957887
061	SAMPLE	281773-006	11961527
062	SAMPLE	281773-007	12448108
063	SAMPLE	281828-001	11690251

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96405655

Date : 10/07/16 Reference : met09_sn_0816
Sequence : MET09 10/07/16 Analyzed : 10/07/16 16:58

#	Type	Sample ID	Y A
064	SAMPLE	281828-002	11300275
065	SAMPLE	281828-003	12721934
066	CCV		12375168
067	CCB		12567727
068	CCB		12509976
069	SAMPLE	281829-001	11565073
070	CCV		12397911
071	CCB		12698658
073	BLANK	QC854757	12682986
074	BS	QC854758	12774525
075	BSD	QC854759	12553413
076	MSS	281773-004	11687352
077	MS	QC854760	11582295
078	MSD	QC854761	11669525
079	SAMPLE	281791-001	12300078
080	SAMPLE	281791-002	11594985
081	SAMPLE	281791-003	11695218
082	CCV		12577053
083	CCB		12583250
084	SAMPLE	281791-004	11532821
085	SAMPLE	281791-005	11323948
086	SAMPLE	281791-006	11719155
088	SAMPLE	281849-001	12119572
089	SAMPLE	281865-001	12622506
090	SAMPLE	281865-002	12946826
091	SAMPLE	281865-003	12854295
093	BLANK	QC854816	12990754
094	CCV		12402942
095	CCB		12560222
096	BS	QC854817	12655937
097	BSD	QC854818	12597158
098	MSS	281646-001	12335019
099	MS	QC854819	12255338
100	MSD	QC854820	12184408
101	SAMPLE	281646-002	12318874
102	SAMPLE	281646-004	12418512
103	SAMPLE	281646-005	12600698
104	SAMPLE	281646-007	12298417
105	SAMPLE	281646-008	12465894
106	CCV		12345316
107	CCB		12396096
108	SAMPLE	281646-011	12608372
109	SAMPLE	281646-012	12433337
110	SAMPLE	281725-001	12334851
111	SAMPLE	281725-002	12060657
112	SAMPLE	281725-003	12411980
113	SAMPLE	281725-004	12184718
114	SAMPLE	281756-001	12566636
115	SAMPLE	281788-001	12316279
116	SAMPLE	281788-002	12253572
117	SAMPLE	281851-001	12487202
118	CCV		12289756

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96405655

Date : 10/07/16 Reference : met09_sn_0816
Sequence : MET09 10/07/16 Analyzed : 10/07/16 16:58

#	Type	Sample ID	Y A
119	CCB		12565224
120	SAMPLE	281852-001	12487398
121	SAMPLE	281893-001	12650092

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 METALS Soil: EPA 6010B

Inst : MET09
Calnum : 96405655001
Units : ug/L

Date : 07-OCT-2016 16:55
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_0816	96405655002	L1	07-OCT-2016 16:58	S30721
L2	met09_sn_0816	96405655003	L2	07-OCT-2016 17:00	S31085
L3	met09_sn_0816	96405655004	L3	07-OCT-2016 17:02	S31084
L4	met09_sn_0816	96405655005	L4	07-OCT-2016 17:04	S31086
L5	met09_sn_0816	96405655006	L5	07-OCT-2016 17:06	S30418

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	2.7700	3.2400	3.1359	3.2593		LOR0	0.00000	0.30693		3.1013	1.000	0.995	
Arsenic	A	4.2000	2.6520	2.5659	2.6548		LOR0	0.00000	0.37680		3.0182	1.000	0.995	
Barium	A	95.680	94.172	90.981	92.479		LOR0	0.00000	0.01081		93.328	1.000	0.995	
Beryllium	A	7729.6	7272.8	7349.8			LOR0	0.00000	1.36E-4		7450.7	1.000	0.995	
Cadmium	A	180.18	178.90	174.20	173.60		LOR0	0.00000	0.00576		176.72	1.000	0.995	
Chromium	A	252.36	230.12	224.86	229.88		LOR0	0.00000	0.00435		234.30	1.000	0.995	
Cobalt	A	46.500	46.301	44.992	45.923		LOR0	0.00000	0.02178		45.929	1.000	0.995	
Copper	A	203.28	389.66	383.25	390.64		LOR0	0.00000	0.00256		341.71	1.000	0.995	
Lead	A	24.240	20.954	20.261	20.414		LOR0	0.00000	0.04899		21.467	1.000	0.995	
Molybdenum	A	27.740	27.137	26.109	26.780		LOR0	0.00000	0.03735		26.942	1.000	0.995	
Nickel	A	111.06	125.30	122.91	125.78		LOR0	0.00000	0.00795		121.26	1.000	0.995	
Selenium	A	3.7500	3.6440	3.5126	3.6876		LOR0	0.00000	0.27131		3.6485	1.000	0.995	
Silver	A	61.820	84.915	88.154	91.645		LOR0	0.00000	0.01092		81.634	1.000	0.995	
Thallium	A	4.2300	3.2180	3.0461	3.0769		LOR0	0.00000	0.32503		3.3928	1.000	0.995	
Vanadium	A	282.04	264.65	258.53	267.15		LOR0	0.00000	0.00374		268.09	1.000	0.995	
Zinc	A	84.430	79.437	75.857	77.848		LOR0	0.00000	0.01285		79.393	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	-15	100.00	-1	1000.0	-4	10000	0		
Arsenic	A	5.0000	**58**	100.00	0	1000.0	-3	10000	0		
Barium	A	5.0000	3	100.00	2	1000.0	-2	10000	0		
Beryllium	A	2.0000	5	100.00	-1	1000.0	0				
Cadmium	A	5.0000	4	100.00	3	1000.0	0	10000	0		
Chromium	A	5.0000	10	100.00	0	1000.0	-2	10000	0		
Cobalt	A	5.0000	1	100.00	1	1000.0	-2	10000	0		
Copper	A	5.0000	**-48**	100.00	0	1000.0	-2	10000	0		
Lead	A	5.0000	19	100.00	3	1000.0	-1	10000	0		
Molybdenum	A	5.0000	4	100.00	1	1000.0	-2	10000	0		
Nickel	A	5.0000	-12	100.00	0	1000.0	-2	10000	0		
Selenium	A	10.000	2	100.00	-1	1000.0	-5	10000	0		
Silver	A	5.0000	**-33**	20.000	-7	200.00	-4	2000.0	0		
Thallium	A	10.000	**37**	100.00	5	1000.0	-1	10000	0		
Vanadium	A	5.0000	6	100.00	-1	1000.0	-3	10000	0		
Zinc	A	20.000	8	100.00	2	1000.0	-3	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281516 METALS Soil
EPA 6010B

Inst : MET09
Calnum : 96405655001 Cal Date : 07-OCT-2016

ICV 96405655008 (07-OCT-2016) stds: S30836

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	4982	ug/L	0	10	
Arsenic	A	5000	5059	ug/L	1	10	
Barium	A	5000	5096	ug/L	2	10	
Beryllium	A	500.0	528.6	ug/L	6	10	
Cadmium	A	5000	5191	ug/L	4	10	
Chromium	A	5000	5118	ug/L	2	10	
Cobalt	A	5000	5042	ug/L	1	10	
Copper	A	5000	5060	ug/L	1	10	
Lead	A	5000	5139	ug/L	3	10	
Molybdenum	A	5000	5073	ug/L	1	10	
Nickel	A	5000	5079	ug/L	2	10	
Selenium	A	5000	5035	ug/L	1	10	
Silver	A	1000	1008	ug/L	1	10	
Thallium	A	5000	4946	ug/L	-1	10	
Vanadium	A	5000	5097	ug/L	2	10	
Zinc	A	5000	5132	ug/L	3	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405655012.1 File : met09_sn_0816 Time : 07-OCT-2016 17:18
Cal : 96405655001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12584080	12530929	-0.42

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405655013.1 File : met09_sn_0816 Time : 07-OCT-2016 17:20
Cal : 96405655001 Caldate : 07-OCT-2016
Standards: S31001

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[-1.421]	10.00	ug/L	
Arsenic	A	[-2.584]	5.000	ug/L	
Barium	A	[0.5880]	5.000	ug/L	
Beryllium	A	[0.3828]	2.000	ug/L	
Cadmium	A	[1.523]	5.000	ug/L	
Cobalt	A	[0.4644]	5.000	ug/L	
Lead	A	[-3.437]	5.000	ug/L	
Molybdenum	A	[-0.04068]	5.000	ug/L	
Selenium	A	[6.843]	10.00	ug/L	
Silver	A	[2.526]	5.000	ug/L	
Thallium	A	[9.759]	10.00	ug/L	
Zinc	A	[9.992]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec	Flags
Chromium	A	20000	20120	ug/L	101	
Copper	A	20000	21140	ug/L	106	
Manganese	A	20000	19810	ug/L	99	
Nickel	A	20000	19660	ug/L	98	
Vanadium	A	20000	20670	ug/L	103	
Aluminum	R	500000	511600	ug/L	102	
Calcium	R	500000	496700	ug/L	99	
Iron	R	200000	201500	ug/L	101	
Magnesium	R	500000	510600	ug/L	102	
Titanium	R	20000	22100	ug/L	111	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12584080	11629862	-7.58

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405655015.1 File : met09_sn_0816 Time : 07-OCT-2016 18:11
Cal : 96405655001 Caldate : 07-OCT-2016
Standards: S31075

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	542.0	ug/L	8	20	
Arsenic	A	500.0	502.1	ug/L	0	20	
Barium	A	500.0	533.5	ug/L	7	20	
Beryllium	A	500.0	562.6	ug/L	13	20	
Cadmium	A	1000	1079	ug/L	8	20	
Chromium	A	500.0	519.0	ug/L	4	20	
Cobalt	A	500.0	502.3	ug/L	0	20	
Copper	A	500.0	495.7	ug/L	-1	20	
Lead	A	1000	967.7	ug/L	-3	20	
Molybdenum	A	500.0	529.3	ug/L	6	20	
Nickel	A	1000	1026	ug/L	3	20	
Selenium	A	500.0	490.4	ug/L	-2	20	
Silver	A	1000	1102	ug/L	10	20	
Thallium	A	500.0	535.7	ug/L	7	20	
Vanadium	A	500.0	555.1	ug/L	11	20	
Zinc	A	1000	1057	ug/L	6	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12584080	11561384	-8.13

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405655026.1 File : met09_sn_0816 Time : 07-OCT-2016 18:50
Cal : 96405655001 Caldate : 07-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	3.1013	3.2077	5000	4923	ug/L	-2	10	
Arsenic	A	3.0182	2.6852	5000	5059	ug/L	1	10	
Barium	A	93.328	93.239	5000	5042	ug/L	1	10	
Beryllium	A	7450.7	7709.8	500.0	524.5	ug/L	5	10	
Cadmium	A	176.72	178.84	5000	5151	ug/L	3	10	
Chromium	A	234.30	230.39	5000	5012	ug/L	0	10	
Cobalt	A	45.929	44.505	5000	4847	ug/L	-3	10	
Copper	A	341.71	387.78	5000	4964	ug/L	-1	10	
Lead	A	21.467	20.176	5000	4942	ug/L	-1	10	
Molybdenum	A	26.942	26.836	5000	5012	ug/L	0	10	
Nickel	A	121.26	126.09	5000	5013	ug/L	0	10	
Selenium	A	3.6485	3.7460	5000	5082	ug/L	2	10	
Silver	A	81.634	90.467	1000	987.5	ug/L	-1	10	
Thallium	A	3.3928	3.0637	5000	4979	ug/L	0	10	
Vanadium	A	268.09	267.27	5000	5004	ug/L	0	10	
Zinc	A	79.393	79.388	5000	5100	ug/L	2	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12584080	12390299	-1.54

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96405655027 File : met09_sn_0816 Time : 07-OCT-2016 18:52
Cal : 96405655001 Caldate : 07-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12584080	12527826	-0.45

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96409396

Instrument : MET09 Begun : 10/10/16 07:16
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_0816	ICALBLK				10/10/16 07:16	1.0		
002	met09_sn_0816	ICAL	L1			10/10/16 07:19	1.0	1	
003	met09_sn_0816	ICAL	L2			10/10/16 07:21	1.0	2	
004	met09_sn_0816	ICAL	L3			10/10/16 07:24	1.0	3	
005	met09_sn_0816	ICAL	L4			10/10/16 07:25	1.0	4	
006	met09_sn_0816	ICAL	L5			10/10/16 07:27	1.0	5	
007	met09_sn_0816	XICV				10/10/16 07:29	1.0	6	
008	met09_sn_0816	ICV				10/10/16 07:32	1.0	6	
009	met09_sn_0816	XCRI				10/10/16 07:34	1.0	7	
010	met09_sn_0816	CRI				10/10/16 07:37	1.0	7	
011	met09_sn_0816	ICB				10/10/16 07:39	1.0		
012	met09_sn_0816	ICSA				10/10/16 07:41	1.0	8	10:AL=510000
013	met09_sn_0816	ICSAB				10/10/16 08:06	1.0	9	5:AL=520000
014	met09_sn_0816	BLANK	QC853618	Water	239635	10/10/16 08:08	1.0		
015	met09_sn_0816	SAMPLE	281456-001	Water	239635	10/10/16 08:11	100.0		
016	met09_sn_0816	X	RINSE			10/10/16 08:13	1.0		
017	met09_sn_0816	SAMPLE	281254-003	Filtrate	239654	10/10/16 08:15	100.0		
018	met09_sn_0816	SAMPLE	281254-004	Filtrate	239654	10/10/16 08:18	100.0		
019	met09_sn_0816	SAMPLE	281254-005	Filtrate	239654	10/10/16 08:20	100.0		
020	met09_sn_0816	SAMPLE	281254-005	Filtrate	239654	10/10/16 08:22	5.0		2:MG=170000
021	met09_sn_0816	SAMPLE	281254-006	Filtrate	239654	10/10/16 08:26	5.0		
022	met09_sn_0816	SAMPLE	281254-007	Filtrate	239654	10/10/16 08:28	100.0		
023	met09_sn_0816	CCV				10/10/16 08:30	1.0	10	
024	met09_sn_0816	CCB				10/10/16 08:32	1.0		
025	met09_sn_0816	SAMPLE	281254-007	Filtrate	239654	10/10/16 08:35	5.0		2:MG=180000
026	met09_sn_0816	SAMPLE	281277-002	Filtrate	239654	10/10/16 08:38	100.0		
027	met09_sn_0816	SAMPLE	281277-002	Filtrate	239654	10/10/16 08:40	5.0		2:MG=200000
028	met09_sn_0816	SAMPLE	281277-003	Filtrate	239654	10/10/16 08:43	5.0		1:MG=150000
029	met09_sn_0816	SAMPLE	281277-004	Filtrate	239654	10/10/16 08:46	5.0		2:MG=220000
030	met09_sn_0816	SAMPLE	281277-005	Filtrate	239654	10/10/16 08:50	5.0		2:MG=210000
031	met09_sn_0816	SAMPLE	281277-006	Filtrate	239654	10/10/16 08:53	5.0		2:MG=200000
032	met09_sn_0816	SAMPLE	281893-001	Soil	239937	10/10/16 08:56	1.0		5:FE=410000
033	met09_sn_0816	SAMPLE	281852-001	Soil	239937	10/10/16 08:58	1.0		1:FE=240000
034	met09_sn_0816	SAMPLE	281277-007	Filtrate	239654	10/10/16 09:00	5.0		
035	met09_sn_0816	CCV				10/10/16 09:02	1.0	10	
036	met09_sn_0816	CCB				10/10/16 09:04	1.0		
037	met09_sn_0816	X	RINSE			10/10/16 09:07	1.0		
038	met09_sn_0816	BLANK	QC854590	Soil	239884	10/10/16 09:09	1.0		
039	met09_sn_0816	BS	QC854591	Soil	239884	10/10/16 09:12	1.0		1:SR=9600
040	met09_sn_0816	BSD	QC854592	Soil	239884	10/10/16 09:13	1.0		
041	met09_sn_0816	MSS	281516-001	Soil	239884	10/10/16 09:14	1.0		2:CA=190000
042	met09_sn_0816	MS	QC854593	Soil	239884	10/10/16 09:17	1.0		3:CA=190000
043	met09_sn_0816	MSD	QC854594	Soil	239884	10/10/16 09:19	1.0		3:CA=180000
044	met09_sn_0816	SAMPLE	281516-002	Soil	239884	10/10/16 09:21	1.0		5:FE=520000
045	met09_sn_0816	SAMPLE	281516-003	Soil	239884	10/10/16 09:23	1.0		5:CA=450000
046	met09_sn_0816	SAMPLE	281516-004	Soil	239884	10/10/16 09:25	1.0		5:CA=520000
047	met09_sn_0816	CCV				10/10/16 09:27	1.0	10	
048	met09_sn_0816	CCB				10/10/16 09:29	1.0		
049	met09_sn_0816	SAMPLE	281516-005	Soil	239884	10/10/16 09:32	1.0		5:FE=370000
050	met09_sn_0816	SAMPLE	281516-006	Soil	239884	10/10/16 09:34	1.0		5:FE=380000
051	met09_sn_0816	SAMPLE	281516-007	Soil	239884	10/10/16 09:36	1.0		5:FE=360000
052	met09_sn_0816	SAMPLE	281516-008	Soil	239884	10/10/16 09:38	1.0		4:CA=340000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96409396

Instrument : MET09 Begun : 10/10/16 07:16
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_0816	SAMPLE	281516-009	Soil	239884	10/10/16 09:40	1.0		5:FE=420000
054	met09_sn_0816	SAMPLE	281516-010	Soil	239884	10/10/16 09:42	1.0		4:CA=360000
055	met09_sn_0816	SAMPLE	281516-011	Soil	239884	10/10/16 09:44	1.0		5:FE=370000
056	met09_sn_0816	SAMPLE	281516-012	Soil	239884	10/10/16 09:46	1.0		5:FE=400000
057	met09_sn_0816	SAMPLE	281516-013	Soil	239884	10/10/16 09:48	1.0		5:FE=320000
058	met09_sn_0816	SAMPLE	281516-014	Soil	239884	10/10/16 09:51	1.0		4:FE=350000
059	met09_sn_0816	CCV				10/10/16 09:53	1.0	10	
060	met09_sn_0816	CCB				10/10/16 09:55	1.0		
061	met09_sn_0816	X	RINSE			10/10/16 09:58	1.0		
062	met09_sn_0816	MSS	281646-001	Soil	239937	10/10/16 10:01	1.0		5:FE=580000
063	met09_sn_0816	SAMPLE	281725-001	Soil	239937	10/10/16 10:03	1.0		5:FE=400000
064	met09_sn_0816	SAMPLE	281725-002	Soil	239937	10/10/16 10:05	1.0		5:CA=1200000
065	met09_sn_0816	SAMPLE	281725-003	Soil	239937	10/10/16 10:07	1.0		5:FE=370000
066	met09_sn_0816	SAMPLE	281725-004	Soil	239937	10/10/16 10:10	1.0		5:FE=470000
067	met09_sn_0816	SAMPLE	281851-001	Soil	239937	10/10/16 10:12	1.0		2:FE=170000
068	met09_sn_0816	SAMPLE	281849-001	Water	239927	10/10/16 10:14	1.0		5:CA=210000
069	met09_sn_0816	X	RINSE			10/10/16 10:16	1.0		
070	met09_sn_0816	BLANK	QC854919	Water	239963	10/10/16 10:18	1.0		
071	met09_sn_0816	CCV				10/10/16 10:21	1.0	10	
072	met09_sn_0816	CCB				10/10/16 10:23	1.0		
073	met09_sn_0816	BS	QC854920	Water	239963	10/10/16 10:25	1.0		
074	met09_sn_0816	BSD	QC854921	Water	239963	10/10/16 10:28	1.0		
075	met09_sn_0816	MSS	281910-001	Water	239963	10/10/16 10:30	1.0		7:FE=450000
076	met09_sn_0816	MS	QC854922	Water	239963	10/10/16 10:32	1.0		7:FE=460000
077	met09_sn_0816	MSD	QC854923	Water	239963	10/10/16 10:34	1.0		7:FE=440000
078	met09_sn_0816	SAMPLE	281415-002	Soil	239688	10/10/16 10:36	1.0		3:FE=380000
079	met09_sn_0816	SAMPLE	281415-003	Soil	239688	10/10/16 10:38	1.0		3:FE=230000
080	met09_sn_0816	SAMPLE	281907-001	Water	239963	10/10/16 10:41	1.0		2:NA=260000
081	met09_sn_0816	X	RINSE			10/10/16 10:43	1.0		
082	met09_sn_0816	BLANK	QC854927	Soil	239965	10/10/16 10:46	1.0		
083	met09_sn_0816	CCV				10/10/16 10:48	1.0	10	
084	met09_sn_0816	CCB				10/10/16 10:50	1.0		
085	met09_sn_0816	LCS	QC854928	Soil	239965	10/10/16 10:52	1.0		1:SR=8600
086	met09_sn_0816	SAMPLE	281415-002	Soil	239688	10/10/16 10:54	1.0		3:FE=390000
087	met09_sn_0816	MSS	281679-001	Soil	239965	10/10/16 10:56	1.0		6:CA=2500000
088	met09_sn_0816	MS	QC854929	Soil	239965	10/10/16 10:59	1.0		5:CA=2500000
089	met09_sn_0816	MSD	QC854930	Soil	239965	10/10/16 11:01	1.0		5:CA=2500000
090	met09_sn_0816	SER	QC854931	Soil	239965	10/10/16 11:03	5.0		
091	met09_sn_0816	PDS	QC854932	Soil	239965	10/10/16 11:05	1.0	11 12 13	6:CA=2500000
092	met09_sn_0816	SAMPLE	281678-001	Soil	239965	10/10/16 11:08	1.0		5:CA=3200000
093	met09_sn_0816	MSS	281678-002	Soil	239965	10/10/16 11:10	1.0		5:CA=3700000
094	met09_sn_0816	SAMPLE	281679-002	Soil	239965	10/10/16 11:12	1.0		6:CA=2800000
095	met09_sn_0816	CCV				10/10/16 11:15	1.0	10	
096	met09_sn_0816	CCB				10/10/16 11:17	1.0		
097	met09_sn_0816	BLANK	QC854933	WET Leachate	239967	10/10/16 11:22	10.0		1:NA=160000
098	met09_sn_0816	BS	QC854934	WET Leachate	239967	10/10/16 11:24	1.0		
099	met09_sn_0816	BSD	QC854935	WET Leachate	239967	10/10/16 11:26	1.0		
100	met09_sn_0816	MSS	281813-001	WET Leachate	239967	10/10/16 11:29	10.0		1:NA=130000
101	met09_sn_0816	MS	QC854936	WET Leachate	239967	10/10/16 11:31	10.0		
102	met09_sn_0816	MSD	QC854937	WET Leachate	239967	10/10/16 11:34	10.0		
103	met09_sn_0816	SAMPLE	281813-002	WET Leachate	239967	10/10/16 11:36	10.0		1:NA=150000
104	met09_sn_0816	SAMPLE	281813-003	WET Leachate	239967	10/10/16 11:38	10.0		1:NA=140000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96409396

Instrument : MET09 Begun : 10/10/16 07:16
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met09_sn_0816	SAMPLE	281813-004	WET Leachate	239967	10/10/16 11:41	10.0		1:NA=150000
106	met09_sn_0816	CCV				10/10/16 11:43	1.0	10	
107	met09_sn_0816	CCB				10/10/16 11:45	1.0		
108	met09_sn_0816	X	RINSE			10/10/16 11:56	1.0		
109	met09_sn_0816	BLANK	QC854919	Water	239963	10/10/16 11:59	1.0		
110	met09_sn_0816	BS	QC854920	Water	239963	10/10/16 12:01	1.0		
111	met09_sn_0816	BSD	QC854921	Water	239963	10/10/16 12:03	1.0		
112	met09_sn_0816	BLANK	QC854927	Soil	239965	10/10/16 12:06	1.0		
113	met09_sn_0816	LCS	QC854928	Soil	239965	10/10/16 12:08	1.0		
114	met09_sn_0816	MSS	281910-001	Water	239963	10/10/16 12:10	500.0		
115	met09_sn_0816	SAMPLE	281907-001	Water	239963	10/10/16 12:12	1.0		2:NA=250000
116	met09_sn_0816	X	RINSE			10/10/16 12:14	1.0		
117	met09_sn_0816	MSS	281679-001	Soil	239965	10/10/16 12:17	100.0		
118	met09_sn_0816	CCV				10/10/16 12:19	1.0	10	
119	met09_sn_0816	CCB				10/10/16 12:21	1.0		
120	met09_sn_0816	CCB				10/10/16 12:23	1.0		
121	met09_sn_0816	SER	QC854931	Soil	239965	10/10/16 12:26	500.0		
122	met09_sn_0816	PDS	QC854932	Soil	239965	10/10/16 12:28	100.0	11 12 13	
123	met09_sn_0816	MSS	281679-001	Soil	239965	10/10/16 12:30	1.0		5:CA=2500000
124	met09_sn_0816	MS	QC854929	Soil	239965	10/10/16 12:33	1.0		5:CA=2400000
125	met09_sn_0816	MSD	QC854930	Soil	239965	10/10/16 12:35	1.0		5:CA=2500000
126	met09_sn_0816	SER	QC854931	Soil	239965	10/10/16 12:37	5.0		
127	met09_sn_0816	PDS	QC854932	Soil	239965	10/10/16 12:40	1.0	11 12 13	5:CA=2500000
128	met09_sn_0816	X	RINSE			10/10/16 12:42	1.0		
129	met09_sn_0816	SAMPLE	281678-001	Soil	239965	10/10/16 12:44	100.0		
130	met09_sn_0816	SAMPLE	281678-002	Soil	239965	10/10/16 12:47	100.0		
131	met09_sn_0816	CCV				10/10/16 12:49	1.0	10	
132	met09_sn_0816	CCB				10/10/16 12:51	1.0		
133	met09_sn_0816	SAMPLE	281679-002	Soil	239965	10/10/16 12:54	100.0		
134	met09_sn_0816	SAMPLE	281678-001	Soil	239965	10/10/16 12:56	1.0		5:CA=3300000
135	met09_sn_0816	SAMPLE	281678-002	Soil	239965	10/10/16 12:58	1.0		5:CA=3800000
136	met09_sn_0816	SAMPLE	281679-002	Soil	239965	10/10/16 13:01	1.0		6:CA=2900000
137	met09_sn_0816	X	RINSE			10/10/16 13:03	1.0		
138	met09_sn_0816	X	RINSE			10/10/16 13:06	1.0		
139	met09_sn_0816	SAMPLE	281845-001	WET Leachate	239967	10/10/16 13:08	10.0		1:NA=140000
140	met09_sn_0816	SAMPLE	281845-002	WET Leachate	239967	10/10/16 13:11	10.0		1:NA=140000
141	met09_sn_0816	X	RINSE			10/10/16 13:13	1.0		
142	met09_sn_0816	BLANK	QC854899	TCLP Leachate	239958	10/10/16 13:15	10.0		1:NA=140000
143	met09_sn_0816	CCV				10/10/16 13:18	1.0	10	
144	met09_sn_0816	CCB				10/10/16 13:20	1.0		
145	met09_sn_0816	BLANK	QC854900	TCLP Leachate	239958	10/10/16 13:22	10.0		
146	met09_sn_0816	BS	QC854901	TCLP Leachate	239958	10/10/16 13:25	1.0		
147	met09_sn_0816	BSD	QC854902	TCLP Leachate	239958	10/10/16 13:27	1.0		
148	met09_sn_0816	MSS	281895-001	TCLP Leachate	239958	10/10/16 13:29	10.0		1:NA=130000
149	met09_sn_0816	MS	QC854903	TCLP Leachate	239958	10/10/16 13:32	10.0		
150	met09_sn_0816	MSD	QC854904	TCLP Leachate	239958	10/10/16 13:34	10.0		
151	met09_sn_0816	SER	QC854905	TCLP Leachate	239958	10/10/16 13:36	50.0		
152	met09_sn_0816	PDS	QC854906	TCLP Leachate	239958	10/10/16 13:39	10.0	11 12 13	1:NA=140000
153	met09_sn_0816	SAMPLE	281841-001	TCLP Leachate	239958	10/10/16 13:41	10.0		1:NA=140000
154	met09_sn_0816	SAMPLE	281845-002	TCLP Leachate	239958	10/10/16 13:44	10.0		1:NA=140000
155	met09_sn_0816	CCV				10/10/16 13:46	1.0	10	
156	met09_sn_0816	CCB				10/10/16 13:48	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96409396

Instrument : MET09 Begun : 10/10/16 07:16
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
157	met09_sn_0816	SAMPLE	281853-001	TCLP Leachate	239958	10/10/16 13:50	10.0		1:NA=130000
158	met09_sn_0816	SAMPLE	281853-002	TCLP Leachate	239958	10/10/16 13:53	10.0		1:NA=130000
159	met09_sn_0816	SAMPLE	281853-003	TCLP Leachate	239958	10/10/16 13:55	10.0		1:NA=130000
160	met09_sn_0816	SAMPLE	281853-004	TCLP Leachate	239958	10/10/16 13:58	10.0		1:NA=130000
161	met09_sn_0816	SAMPLE	281516-015	Soil	239884	10/10/16 14:00	1.0		4:FE=330000
162	met09_sn_0816	SAMPLE	281516-016	Soil	239884	10/10/16 14:02	1.0		4:FE=320000
163	met09_sn_0816	SAMPLE	281516-017	Soil	239884	10/10/16 14:04	1.0		4:FE=370000
164	met09_sn_0816	SAMPLE	281516-018	Soil	239884	10/10/16 14:06	1.0		2:FE=250000
165	met09_sn_0816	SAMPLE	281516-019	Soil	239884	10/10/16 14:08	1.0		4:FE=370000
166	met09_sn_0816	X	RINSE			10/10/16 14:11	1.0		
167	met09_sn_0816	CCV				10/10/16 14:13	1.0	10	
168	met09_sn_0816	CCB				10/10/16 14:15	1.0		
169	met09_sn_0816	SAMPLE	281666-005	Soil	239887	10/10/16 14:18	100.0		
170	met09_sn_0816	SAMPLE	281666-005	Soil	239887	10/10/16 14:20	1.0		9:FE=2800000
171	met09_sn_0816	SAMPLE	281646-017	Water	239872	10/10/16 14:22	1.0		1:NA=150000
172	met09_sn_0816	SAMPLE	281713-001	Soil	239887	10/10/16 14:25	1.0		4:FE=380000
173	met09_sn_0816	X	RINSE			10/10/16 14:35	1.0		
174	met09_sn_0816	BS	QC854901	TCLP Leachate	239958	10/10/16 14:37	1.0		
175	met09_sn_0816	BSD	QC854902	TCLP Leachate	239958	10/10/16 14:40	1.0		
176	met09_sn_0816	MS	QC854903	TCLP Leachate	239958	10/10/16 14:42	10.0		
177	met09_sn_0816	MSD	QC854904	TCLP Leachate	239958	10/10/16 14:44	10.0		
178	met09_sn_0816	SAMPLE	281646-004	Soil	239937	10/10/16 14:47	1.0		6:FE=670000
179	met09_sn_0816	CCV				10/10/16 14:49	1.0	10	
180	met09_sn_0816	CCB				10/10/16 14:51	1.0		
181	met09_sn_0816	SAMPLE	281646-008	Soil	239937	10/10/16 14:53	1.0		6:FE=500000
182	met09_sn_0816	SAMPLE	281646-011	Soil	239937	10/10/16 14:56	1.0		6:FE=580000
183	met09_sn_0816	SAMPLE	281321-002	Filtrate	239702	10/10/16 14:58	1.0		2:MG=190000
184	met09_sn_0816	SAMPLE	281321-003	Filtrate	239702	10/10/16 15:01	1.0		2:MG=190000
185	met09_sn_0816	SAMPLE	281321-005	Filtrate	239702	10/10/16 15:10	5.0		2:MG=160000
186	met09_sn_0816	SAMPLE	281321-006	Filtrate	239702	10/10/16 15:13	1.0		2:NA=520000
187	met09_sn_0816	SAMPLE	281321-007	Filtrate	239702	10/10/16 15:16	1.0		
188	met09_sn_0816	SAMPLE	281582-001	Filtrate	239702	10/10/16 15:18	1.0		
189	met09_sn_0816	SAMPLE	281788-001	Soil	239937	10/10/16 15:20	100.0		
190	met09_sn_0816	CCV				10/10/16 15:23	1.0	10	
191	met09_sn_0816	CCB				10/10/16 15:25	1.0		
192	met09_sn_0816	SAMPLE	281788-002	Soil	239937	10/10/16 15:27	100.0		
193	met09_sn_0816	SAMPLE	281788-001	Soil	239937	10/10/16 15:30	1.0		7:CA=810000
194	met09_sn_0816	SAMPLE	281788-002	Soil	239937	10/10/16 15:32	1.0		7:CA=720000
195	met09_sn_0816	X	RINSE			10/10/16 15:34	1.0		
196	met09_sn_0816	?SAMPLE	281791-005		23927	10/10/16 15:37	1.0		
197	met09_sn_0816	?SAMPLE	281791-006		23927	10/10/16 15:40	1.0		
198	met09_sn_0816	SAMPLE	281850-001	WET Leachate	239967	10/10/16 15:43	10.0		1:NA=150000
199	met09_sn_0816	SAMPLE	281863-001	WET Leachate	239967	10/10/16 15:45	10.0		1:NA=150000
200	met09_sn_0816	SAMPLE	281921-001	WET Leachate	239967	10/10/16 15:48	10.0		1:NA=130000
201	met09_sn_0816	?SAMPLE	281809-001		239967	10/10/16 15:50	10.0		
202	met09_sn_0816	CCV				10/10/16 15:52	1.0	10	
203	met09_sn_0816	CCB				10/10/16 15:54	1.0		
204	met09_sn_0816	?SAMPLE	281851-001		239967	10/10/16 15:57	10.0		
205	met09_sn_0816	SAMPLE	281979-001	WET Leachate	239967	10/10/16 15:59	10.0		
206	met09_sn_0816	SAMPLE	281840-001	TCLP Leachate	239958	10/10/16 16:01	10.0		
207	met09_sn_0816	X	RINSE			10/10/16 16:07	1.0		
208	met09_sn_0816	X	RINSE			10/10/16 16:09	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96409396

Instrument : MET09 Begun : 10/10/16 07:16
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
209	met09_sn_0816	X	RINSE			10/10/16 16:12	1.0		
210	met09_sn_0816	BLANK	QC854222	Miscell.	239788	10/10/16 16:14	1.0		
211	met09_sn_0816	BS	QC854223	Miscell.	239788	10/10/16 16:17	1.0		1:SR=4900
212	met09_sn_0816	BSD	QC854224	Miscell.	239788	10/10/16 16:19	1.0		1:SR=4900
213	met09_sn_0816	SAMPLE	281578-008	Soil	239788	10/10/16 16:22	100.0		2:NI=39000
214	met09_sn_0816	X	RINSE			10/10/16 16:24	1.0		
215	met09_sn_0816	SAMPLE	281321-004	Filtrate	239702	10/10/16 16:27	5.0		1:MG=110000
216	met09_sn_0816	SAMPLE	281840-002	TCLP Leachate	239958	10/10/16 16:30	10.0		
217	met09_sn_0816	CCV				10/10/16 16:32	1.0	10	
218	met09_sn_0816	CCB				10/10/16 16:35	1.0		
219	met09_sn_0816	CCB				10/10/16 16:37	1.0		
220	met09_sn_0816	?SAMPLE	281725-001		239958	10/10/16 16:39	10.0		
221	met09_sn_0816	?SAMPLE	281725-002		239958	10/10/16 16:41	10.0		
222	met09_sn_0816	?SAMPLE	281725-003		239958	10/10/16 16:44	10.0		
223	met09_sn_0816	?SAMPLE	281725-004		239958	10/10/16 16:46	10.0		
224	met09_sn_0816	?SAMPLE	281851-001		239958	10/10/16 16:48	10.0		
225	met09_sn_0816	SAMPLE	281979-001	TCLP Leachate	239958	10/10/16 16:51	10.0		1:NA=130000
226	met09_sn_0816	?SAMPLE	281908-018		239958	10/10/16 16:53	10.0		
227	met09_sn_0816	?SAMPLE	281920-009		239958	10/10/16 16:55	10.0		
228	met09_sn_0816	SER	QC854145	Air	239766	10/10/16 16:58	5.0		
229	met09_sn_0816	PDS	QC854146	Air	239766	10/10/16 17:00	1.0	11 12 13	5:NA=110000
230	met09_sn_0816	CCV				10/10/16 17:03	1.0	10	
231	met09_sn_0816	CCB				10/10/16 17:05	1.0		
232	met09_sn_0816	CCB				10/10/16 17:07	1.0		
233	met09_sn_0816	MSS	281794-003	Water	239872	10/10/16 17:10	1.0		
234	met09_sn_0816	SAMPLE	281767-001	Water	239872	10/10/16 17:12	1.0		4:NA=270000
235	met09_sn_0816	SAMPLE	281767-003	Water	239872	10/10/16 17:15	1.0		3:CA=380000
236	met09_sn_0816	SAMPLE	281773-001	Water	239872	10/10/16 17:18	1.0		
237	met09_sn_0816	SAMPLE	281773-003	Water	239872	10/10/16 17:20	1.0		3:CA=780000
238	met09_sn_0816	SAMPLE	281828-001	Water	239872	10/10/16 17:23	1.0		4:CA=370000
239	met09_sn_0816	X	RINSE			10/10/16 17:26	1.0		
240	met09_sn_0816	BLANK	QC854590	Soil	239884	10/10/16 17:29	1.0		
241	met09_sn_0816	MSS	281516-001	Soil	239884	10/10/16 17:31	1.0		2:CA=180000
242	met09_sn_0816	SER	QC854595	Soil	239884	10/10/16 17:33	5.0		
243	met09_sn_0816	CCV				10/10/16 17:36	1.0	10	
244	met09_sn_0816	CCB				10/10/16 17:38	1.0		
245	met09_sn_0816	CCB				10/10/16 17:40	1.0		
246	met09_sn_0816	PDS	QC854596	Soil	239884	10/10/16 17:42	1.0	11 12 13	2:CA=180000
247	met09_sn_0816	SAMPLE	281516-004	Soil	239884	10/10/16 17:44	1.0		4:CA=520000
248	met09_sn_0816	SAMPLE	281516-005	Soil	239884	10/10/16 17:46	1.0		
249	met09_sn_0816	SAMPLE	281516-006	Soil	239884	10/10/16 17:49	1.0		5:FE=350000
250	met09_sn_0816	SAMPLE	281516-007	Soil	239884	10/10/16 17:51	1.0		4:FE=340000
251	met09_sn_0816	SAMPLE	281516-008	Soil	239884	10/10/16 17:53	1.0		4:CA=330000
252	met09_sn_0816	SAMPLE	281516-009	Soil	239884	10/10/16 17:55	1.0		
253	met09_sn_0816	SAMPLE	281516-010	Soil	239884	10/10/16 17:57	1.0		4:CA=340000
254	met09_sn_0816	SAMPLE	281516-012	Soil	239884	10/10/16 18:00	1.0		
255	met09_sn_0816	SAMPLE	281516-013	Soil	239884	10/10/16 18:02	1.0		4:FE=290000
256	met09_sn_0816	CCV				10/10/16 18:04	1.0	10	
257	met09_sn_0816	CCB				10/10/16 18:06	1.0		
258	met09_sn_0816	CCB				10/10/16 18:08	1.0		
259	met09_sn_0816	SAMPLE	281516-014	Soil	239884	10/10/16 18:11	1.0		4:FE=320000
260	met09_sn_0816	SAMPLE	281277-003	Filtrate	239654	10/10/16 18:13	100.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96409396

Instrument : MET09 Begun : 10/10/16 07:16
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
261	met09_sn_0816	SAMPLE	281277-004	Filtrate	239654	10/10/16 18:15	100.0		
262	met09_sn_0816	SAMPLE	281277-005	Filtrate	239654	10/10/16 18:17	100.0		
263	met09_sn_0816	SAMPLE	281277-006	Filtrate	239654	10/10/16 18:20	100.0		

TLO 10/10/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 60.

MNA 10/10/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 61 through 139.

Standards used: 1=S30721 2=S31085 3=S31084 4=S31086 5=S30418 6=S30836 7=S30723 8=S31001 9=S31075 10=S30837 11=S29983 12=S29984 13=S30560

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96409396

Date : 10/10/16 Reference : met09_sn_0816
Sequence : MET09 10/10/16 Analyzed : 10/10/16 07:19

#	Type	Sample ID	Y A
		ICAL STD	12314589
		LOWER LIMIT	3694377
		UPPER LIMIT	24629178
011	ICB		12366451
012	ICSA		11488450
013	ICSAB		11374763
014	BLANK	QC853618	12197342
023	CCV		11979617
024	CCB		12177172
032	SAMPLE	281893-001	12228502
033	SAMPLE	281852-001	12096145
035	CCV		12119789
036	CCB		12346918
038	BLANK	QC854590	12528142
039	BS	QC854591	12277698
040	BSD	QC854592	12233426
041	MSS	281516-001	12395467
042	MS	QC854593	12266683
043	MSD	QC854594	12426859
044	SAMPLE	281516-002	12213880
045	SAMPLE	281516-003	12240867
046	SAMPLE	281516-004	11899241
047	CCV		12097410
048	CCB		12193972
049	SAMPLE	281516-005	12242567
050	SAMPLE	281516-006	12093800
051	SAMPLE	281516-007	12398529
052	SAMPLE	281516-008	12153373
053	SAMPLE	281516-009	12332100
054	SAMPLE	281516-010	12187719
055	SAMPLE	281516-011	12242443
056	SAMPLE	281516-012	12258970
057	SAMPLE	281516-013	12132239
058	SAMPLE	281516-014	12273465
059	CCV		12226804
060	CCB		12120003
062	MSS	281646-001	12157840
063	SAMPLE	281725-001	12049715
064	SAMPLE	281725-002	11664507
065	SAMPLE	281725-003	11973673
066	SAMPLE	281725-004	12116510
067	SAMPLE	281851-001	12257918
068	SAMPLE	281849-001	11800011
070	BLANK	QC854919	12333180
071	CCV		12143221
072	CCB		12426115
073	BS	QC854920	12301576
074	BSD	QC854921	12280088
075	MSS	281910-001	11067051
076	MS	QC854922	10853456
077	MSD	QC854923	10951603

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96409396

Date : 10/10/16 Reference : met09_sn_0816
Sequence : MET09 10/10/16 Analyzed : 10/10/16 07:19

#	Type	Sample ID	Y A
078	SAMPLE	281415-002	12148607
079	SAMPLE	281415-003	12264500
080	SAMPLE	281907-001	11928937
082	BLANK	QC854927	12160613
083	CCV		12262124
084	CCB		12218244
085	LCS	QC854928	12299101
086	SAMPLE	281415-002	12277878
088	MS	QC854929	11469668
089	MSD	QC854930	11420383
090	SER	QC854931	11832699
091	PDS	QC854932	11403778
095	CCV		11961185
096	CCB		12236757
097	BLANK	QC854933	12145285
098	BS	QC854934	12276499
099	BSD	QC854935	12309090
100	MSS	281813-001	12087157
101	MS	QC854936	12078134
102	MSD	QC854937	12065262
103	SAMPLE	281813-002	12032864
104	SAMPLE	281813-003	12069744
105	SAMPLE	281813-004	12147798
106	CCV		12148426
107	CCB		12088770
109	BLANK	QC854919	12436296
110	BS	QC854920	12431259
111	BSD	QC854921	12068873
112	BLANK	QC854927	12484491
113	LCS	QC854928	11943050
114	MSS	281910-001	12286295
115	SAMPLE	281907-001	11885279
118	CCV		12005238
119	CCB		12425703
120	CCB		12535238
121	SER	QC854931	12398372
122	PDS	QC854932	12224110
124	MS	QC854929	11417327
125	MSD	QC854930	11524485
126	SER	QC854931	11965353
127	PDS	QC854932	11515401
131	CCV		12040504
132	CCB		12480440
139	SAMPLE	281845-001	11878181
140	SAMPLE	281845-002	12121861
142	BLANK	QC854899	12154809
143	CCV		12147054
144	CCB		12241152
145	BLANK	QC854900	12317350
146	BS	QC854901	12239079
147	BSD	QC854902	12336065
148	MSS	281895-001	12179713

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96409396

Date : 10/10/16 Reference : met09_sn_0816
Sequence : MET09 10/10/16 Analyzed : 10/10/16 07:19

#	Type	Sample ID	Y	A
149	MS	QC854903	12184010	
150	MSD	QC854904	12076372	
151	SER	QC854905	12146891	
152	PDS	QC854906	12056327	
153	SAMPLE	281841-001	12160674	
154	SAMPLE	281845-002	12192133	
155	CCV		12052721	
156	CCB		12337541	
157	SAMPLE	281853-001	12136647	
158	SAMPLE	281853-002	11952305	
159	SAMPLE	281853-003	12071054	
160	SAMPLE	281853-004	12011846	
161	SAMPLE	281516-015	12230439	
162	SAMPLE	281516-016	12439962	
163	SAMPLE	281516-017	12267020	
164	SAMPLE	281516-018	12181788	
165	SAMPLE	281516-019	12095697	
167	CCV		12182815	
168	CCB		12487867	
169	SAMPLE	281666-005	12338416	
170	SAMPLE	281666-005	11418156	
171	SAMPLE	281646-017	12125809	
172	SAMPLE	281713-001	12151661	
174	BS	QC854901	12339142	
175	BSD	QC854902	12417640	
176	MS	QC854903	12237462	
177	MSD	QC854904	12095922	
178	SAMPLE	281646-004	11924466	
179	CCV		12204354	
180	CCB		12363991	
181	SAMPLE	281646-008	12081885	
182	SAMPLE	281646-011	12411290	
188	SAMPLE	281582-001	12241233	
189	SAMPLE	281788-001	12209506	
190	CCV		12113740	
191	CCB		12273896	
192	SAMPLE	281788-002	12174119	
193	SAMPLE	281788-001	12077962	
194	SAMPLE	281788-002	12109168	
198	SAMPLE	281850-001	12209371	
199	SAMPLE	281863-001	11979606	
200	SAMPLE	281921-001	12022223	
202	CCV		12054296	
203	CCB		12475944	
205	SAMPLE	281979-001	14250974	
206	SAMPLE	281840-001	14104433	
210	BLANK	QC854222	12498725	
211	BS	QC854223	12670376	
212	BSD	QC854224	12435020	
213	SAMPLE	281578-008	12329639	
216	SAMPLE	281840-002	29109801	*
217	CCV		12175839	

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96409396

Date : 10/10/16 Reference : met09_sn_0816
Sequence : MET09 10/10/16 Analyzed : 10/10/16 07:19

#	Type	Sample ID	Y	A
218	CCB		12276362	
219	CCB		12261797	
225	SAMPLE	281979-001	12207853	
228	SER	QC854145	24010803	
229	PDS	QC854146	12595660	
230	CCV		12259953	
231	CCB		12321903	
232	CCB		12377993	
233	MSS	281794-003	12296786	
234	SAMPLE	281767-001	11914854	
235	SAMPLE	281767-003	11481931	
236	SAMPLE	281773-001	29606769	*
237	SAMPLE	281773-003	11529569	
238	SAMPLE	281828-001	11763960	
240	BLANK	QC854590	20939688	
241	MSS	281516-001	12579283	
242	SER	QC854595	28175677	*
243	CCV		12203004	
244	CCB		12319172	
245	CCB		12448168	
246	PDS	QC854596	12563210	
247	SAMPLE	281516-004	12311230	
248	SAMPLE	281516-005	29061702	*
249	SAMPLE	281516-006	12066491	
250	SAMPLE	281516-007	12474176	
251	SAMPLE	281516-008	12467131	
252	SAMPLE	281516-009	27603424	*
253	SAMPLE	281516-010	12106807	
254	SAMPLE	281516-012	29084770	*
255	SAMPLE	281516-013	12403858	
256	CCV		12409098	
257	CCB		12475422	
258	CCB		12434692	
259	SAMPLE	281516-014	12158005	

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 METALS Soil: EPA 6010B

Inst : MET09
Calnum : 96409396001
Units : ug/L

Date : 10-OCT-2016 07:16
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_0816	96409396002	L1	10-OCT-2016 07:19	S30721
L2	met09_sn_0816	96409396003	L2	10-OCT-2016 07:21	S31085
L3	met09_sn_0816	96409396004	L3	10-OCT-2016 07:24	S31084
L4	met09_sn_0816	96409396005	L4	10-OCT-2016 07:25	S31086
L5	met09_sn_0816	96409396006	L5	10-OCT-2016 07:27	S30418

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	2.9900	2.8820	2.9925	2.8739		LOR0	0.00000	0.34782		2.9346	1.000	0.995	
Arsenic	A	2.1200	2.4470	2.4912	2.4546		LOR0	0.00000	0.40734		2.3782	1.000	0.995	
Barium	A	89.260	89.903	91.030	88.782		LOR0	0.00000	0.01126		89.744	1.000	0.995	
Beryllium	A	7456.2	7643.9	7685.8			LOR0	0.00000	1.30E-4		7595.3	1.000	0.995	
Cadmium	A	178.46	174.36	177.02	168.86		LOR0	0.00000	0.00592		174.67	1.000	0.995	
Chromium	A	247.54	226.96	226.16	222.85		LOR0	0.00000	0.00449		230.88	1.000	0.995	
Cobalt	A	41.080	43.693	43.943	43.048		LOR0	0.00000	0.02323		42.941	1.000	0.995	
Copper	A	414.72	391.78	384.53	375.63		LOR0	0.00000	0.00266		391.66	1.000	0.995	
Lead	A	17.180	19.171	19.886	18.987		LOR0	0.00000	0.05264		18.806	1.000	0.995	
Molybdenum	A	23.700	24.459	24.981	23.962		LOR0	0.00000	0.04172		24.275	1.000	0.995	
Nickel	A	114.62	127.18	126.44	124.16		LOR0	0.00000	0.00805		123.10	1.000	0.995	
Selenium	A	4.0700	3.4890	3.5637	3.4876		LOR0	0.00000	0.28667		3.6526	1.000	0.995	
Silver	A	69.840	85.020	86.741	87.423		LOR0	0.00000	0.01144		82.256	1.000	0.995	
Thallium	A	2.6400	2.8660	2.9413	2.7968		LOR0	0.00000	0.35737		2.8110	1.000	0.995	
Vanadium	A	209.18	257.89	259.98	258.37		LOR0	0.00000	0.00387		246.35	1.000	0.995	
Zinc	A	86.085	77.803	76.548	75.153		LOR0	0.00000	0.01330		78.897	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	4	100.00	0	1000.0	4	10000	0		
Arsenic	A	5.0000	-14	100.00	0	1000.0	1	10000	0		
Barium	A	5.0000	1	100.00	1	1000.0	3	10000	0		
Beryllium	A	2.0000	-3	100.00	-1	1000.0	0				
Cadmium	A	5.0000	6	100.00	3	1000.0	5	10000	0		
Chromium	A	5.0000	11	100.00	2	1000.0	1	10000	0		
Cobalt	A	5.0000	-5	100.00	1	1000.0	2	10000	0		
Copper	A	5.0000	10	100.00	4	1000.0	2	10000	0		
Lead	A	5.0000	-10	100.00	1	1000.0	5	10000	0		
Molybdenum	A	5.0000	-1	100.00	2	1000.0	4	10000	0		
Nickel	A	5.0000	-8	100.00	2	1000.0	2	10000	0		
Selenium	A	10.000	17	100.00	0	1000.0	2	10000	0		
Silver	A	5.0000	-20	20.000	-3	200.00	-1	2000.0	0		
Thallium	A	10.000	-6	100.00	2	1000.0	5	10000	0		
Vanadium	A	5.0000	-19	100.00	0	1000.0	1	10000	0		
Zinc	A	20.000	15	100.00	4	1000.0	2	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281516 METALS Soil
EPA 6010B

Inst : MET09
Calnum : 96409396001 Cal Date : 10-OCT-2016

ICV 96409396008 (10-OCT-2016) stds: S30836

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	5214	ug/L	4	10	
Arsenic	A	5000	5251	ug/L	5	10	
Barium	A	5000	5146	ug/L	3	10	
Beryllium	A	500.0	505.7	ug/L	1	10	
Cadmium	A	5000	5226	ug/L	5	10	
Chromium	A	5000	5159	ug/L	3	10	
Cobalt	A	5000	5093	ug/L	2	10	
Copper	A	5000	5120	ug/L	2	10	
Lead	A	5000	5210	ug/L	4	10	
Molybdenum	A	5000	5162	ug/L	3	10	
Nickel	A	5000	5108	ug/L	2	10	
Selenium	A	5000	5263	ug/L	5	10	
Silver	A	1000	1017	ug/L	2	10	
Thallium	A	5000	5152	ug/L	3	10	
Vanadium	A	5000	5133	ug/L	3	10	
Zinc	A	5000	5162	ug/L	3	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396011 File : met09_sn_0816 Time : 10-OCT-2016 07:39
Cal : 96409396001 Caldate : 10-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12366451	0.42

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396012 File : met09_sn_0816 Time : 10-OCT-2016 07:41
Cal : 96409396001 Caldate : 10-OCT-2016
Standards: S31001

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[-8.292]	10.00	ug/L	
Arsenic	A	[-4.520]	5.000	ug/L	
Barium	A	[0.4516]	5.000	ug/L	
Beryllium	A	[0.04171]	2.000	ug/L	
Cadmium	A	[1.437]	5.000	ug/L	
Cobalt	A	[0.8240]	5.000	ug/L	
Lead	A	[-0.4388]	5.000	ug/L	
Molybdenum	A	[0.9359]	5.000	ug/L	
Selenium	A	[9.560]	10.00	ug/L	
Silver	A	[-0.1250]	5.000	ug/L	
Thallium	A	[-1.155]	10.00	ug/L	
Zinc	A	[9.796]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec	Flags
Chromium	A	20000	20180	ug/L	101	
Copper	A	20000	21210	ug/L	106	
Manganese	A	20000	19530	ug/L	98	
Nickel	A	20000	19660	ug/L	98	
Vanadium	A	20000	20680	ug/L	103	
Aluminum	R	500000	514800	ug/L	103	
Calcium	R	500000	488600	ug/L	98	
Iron	R	200000	199000	ug/L	99	
Magnesium	R	500000	495700	ug/L	99	
Titanium	R	20000	22030	ug/L	110	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	11488450	-6.71

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396013 File : met09_sn_0816 Time : 10-OCT-2016 08:06
Cal : 96409396001 Caldate : 10-OCT-2016
Standards: S31075

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	542.7	ug/L	9	20	
Arsenic	A	500.0	522.7	ug/L	5	20	
Barium	A	500.0	539.0	ug/L	8	20	
Beryllium	A	500.0	539.6	ug/L	8	20	
Cadmium	A	1000	1083	ug/L	8	20	
Chromium	A	500.0	530.9	ug/L	6	20	
Cobalt	A	500.0	516.8	ug/L	3	20	
Copper	A	500.0	511.0	ug/L	2	20	
Lead	A	1000	983.3	ug/L	-2	20	
Molybdenum	A	500.0	519.2	ug/L	4	20	
Nickel	A	1000	1044	ug/L	4	20	
Selenium	A	500.0	476.7	ug/L	-5	20	
Silver	A	1000	1146	ug/L	15	20	
Thallium	A	500.0	517.9	ug/L	4	20	
Vanadium	A	500.0	565.5	ug/L	13	20	
Zinc	A	1000	1060	ug/L	6	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	11374763	-7.63

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396035 File : met09_sn_0816 Time : 10-OCT-2016 09:02
Cal : 96409396001 Caldate : 10-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.9346	2.9225	5000	5083	ug/L	2	10	
Arsenic	A	2.3782	2.5229	5000	5138	ug/L	3	10	
Barium	A	89.744	85.910	5000	4837	ug/L	-3	10	
Beryllium	A	7595.3	7401.0	500.0	481.5	ug/L	-4	10	
Cadmium	A	174.67	165.76	5000	4906	ug/L	-2	10	
Chromium	A	230.88	220.89	5000	4955	ug/L	-1	10	
Cobalt	A	42.941	43.722	5000	5077	ug/L	2	10	
Copper	A	391.66	366.62	5000	4879	ug/L	-2	10	
Lead	A	18.806	19.457	5000	5121	ug/L	2	10	
Molybdenum	A	24.275	23.037	5000	4805	ug/L	-4	10	
Nickel	A	123.10	120.40	5000	4848	ug/L	-3	10	
Selenium	A	3.6526	3.4412	5000	4932	ug/L	-1	10	
Silver	A	82.256	86.321	1000	987.5	ug/L	-1	10	
Thallium	A	2.8110	2.6836	5000	4795	ug/L	-4	10	
Vanadium	A	246.35	254.10	5000	4917	ug/L	-2	10	
Zinc	A	78.897	72.497	5000	4822	ug/L	-4	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12119789	-1.58

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396036 File : met09_sn_0816 Time : 10-OCT-2016 09:04
Cal : 96409396001 Caldate : 10-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12346918	0.26

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396047 File : met09_sn_0816 Time : 10-OCT-2016 09:27
Cal : 96409396001 Caldate : 10-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.9346	2.9055	5000	5053	ug/L	1	10	
Arsenic	A	2.3782	2.5095	5000	5111	ug/L	2	10	
Barium	A	89.744	85.714	5000	4826	ug/L	-3	10	
Beryllium	A	7595.3	7359.4	500.0	478.8	ug/L	-4	10	
Cadmium	A	174.67	165.51	5000	4899	ug/L	-2	10	
Chromium	A	230.88	220.36	5000	4943	ug/L	-1	10	
Cobalt	A	42.941	43.977	5000	5107	ug/L	2	10	
Copper	A	391.66	366.41	5000	4876	ug/L	-2	10	
Lead	A	18.806	19.424	5000	5113	ug/L	2	10	
Molybdenum	A	24.275	23.037	5000	4805	ug/L	-4	10	
Nickel	A	123.10	120.02	5000	4832	ug/L	-3	10	
Selenium	A	3.6526	3.4302	5000	4917	ug/L	-2	10	
Silver	A	82.256	86.511	1000	989.6	ug/L	-1	10	
Thallium	A	2.8110	2.6508	5000	4737	ug/L	-5	10	
Vanadium	A	246.35	253.42	5000	4904	ug/L	-2	10	
Zinc	A	78.897	72.465	5000	4820	ug/L	-4	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12097410	-1.76

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396048 File : met09_sn_0816 Time : 10-OCT-2016 09:29
Cal : 96409396001 Caldate : 10-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12193972	-0.98

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396059 File : met09_sn_0816 Time : 10-OCT-2016 09:53
Cal : 96409396001 Caldate : 10-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.9346	2.8412	5000	4941	ug/L	-1	10	
Arsenic	A	2.3782	2.4511	5000	4992	ug/L	0	10	
Barium	A	89.744	84.907	5000	4781	ug/L	-4	10	
Beryllium	A	7595.3	7214.0	500.0	469.3	ug/L	-6	10	
Cadmium	A	174.67	163.45	5000	4838	ug/L	-3	10	
Chromium	A	230.88	219.66	5000	4928	ug/L	-1	10	
Cobalt	A	42.941	43.774	5000	5083	ug/L	2	10	
Copper	A	391.66	363.90	5000	4843	ug/L	-3	10	
Lead	A	18.806	19.208	5000	5056	ug/L	1	10	
Molybdenum	A	24.275	22.661	5000	4727	ug/L	-5	10	
Nickel	A	123.10	119.17	5000	4798	ug/L	-4	10	
Selenium	A	3.6526	3.3327	5000	4777	ug/L	-4	10	
Silver	A	82.256	86.341	1000	987.7	ug/L	-1	10	
Thallium	A	2.8110	2.5917	5000	4631	ug/L	-7	10	
Vanadium	A	246.35	252.97	5000	4895	ug/L	-2	10	
Zinc	A	78.897	71.385	5000	4748	ug/L	-5	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12226804	-0.71

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396060 File : met09_sn_0816 Time : 10-OCT-2016 09:55
Cal : 96409396001 Caldate : 10-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12120003	-1.58

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396155 File : met09_sn_0816 Time : 10-OCT-2016 13:46
Cal : 96409396001 Caldate : 10-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.9346	2.8163	5000	4898	ug/L	-2	10	
Arsenic	A	2.3782	2.4576	5000	5006	ug/L	0	10	
Barium	A	89.744	85.473	5000	4812	ug/L	-4	10	
Beryllium	A	7595.3	7500.5	500.0	488.0	ug/L	-2	10	
Cadmium	A	174.67	162.43	5000	4807	ug/L	-4	10	
Chromium	A	230.88	219.90	5000	4933	ug/L	-1	10	
Cobalt	A	42.941	43.180	5000	5014	ug/L	0	10	
Copper	A	391.66	367.94	5000	4896	ug/L	-2	10	
Lead	A	18.806	18.917	5000	4979	ug/L	0	10	
Molybdenum	A	24.275	22.432	5000	4679	ug/L	-6	10	
Nickel	A	123.10	119.39	5000	4807	ug/L	-4	10	
Selenium	A	3.6526	3.3273	5000	4769	ug/L	-5	10	
Silver	A	82.256	86.433	1000	988.8	ug/L	-1	10	
Thallium	A	2.8110	2.6158	5000	4674	ug/L	-7	10	
Vanadium	A	246.35	253.94	5000	4914	ug/L	-2	10	
Zinc	A	78.897	70.759	5000	4707	ug/L	-6	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12052721	-2.13

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396156 File : met09_sn_0816 Time : 10-OCT-2016 13:48
Cal : 96409396001 Caldate : 10-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12337541	0.19

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396167 File : met09_sn_0816 Time : 10-OCT-2016 14:13
Cal : 96409396001 Caldate : 10-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.9346	2.8081	5000	4884	ug/L	-2	10	
Arsenic	A	2.3782	2.4646	5000	5020	ug/L	0	10	
Barium	A	89.744	85.051	5000	4789	ug/L	-4	10	
Beryllium	A	7595.3	7541.7	500.0	490.6	ug/L	-2	10	
Cadmium	A	174.67	161.88	5000	4791	ug/L	-4	10	
Chromium	A	230.88	218.09	5000	4892	ug/L	-2	10	
Cobalt	A	42.941	42.647	5000	4952	ug/L	-1	10	
Copper	A	391.66	365.09	5000	4859	ug/L	-3	10	
Lead	A	18.806	18.788	5000	4945	ug/L	-1	10	
Molybdenum	A	24.275	22.415	5000	4675	ug/L	-6	10	
Nickel	A	123.10	118.60	5000	4775	ug/L	-4	10	
Selenium	A	3.6526	3.3517	5000	4804	ug/L	-4	10	
Silver	A	82.256	85.897	1000	982.6	ug/L	-2	10	
Thallium	A	2.8110	2.6177	5000	4677	ug/L	-6	10	
Vanadium	A	246.35	251.98	5000	4876	ug/L	-2	10	
Zinc	A	78.897	70.614	5000	4697	ug/L	-6	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12182815	-1.07

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396168 File : met09_sn_0816 Time : 10-OCT-2016 14:15
Cal : 96409396001 Caldate : 10-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12487867	1.41

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396230 File : met09_sn_0816 Time : 10-OCT-2016 17:03
Cal : 96409396001 Caldate : 10-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.9346	2.7128	5000	4718	ug/L	-6	10	
Arsenic	A	2.3782	2.3761	5000	4840	ug/L	-3	10	
Barium	A	89.744	85.858	5000	4834	ug/L	-3	10	
Beryllium	A	7595.3	7514.6	500.0	488.9	ug/L	-2	10	
Cadmium	A	174.67	161.71	5000	4786	ug/L	-4	10	
Chromium	A	230.88	222.74	5000	4997	ug/L	0	10	
Cobalt	A	42.941	43.310	5000	5029	ug/L	1	10	
Copper	A	391.66	374.34	5000	4982	ug/L	0	10	
Lead	A	18.806	18.292	5000	4815	ug/L	-4	10	
Molybdenum	A	24.275	22.243	5000	4639	ug/L	-7	10	
Nickel	A	123.10	120.20	5000	4840	ug/L	-3	10	
Selenium	A	3.6526	3.1776	5000	4555	ug/L	-9	10	
Silver	A	82.256	87.994	1000	1007	ug/L	1	10	
Thallium	A	2.8110	2.4992	5000	4466	ug/L	**-11**	10	c- ***
Vanadium	A	246.35	257.92	5000	4991	ug/L	0	10	
Zinc	A	78.897	70.178	5000	4668	ug/L	-7	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12259953	-0.44

-=low bias c=CCV

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396232 File : met09_sn_0816 Time : 10-OCT-2016 17:07
Cal : 96409396001 Caldate : 10-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	7.493	5.000	2.500	ug/L	CCB ***
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12377993	0.51

CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396243 File : met09_sn_0816 Time : 10-OCT-2016 17:36
Cal : 96409396001 Caldate : 10-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.9346	2.7367	5000	4759	ug/L	-5	10	
Arsenic	A	2.3782	2.3525	5000	4791	ug/L	-4	10	
Barium	A	89.744	84.117	5000	4736	ug/L	-5	10	
Beryllium	A	7595.3	7409.1	500.0	482.0	ug/L	-4	10	
Cadmium	A	174.67	157.52	5000	4662	ug/L	-7	10	
Chromium	A	230.88	218.32	5000	4898	ug/L	-2	10	
Cobalt	A	42.941	42.627	5000	4950	ug/L	-1	10	
Copper	A	391.66	368.76	5000	4907	ug/L	-2	10	
Lead	A	18.806	18.356	5000	4832	ug/L	-3	10	
Molybdenum	A	24.275	21.667	5000	4519	ug/L	-10	10	
Nickel	A	123.10	117.51	5000	4731	ug/L	-5	10	
Selenium	A	3.6526	3.1602	5000	4530	ug/L	-9	10	
Silver	A	82.256	86.474	1000	989.2	ug/L	-1	10	
Thallium	A	2.8110	2.4940	5000	4456	ug/L	**-11**	10	c- ***
Vanadium	A	246.35	252.96	5000	4895	ug/L	-2	10	
Zinc	A	78.897	68.144	5000	4533	ug/L	-9	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12203004	-0.91

-=low bias c=CCV

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396244 File : met09_sn_0816 Time : 10-OCT-2016 17:38
Cal : 96409396001 Caldate : 10-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	7.685	5.000	2.500	ug/L	CCB ***
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12319172	0.04

CCB=instrument blank

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396245 File : met09_sn_0816 Time : 10-OCT-2016 17:40
Cal : 96409396001 Caldate : 10-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	7.651	5.000	2.500	ug/L	CCB ***
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12448168	1.08

CCB=instrument blank

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396256 File : met09_sn_0816 Time : 10-OCT-2016 18:04
Cal : 96409396001 Caldate : 10-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.9346	2.7223	5000	4734	ug/L	-5	10	
Arsenic	A	2.3782	2.3673	5000	4822	ug/L	-4	10	
Barium	A	89.744	83.000	5000	4673	ug/L	-7	10	
Beryllium	A	7595.3	7409.6	500.0	482.1	ug/L	-4	10	
Cadmium	A	174.67	155.25	5000	4595	ug/L	-8	10	
Chromium	A	230.88	216.51	5000	4857	ug/L	-3	10	
Cobalt	A	42.941	42.441	5000	4928	ug/L	-1	10	
Copper	A	391.66	364.14	5000	4846	ug/L	-3	10	
Lead	A	18.806	18.440	5000	4854	ug/L	-3	10	
Molybdenum	A	24.275	21.325	5000	4448	ug/L	**-11**	10	c- ***
Nickel	A	123.10	116.17	5000	4677	ug/L	-6	10	
Selenium	A	3.6526	3.1548	5000	4522	ug/L	-10	10	
Silver	A	82.256	85.776	1000	981.2	ug/L	-2	10	
Thallium	A	2.8110	2.4855	5000	4441	ug/L	**-11**	10	c- ***
Vanadium	A	246.35	250.60	5000	4849	ug/L	-3	10	
Zinc	A	78.897	67.133	5000	4466	ug/L	**-11**	10	c- ***

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12409098	0.77

-=low bias c=CCV

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96409396257 File : met09_sn_0816 Time : 10-OCT-2016 18:06
Cal : 96409396001 Caldate : 10-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	6.316	5.000	2.500	ug/L	CCB ***
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12314589	12475422	1.31

CCB=instrument blank

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96410166

Instrument : MET09 Begun : 10/10/16 20:06
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met09_sn_0816	ICALBLK				10/10/16 20:06	1.0		
002	met09_sn_0816	ICAL	L1			10/10/16 20:09	1.0	1	
003	met09_sn_0816	ICAL	L2			10/10/16 20:11	1.0	2	
004	met09_sn_0816	ICAL	L3			10/10/16 20:13	1.0	3	
005	met09_sn_0816	ICAL	L4			10/10/16 20:16	1.0	4	
006	met09_sn_0816	ICAL	L5			10/10/16 20:18	1.0	5	
007	met09_sn_0816	ICV				10/10/16 20:20	1.0	6	
008	met09_sn_0816	XCRI				10/10/16 20:22	1.0	7	
009	met09_sn_0816	CRI				10/10/16 20:27	1.0	7	
010	met09_sn_0816	ICB				10/10/16 20:32	1.0		
011	met09_sn_0816	ICSA				10/10/16 20:46	1.0	8	10:AL=500000
012	met09_sn_0816	ICSAB				10/10/16 21:02	1.0	9	5:AL=500000
013	met09_sn_0816	X	RINSE			10/10/16 21:41	1.0		
014	met09_sn_0816	BLANK	QC854222	Miscell.	239788	10/10/16 21:43	1.0		
015	met09_sn_0816	BS	QC854223	Miscell.	239788	10/10/16 21:46	1.0		1:SR=4900
016	met09_sn_0816	BSD	QC854224	Miscell.	239788	10/10/16 21:48	1.0		1:SR=5000
017	met09_sn_0816	SAMPLE	281578-008	Soil	239788	10/10/16 21:51	100.0		2:NI=40000
018	met09_sn_0816	X	RINSE			10/10/16 21:53	1.0		
019	met09_sn_0816	SAMPLE	281788-001	Soil	239937	10/10/16 21:55	1.0		7:CA=810000
020	met09_sn_0816	SAMPLE	281788-002	Soil	239937	10/10/16 21:58	1.0		7:CA=730000
021	met09_sn_0816	X	RINSE			10/10/16 22:00	1.0		
022	met09_sn_0816	BS	QC854934	WET Leachate	239967	10/10/16 22:02	1.0		
023	met09_sn_0816	CCV				10/10/16 22:05	1.0	10	
024	met09_sn_0816	CCB				10/10/16 22:07	1.0		
025	met09_sn_0816	BSD	QC854935	WET Leachate	239967	10/10/16 22:09	1.0		
026	met09_sn_0816	SAMPLE	281863-001	WET Leachate	239967	10/10/16 22:12	10.0		1:NA=170000
027	met09_sn_0816	X	RINSE			10/10/16 22:14	1.0		
028	met09_sn_0816	SAMPLE	281840-002	TCLP Leachate	239958	10/10/16 22:16	10.0		1:NA=150000
029	met09_sn_0816	X	RINSE			10/10/16 22:19	1.0		
030	met09_sn_0816	SER	QC854145	Air	239766	10/10/16 22:21	5.0		
031	met09_sn_0816	X	RINSE			10/10/16 22:25	1.0		
032	met09_sn_0816	BLANK	QC854988	Water	239980	10/10/16 22:27	1.0		
033	met09_sn_0816	BS	QC854989	Water	239980	10/10/16 22:29	1.0		
034	met09_sn_0816	BSD	QC854990	Water	239980	10/10/16 22:32	1.0		
035	met09_sn_0816	CCV				10/10/16 22:34	1.0	10	
036	met09_sn_0816	CCB				10/10/16 22:36	1.0		
037	met09_sn_0816	MSS	281576-001	Water	239980	10/10/16 22:39	1.0		
038	met09_sn_0816	MS	QC854991	Water	239980	10/10/16 22:41	1.0		
039	met09_sn_0816	MSD	QC854992	Water	239980	10/10/16 22:43	1.0		
040	met09_sn_0816	SAMPLE	281661-001	Water	239980	10/10/16 22:46	1.0		
041	met09_sn_0816	SAMPLE	281799-001	Water	239980	10/10/16 22:49	1.0		
042	met09_sn_0816	SAMPLE	281823-001	Water	239980	10/10/16 22:51	1.0		5:FE=660000
043	met09_sn_0816	SAMPLE	281823-003	Water	239980	10/10/16 22:53	1.0		
044	met09_sn_0816	SAMPLE	281890-001	Water	239980	10/10/16 23:07	5.0		2:MG=200000
045	met09_sn_0816	X	RINSE			10/10/16 23:10	1.0		
046	met09_sn_0816	BLANK	QC854924	Wipe	239964	10/10/16 23:13	1.0		
047	met09_sn_0816	CCV				10/10/16 23:15	1.0	10	
048	met09_sn_0816	CCB				10/10/16 23:17	1.0		
049	met09_sn_0816	BS	QC854925	Wipe	239964	10/10/16 23:19	1.0		1:SR=9500
050	met09_sn_0816	BSD	QC854926	Wipe	239964	10/10/16 23:21	1.0		
051	met09_sn_0816	SAMPLE	280432-001	Wipe	239964	10/10/16 23:22	1.0		
052	met09_sn_0816	SAMPLE	280439-001	Wipe	239964	10/10/16 23:25	1.0		

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96410166

Instrument : MET09 Begun : 10/10/16 20:06
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met09_sn_0816	SAMPLE	281425-001	Wipe	239964	10/10/16 23:27	1.0		
054	met09_sn_0816	SAMPLE	281426-001	Wipe	239964	10/10/16 23:29	1.0		
055	met09_sn_0816	SAMPLE	281427-001	Wipe	239964	10/10/16 23:32	1.0		
056	met09_sn_0816	SAMPLE	281428-001	Wipe	239964	10/10/16 23:34	1.0		
057	met09_sn_0816	SAMPLE	281429-001	Wipe	239964	10/10/16 23:36	1.0		
058	met09_sn_0816	SAMPLE	281431-001	Wipe	239964	10/10/16 23:39	1.0		
059	met09_sn_0816	CCV				10/10/16 23:41	1.0	10	
060	met09_sn_0816	CCB				10/10/16 23:43	1.0		
061	met09_sn_0816	SAMPLE	281433-001	Wipe	239964	10/10/16 23:46	1.0		
062	met09_sn_0816	SAMPLE	281434-001	Wipe	239964	10/10/16 23:48	1.0		
063	met09_sn_0816	SAMPLE	281437-001	Wipe	239964	10/10/16 23:50	1.0		
064	met09_sn_0816	SAMPLE	281690-001	Wipe	239964	10/10/16 23:53	1.0		
065	met09_sn_0816	SAMPLE	281693-001	Wipe	239964	10/10/16 23:55	1.0		
066	met09_sn_0816	SAMPLE	281694-001	Wipe	239964	10/10/16 23:57	1.0		
067	met09_sn_0816	SAMPLE	281702-001	Wipe	239964	10/11/16 00:00	1.0		
068	met09_sn_0816	SAMPLE	281898-001	Wipe	239964	10/11/16 00:02	1.0		
069	met09_sn_0816	CCV				10/11/16 00:05	1.0	10	
070	met09_sn_0816	CCB				10/11/16 00:07	1.0		
071	met09_sn_0816	CCV				10/11/16 00:51	1.0	10	
072	met09_sn_0816	CCB				10/11/16 00:53	1.0		
073	met09_sn_0816	CCB				10/11/16 00:55	1.0		
074	met09_sn_0816	X	RINSE			10/11/16 00:58	1.0		
075	met09_sn_0816	BLANK	QC854543	Water	239872	10/11/16 01:01	1.0		
076	met09_sn_0816	BS	QC854544	Water	239872	10/11/16 01:03	1.0		
077	met09_sn_0816	BSD	QC854545	Water	239872	10/11/16 01:05	1.0		
078	met09_sn_0816	MSS	281794-003	Water	239872	10/11/16 01:08	1.0		
079	met09_sn_0816	MS	QC854546	Water	239872	10/11/16 01:10	1.0		
080	met09_sn_0816	MSD	QC854547	Water	239872	10/11/16 01:12	1.0		
081	met09_sn_0816	SER	QC854548	Water	239872	10/11/16 01:15	5.0		
082	met09_sn_0816	PDS	QC854549	Water	239872	10/11/16 01:17	1.0	11 12 13	
083	met09_sn_0816	SAMPLE	281767-003	Water	239872	10/11/16 01:19	1.0		3:CA=400000
084	met09_sn_0816	CCV				10/11/16 01:23	1.0	10	
085	met09_sn_0816	CCB				10/11/16 01:25	1.0		
086	met09_sn_0816	SAMPLE	281773-001	Water	239872	10/11/16 01:27	1.0		3:CA=510000
087	met09_sn_0816	SAMPLE	281773-003	Water	239872	10/11/16 01:30	1.0		3:CA=800000
088	met09_sn_0816	X	RINSE			10/11/16 01:33	1.0		
089	met09_sn_0816	SER	QC854595	Soil	239884	10/11/16 01:36	5.0		
090	met09_sn_0816	PDS	QC854596	Soil	239884	10/11/16 01:38	1.0	11 12 13	2:CA=180000
091	met09_sn_0816	MSS	281516-001	Soil	239884	10/11/16 01:40	1.0		1:CA=170000
092	met09_sn_0816	SAMPLE	281516-004	Soil	239884	10/11/16 01:43	1.0		4:CA=520000
093	met09_sn_0816	SAMPLE	281516-005	Soil	239884	10/11/16 01:45	1.0		5:FE=350000
094	met09_sn_0816	SAMPLE	281516-006	Soil	239884	10/11/16 01:48	1.0		5:FE=370000
095	met09_sn_0816	SAMPLE	281516-007	Soil	239884	10/11/16 01:50	1.0		4:FE=350000
096	met09_sn_0816	CCV				10/11/16 01:52	1.0	10	
097	met09_sn_0816	CCB				10/11/16 01:54	1.0		
098	met09_sn_0816	SAMPLE	281516-008	Soil	239884	10/11/16 01:56	1.0		4:CA=330000
099	met09_sn_0816	SAMPLE	281516-009	Soil	239884	10/11/16 01:58	1.0		5:FE=410000
100	met09_sn_0816	SAMPLE	281516-010	Soil	239884	10/11/16 02:01	1.0		4:CA=330000
101	met09_sn_0816	SAMPLE	281516-012	Soil	239884	10/11/16 02:03	1.0		5:FE=390000
102	met09_sn_0816	SAMPLE	281516-013	Soil	239884	10/11/16 02:05	1.0		4:FE=310000
103	met09_sn_0816	SAMPLE	281516-014	Soil	239884	10/11/16 02:07	1.0		4:FE=330000
104	met09_sn_0816	SAMPLE	281516-017	Soil	239884	10/11/16 02:09	1.0		4:FE=370000

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96410166

Instrument : MET09 Begun : 10/10/16 20:06
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
105	met09_sn_0816	SAMPLE	281516-019	Soil	239884	10/11/16 02:11	1.0		4:FE=360000
106	met09_sn_0816	X	RINSE			10/11/16 02:13	1.0		
107	met09_sn_0816	SAMPLE	281277-003	Filtrate	239654	10/11/16 02:16	100.0		
108	met09_sn_0816	CCV				10/11/16 02:18	1.0	10	
109	met09_sn_0816	CCB				10/11/16 02:20	1.0		
110	met09_sn_0816	SAMPLE	281277-003	Filtrate	239654	10/11/16 02:23	5.0		2:MG=140000
111	met09_sn_0816	SAMPLE	281277-004	Filtrate	239654	10/11/16 02:26	100.0		
112	met09_sn_0816	SAMPLE	281277-005	Filtrate	239654	10/11/16 02:28	100.0		
113	met09_sn_0816	SAMPLE	281277-006	Filtrate	239654	10/11/16 02:30	100.0		
114	met09_sn_0816	X	RINSE			10/11/16 02:33	1.0		
115	met09_sn_0816	SAMPLE	281791-005	Water	239927	10/11/16 02:35	1.0		3:CA=520000
116	met09_sn_0816	SAMPLE	281791-006	Water	239927	10/11/16 02:38	1.0		3:CA=270000
117	met09_sn_0816	X	RINSE			10/11/16 02:41	1.0		
118	met09_sn_0816	SAMPLE	281666-005	Soil	239887	10/11/16 02:44	1.0		8:FE=2800000
119	met09_sn_0816	SAMPLE	281728-003	Soil	239887	10/11/16 02:46	1.0		5:FE=400000
120	met09_sn_0816	CCV				10/11/16 02:49	1.0	10	
121	met09_sn_0816	CCB				10/11/16 02:51	1.0		
122	met09_sn_0816	X	RINSE			10/11/16 02:53	1.0		
123	met09_sn_0816	SAMPLE	281321-002	Filtrate	239702	10/11/16 02:56	100.0		
124	met09_sn_0816	SAMPLE	281321-003	Filtrate	239702	10/11/16 02:58	100.0		
125	met09_sn_0816	SAMPLE	281321-004	Filtrate	239702	10/11/16 03:00	100.0		
126	met09_sn_0816	SAMPLE	281321-005	Filtrate	239702	10/11/16 03:03	100.0		
127	met09_sn_0816	SAMPLE	281321-005	Filtrate	239702	10/11/16 03:05	5.0		2:MG=150000
128	met09_sn_0816	X	RINSE			10/11/16 03:08	1.0		
129	met09_sn_0816	BLANK	QC854981	Water	239979	10/11/16 03:11	1.0		
130	met09_sn_0816	BS	QC854982	Water	239979	10/11/16 03:13	1.0		
131	met09_sn_0816	BSD	QC854983	Water	239979	10/11/16 03:15	1.0		
132	met09_sn_0816	CCV				10/11/16 03:18	1.0	10	
133	met09_sn_0816	CCB				10/11/16 03:20	1.0		
134	met09_sn_0816	MSS	281885-003	Water	239979	10/11/16 03:22	1.0		
135	met09_sn_0816	MS	QC854984	Water	239979	10/11/16 03:24	1.0		
136	met09_sn_0816	MSD	QC854985	Water	239979	10/11/16 03:27	1.0		
137	met09_sn_0816	SER	QC854986	Water	239979	10/11/16 03:29	5.0		
138	met09_sn_0816	PDS	QC854987	Water	239979	10/11/16 03:31	1.0	11 12 13	
139	met09_sn_0816	SAMPLE	281854-001	Water	239979	10/11/16 03:34	1.0		4:CA=650000
140	met09_sn_0816	SAMPLE	281854-002	Water	239979	10/11/16 03:37	1.0		4:CA=390000
141	met09_sn_0816	SAMPLE	281854-003	Water	239979	10/11/16 03:40	1.0		3:CA=650000
142	met09_sn_0816	SAMPLE	281854-004	Water	239979	10/11/16 03:43	1.0		3:CA=300000
143	met09_sn_0816	SAMPLE	281854-005	Water	239979	10/11/16 03:46	1.0		3:CA=310000
144	met09_sn_0816	CCV				10/11/16 03:49	1.0	10	
145	met09_sn_0816	CCB				10/11/16 03:51	1.0		
146	met09_sn_0816	SAMPLE	281854-006	Water	239979	10/11/16 03:54	1.0		3:CA=300000
147	met09_sn_0816	SAMPLE	281854-007	Water	239979	10/11/16 03:57	1.0		1:CA=190000
148	met09_sn_0816	SAMPLE	281854-008	Water	239979	10/11/16 04:00	1.0		4:CA=520000
149	met09_sn_0816	SAMPLE	281858-002	Water	239979	10/11/16 04:02	1.0		4:CA=1400000
150	met09_sn_0816	SAMPLE	281858-003	Water	239979	10/11/16 04:05	1.0		1:MN=20000
151	met09_sn_0816	SAMPLE	281858-004	Water	239979	10/11/16 04:08	1.0		
152	met09_sn_0816	SAMPLE	281858-005	Water	239979	10/11/16 04:11	1.0		2:CA=1100000
153	met09_sn_0816	SAMPLE	281858-006	Water	239979	10/11/16 04:15	1.0		3:CA=330000
154	met09_sn_0816	SAMPLE	281858-007	Water	239979	10/11/16 04:18	1.0		
155	met09_sn_0816	SAMPLE	281885-007	Water	239979	10/11/16 04:20	1.0		
156	met09_sn_0816	CCV				10/11/16 04:22	1.0	10	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 96410166

Instrument : MET09 Begun : 10/10/16 20:06
Method : EPA 6010B SOP Version : icp metals_rv18

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
157	met09_sn_0816	CCB				10/11/16 04:24	1.0		
158	met09_sn_0816	CCB				10/11/16 04:26	1.0		
159	met09_sn_0816	SAMPLE	281886-002	Water	239979	10/11/16 04:29	1.0		
160	met09_sn_0816	SAMPLE	281886-005	Water	239979	10/11/16 04:31	1.0		
161	met09_sn_0816	X	RINSE			10/11/16 04:34	1.0		
162	met09_sn_0816	BLANK	QC855114	Filtrate	240010	10/11/16 04:36	1.0		
163	met09_sn_0816	BS	QC855115	Filtrate	240010	10/11/16 04:39	1.0		
164	met09_sn_0816	BSD	QC855116	Filtrate	240010	10/11/16 04:41	1.0		
165	met09_sn_0816	MSS	281885-002	Filtrate	240010	10/11/16 04:43	1.0		
166	met09_sn_0816	MS	QC855117	Filtrate	240010	10/11/16 04:46	1.0		
167	met09_sn_0816	MSD	QC855118	Filtrate	240010	10/11/16 04:48	1.0		
168	met09_sn_0816	SER	QC855119	Filtrate	240010	10/11/16 04:50	5.0		
169	met09_sn_0816	CCV				10/11/16 04:53	1.0	10	
170	met09_sn_0816	CCB				10/11/16 04:55	1.0		
171	met09_sn_0816	PDS	QC855120	Filtrate	240010	10/11/16 04:57	1.0	11 12 13	
172	met09_sn_0816	SAMPLE	281658-005	Filtrate	240010	10/11/16 04:59	1.0		3:MG=190000
173	met09_sn_0816	SAMPLE	281829-001	Filtrate	240010	10/11/16 05:02	1.0		3:CA=310000
174	met09_sn_0816	SAMPLE	281885-006	Filtrate	240010	10/11/16 05:05	1.0		
175	met09_sn_0816	SAMPLE	281886-001	Filtrate	240010	10/11/16 05:08	1.0		
176	met09_sn_0816	SAMPLE	281886-004	Filtrate	240010	10/11/16 05:10	1.0		
177	met09_sn_0816	SAMPLE	281887-001	Filtrate	240010	10/11/16 05:12	1.0		
178	met09_sn_0816	SAMPLE	281887-003	Filtrate	240010	10/11/16 05:15	1.0		
179	met09_sn_0816	SAMPLE	281887-004	Filtrate	240010	10/11/16 05:17	1.0		
180	met09_sn_0816	CCV				10/11/16 05:20	1.0	10	
181	met09_sn_0816	CCB				10/11/16 05:22	1.0		

MNA 10/10/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 16.

TLO 10/11/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 17 through 181.

Standards used: 1=S30721 2=S31085 3=S31084 4=S31086 5=S30418 6=S30836 7=S30723 8=S31001 9=S31075 10=S30837 11=S29983 12=S29984 13=S30560

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96410166

Date : 10/10/16 Reference : met09_sn_0816
Sequence : MET09 10/10/16 Analyzed : 10/10/16 20:09

#	Type	Sample ID	Y A
		ICAL STD	12912166
		LOWER LIMIT	3873650
		UPPER LIMIT	25824332
010	ICB		12687794
011	ICSA		11967992
012	ICSAB		11957618
014	BLANK	QC854222	13137558
015	BS	QC854223	12989735
016	BSD	QC854224	13101007
017	SAMPLE	281578-008	12778735
019	SAMPLE	281788-001	12517864
020	SAMPLE	281788-002	12586241
022	BS	QC854934	12872327
023	CCV		12637190
024	CCB		12949312
025	BSD	QC854935	12909341
026	SAMPLE	281863-001	12576602
028	SAMPLE	281840-002	12579484
030	SER	QC854145	13024991
032	BLANK	QC854988	13099797
033	BS	QC854989	12819270
034	BSD	QC854990	12778216
035	CCV		12770334
036	CCB		13009245
037	MSS	281576-001	13201505
038	MS	QC854991	12890004
039	MSD	QC854992	12990147
040	SAMPLE	281661-001	12426874
041	SAMPLE	281799-001	12870834
042	SAMPLE	281823-001	12557369
043	SAMPLE	281823-003	12902605
044	SAMPLE	281890-001	11786456
046	BLANK	QC854924	12899054
047	CCV		12663847
048	CCB		13067083
049	BS	QC854925	12829723
050	BSD	QC854926	12827843
051	SAMPLE	280432-001	13008293
052	SAMPLE	280439-001	12949045
053	SAMPLE	281425-001	13067735
054	SAMPLE	281426-001	12925665
055	SAMPLE	281427-001	12886829
056	SAMPLE	281428-001	13190864
057	SAMPLE	281429-001	12960104
058	SAMPLE	281431-001	13145406
059	CCV		12798482
060	CCB		13201144
061	SAMPLE	281433-001	12784452
062	SAMPLE	281434-001	12976739
063	SAMPLE	281437-001	13115107
064	SAMPLE	281690-001	13072584

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96410166

Date : 10/10/16 Reference : met09_sn_0816
Sequence : MET09 10/10/16 Analyzed : 10/10/16 20:09

#	Type	Sample ID	Y A
065	SAMPLE	281693-001	12917372
066	SAMPLE	281694-001	13051651
067	SAMPLE	281702-001	13030047
068	SAMPLE	281898-001	13128944
069	CCV		12962952
070	CCB		13021510
071	CCV		12776039
072	CCB		12799519
073	CCB		13088156
075	BLANK	QC854543	13061502
076	BS	QC854544	12744007
077	BSD	QC854545	12771125
078	MSS	281794-003	12839388
079	MS	QC854546	12561971
080	MSD	QC854547	12647111
081	SER	QC854548	12899846
082	PDS	QC854549	12877978
083	SAMPLE	281767-003	11728386
084	CCV		12822205
085	CCB		12886159
086	SAMPLE	281773-001	11986590
087	SAMPLE	281773-003	11813709
089	SER	QC854595	12965701
090	PDS	QC854596	12827617
091	MSS	281516-001	13108650
092	SAMPLE	281516-004	12683880
093	SAMPLE	281516-005	12704615
094	SAMPLE	281516-006	12893532
095	SAMPLE	281516-007	13034238
096	CCV		12899099
097	CCB		13176459
098	SAMPLE	281516-008	13074110
099	SAMPLE	281516-009	13016940
100	SAMPLE	281516-010	12883804
101	SAMPLE	281516-012	12730386
102	SAMPLE	281516-013	12893408
103	SAMPLE	281516-014	12983267
104	SAMPLE	281516-017	12933196
105	SAMPLE	281516-019	12791062
108	CCV		12712788
109	CCB		13017962
115	SAMPLE	281791-005	12097307
116	SAMPLE	281791-006	11959463
118	SAMPLE	281666-005	12148370
119	SAMPLE	281728-003	12631780
120	CCV		12698669
121	CCB		12802384
129	BLANK	QC854981	13186623
130	BS	QC854982	12799261
131	BSD	QC854983	12764711
132	CCV		12869809
133	CCB		13115400

CURTIS & TOMPKINS INTERNAL STANDARD SUMMARY FOR SEQUENCE 96410166

Date : 10/10/16 Reference : met09_sn_0816
Sequence : MET09 10/10/16 Analyzed : 10/10/16 20:09

#	Type	Sample ID	Y A
134	MSS	281885-003	13056169
135	MS	QC854984	12684775
136	MSD	QC854985	13036041
137	SER	QC854986	13317213
138	PDS	QC854987	12976663
139	SAMPLE	281854-001	12088209
140	SAMPLE	281854-002	12284312
141	SAMPLE	281854-003	11810928
142	SAMPLE	281854-004	12235166
143	SAMPLE	281854-005	12302448
144	CCV		13057583
145	CCB		12978019
146	SAMPLE	281854-006	12099555
147	SAMPLE	281854-007	12391861
148	SAMPLE	281854-008	12136442
149	SAMPLE	281858-002	11569284
150	SAMPLE	281858-003	12565371
151	SAMPLE	281858-004	12399276
152	SAMPLE	281858-005	11580874
153	SAMPLE	281858-006	12216466
154	SAMPLE	281858-007	13195613
156	CCV		12731037
157	CCB		12976472
158	CCB		12915765
162	BLANK	QC855114	13095374
163	BS	QC855115	12844452
164	BSD	QC855116	12837134
165	MSS	281885-002	12840650
166	MS	QC855117	12744813
167	MSD	QC855118	12668379
168	SER	QC855119	13153349
169	CCV		12720325
170	CCB		12927196
171	PDS	QC855120	12777692
172	SAMPLE	281658-005	12328377
173	SAMPLE	281829-001	11929984
174	SAMPLE	281885-006	12729314
175	SAMPLE	281886-001	13035200
176	SAMPLE	281886-004	13172750
177	SAMPLE	281887-001	13010979
178	SAMPLE	281887-003	12916990
179	SAMPLE	281887-004	13062059
180	CCV		12775047
181	CCB		12967083

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 METALS Soil: EPA 6010B

Inst : MET09
Calnum : 96410166001
Units : ug/L

Date : 10-OCT-2016 20:06
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met09_sn_0816	96410166002	L1	10-OCT-2016 20:09	S30721
L2	met09_sn_0816	96410166003	L2	10-OCT-2016 20:11	S31085
L3	met09_sn_0816	96410166004	L3	10-OCT-2016 20:13	S31084
L4	met09_sn_0816	96410166005	L4	10-OCT-2016 20:16	S31086
L5	met09_sn_0816	96410166006	L5	10-OCT-2016 20:18	S30418

Analyte	Ch	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Antimony	A	2.3700	2.7510	2.7632	2.7821		LOR0	0.00000	0.35946		2.6666	1.000	0.995	
Arsenic	A	3.4200	2.3100	2.2891	2.3147		LOR0	0.00000	0.43207		2.5834	1.000	0.995	
Barium	A	87.920	87.174	87.694	85.181		LOR0	0.00000	0.01174		86.992	1.000	0.995	
Beryllium	A	7618.8	7571.3	7463.0			LOR0	0.00000	1.34E-4		7551.0	1.000	0.995	
Cadmium	A	158.36	158.74	160.74	152.84		LOR0	0.00000	0.00654		157.67	1.000	0.995	
Chromium	A	230.08	225.36	224.56	221.16		LOR0	0.00000	0.00452		225.29	1.000	0.995	
Cobalt	A	43.480	44.244	44.547	43.275		LOR0	0.00000	0.02310		43.886	1.000	0.995	
Copper	A	251.24	384.35	388.71	382.15		LOR0	0.00000	0.00262		351.61	1.000	0.995	
Lead	A	22.740	19.181	19.442	18.947		LOR0	0.00000	0.05276		20.078	1.000	0.995	
Molybdenum	A	22.640	22.365	22.058	22.133		LOR0	0.00000	0.04518		22.299	1.000	0.995	
Nickel	A	97.680	116.93	120.23	117.84		LOR0	0.00000	0.00848		113.17	1.000	0.995	
Selenium	A	2.4700	3.1420	3.1130	3.1335		LOR0	0.00000	0.31916		2.9646	1.000	0.995	
Silver	A	100.70	88.140	89.587	90.101		LOR0	0.00000	0.01110		92.132	1.000	0.995	
Thallium	A	2.7900	2.6230	2.6330	2.5801		LOR0	0.00000	0.38750		2.6565	1.000	0.995	
Vanadium	A	279.90	258.58	261.38	258.98		LOR0	0.00000	0.00386		264.71	1.000	0.995	
Zinc	A	25.870	60.688	67.011	66.343		LOR0	0.00000	0.01507		54.978	1.000	0.995	

Spiked Amounts / Drifts	Ch	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Antimony	A	10.000	-15	100.00	-1	1000.0	-1	10000	0		
Arsenic	A	5.0000	**48**	100.00	0	1000.0	-1	10000	0		
Barium	A	5.0000	3	100.00	2	1000.0	3	10000	0		
Beryllium	A	2.0000	2	100.00	1	1000.0	0				
Cadmium	A	5.0000	4	100.00	4	1000.0	5	10000	0		
Chromium	A	5.0000	4	100.00	2	1000.0	2	10000	0		
Cobalt	A	5.0000	0	100.00	2	1000.0	3	10000	0		
Copper	A	5.0000	**-34**	100.00	1	1000.0	2	10000	0		
Lead	A	5.0000	20	100.00	1	1000.0	3	10000	0		
Molybdenum	A	5.0000	2	100.00	1	1000.0	0	10000	0		
Nickel	A	5.0000	-17	100.00	-1	1000.0	2	10000	0		
Selenium	A	10.000	**-21**	100.00	0	1000.0	-1	10000	0		
Silver	A	5.0000	12	20.000	-2	200.00	-1	2000.0	0		
Thallium	A	10.000	8	100.00	2	1000.0	2	10000	0		
Vanadium	A	5.0000	8	100.00	0	1000.0	1	10000	0		
Zinc	A	20.000	**-61**	100.00	-9	1000.0	1	10000	0		

Instrument amount = a0 + response * a1 + response^2 * a2; LOR0=Linear regression forced thru origin, including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281516 METALS Soil
EPA 6010B

Inst : MET09
Calnum : 96410166001 Cal Date : 10-OCT-2016

ICV 96410166007 (10-OCT-2016) stds: S30836

Analyte	Ch	Spiked	Quant	Units	%D	Max	Flags
Antimony	A	5000	4919	ug/L	-2	10	
Arsenic	A	5000	4951	ug/L	-1	10	
Barium	A	5000	4944	ug/L	-1	10	
Beryllium	A	500.0	507.9	ug/L	2	10	
Cadmium	A	5000	5003	ug/L	0	10	
Chromium	A	5000	4963	ug/L	-1	10	
Cobalt	A	5000	4882	ug/L	-2	10	
Copper	A	5000	4863	ug/L	-3	10	
Lead	A	5000	4907	ug/L	-2	10	
Molybdenum	A	5000	4862	ug/L	-3	10	
Nickel	A	5000	4903	ug/L	-2	10	
Selenium	A	5000	4944	ug/L	-1	10	
Silver	A	1000	980.3	ug/L	-2	10	
Thallium	A	5000	4855	ug/L	-3	10	
Vanadium	A	5000	4950	ug/L	-1	10	
Zinc	A	5000	4926	ug/L	-1	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96410166010.2 File : met09_sn_0816 Time : 10-OCT-2016 20:32
Cal : 96410166001 Caldate : 10-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	[4.064]	5.000	2.500	ug/L	!ICB
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12912166	12687794	-1.74

!=warning ICB=instrument blank

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD A FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96410166011.2 File : met09_sn_0816 Time : 10-OCT-2016 20:46
Cal : 96410166001 Caldate : 10-OCT-2016
Standards: S31001

Analyte	Ch	Quant	IQL	Units	Flags
Antimony	A	[0.5228]	10.00	ug/L	
Arsenic	A	[4.500]	5.000	ug/L	
Barium	A	[-0.09125]	5.000	ug/L	
Beryllium	A	[0.07115]	2.000	ug/L	
Cadmium	A	[1.650]	5.000	ug/L	
Cobalt	A	[-1.223]	5.000	ug/L	
Lead	A	[2.647]	5.000	ug/L	
Molybdenum	A	[0.5002]	5.000	ug/L	
Selenium	A	[-3.255]	10.00	ug/L	
Silver	A	[3.810]	5.000	ug/L	
Thallium	A	[0.5592]	10.00	ug/L	
Zinc	A	[-7.791]	20.00	ug/L	

Interferent	Ch	Spiked	Quant	Units	%Rec	Flags
Chromium	A	20000	19240	ug/L	96	
Copper	A	20000	20120	ug/L	101	
Manganese	A	20000	19000	ug/L	95	
Nickel	A	20000	18770	ug/L	94	
Vanadium	A	20000	19710	ug/L	99	
Aluminum	R	500000	501600	ug/L	100	
Calcium	R	500000	478300	ug/L	96	
Iron	R	200000	192500	ug/L	96	
Magnesium	R	500000	479500	ug/L	96	
Titanium	R	20000	20440	ug/L	102	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12912166	11967992	-7.31

CURTIS & TOMPKINS INTERFERENCE CHECK STANDARD AB FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96410166012 File : met09_sn_0816 Time : 10-OCT-2016 21:02
Cal : 96410166001 Caldate : 10-OCT-2016
Standards: S31075

Analyte	Ch	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	500.0	509.1	ug/L	2	20	
Arsenic	A	500.0	523.8	ug/L	5	20	
Barium	A	500.0	491.9	ug/L	-2	20	
Beryllium	A	500.0	516.0	ug/L	3	20	
Cadmium	A	1000	1009	ug/L	1	20	
Chromium	A	500.0	497.9	ug/L	0	20	
Cobalt	A	500.0	488.5	ug/L	-2	20	
Copper	A	500.0	476.4	ug/L	-5	20	
Lead	A	1000	937.6	ug/L	-6	20	
Molybdenum	A	500.0	484.4	ug/L	-3	20	
Nickel	A	1000	973.7	ug/L	-3	20	
Selenium	A	500.0	445.0	ug/L	-11	20	
Silver	A	1000	1085	ug/L	9	20	
Thallium	A	500.0	484.7	ug/L	-3	20	
Vanadium	A	500.0	530.4	ug/L	6	20	
Zinc	A	1000	975.6	ug/L	-2	20	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12912166	11957618	-7.39

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96410166084.1 File : met09_sn_0816 Time : 11-OCT-2016 01:23
Cal : 96410166001 Caldate : 10-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.6666	2.7441	5000	4932	ug/L	-1	10	
Arsenic	A	2.5834	2.3377	5000	5050	ug/L	1	10	
Barium	A	86.992	84.449	5000	4956	ug/L	-1	10	
Beryllium	A	7551.0	7462.9	500.0	499.9	ug/L	0	10	
Cadmium	A	157.67	154.33	5000	5046	ug/L	1	10	
Chromium	A	225.29	222.57	5000	5031	ug/L	1	10	
Cobalt	A	43.886	42.874	5000	4952	ug/L	-1	10	
Copper	A	351.61	374.72	5000	4902	ug/L	-2	10	
Lead	A	20.078	18.821	5000	4966	ug/L	-1	10	
Molybdenum	A	22.299	21.673	5000	4896	ug/L	-2	10	
Nickel	A	113.17	116.61	5000	4947	ug/L	-1	10	
Selenium	A	2.9646	3.1057	5000	4956	ug/L	-1	10	
Silver	A	92.132	89.731	1000	996.0	ug/L	0	10	
Thallium	A	2.6565	2.4939	5000	4832	ug/L	-3	10	
Vanadium	A	264.71	259.97	5000	5019	ug/L	0	10	
Zinc	A	54.978	66.001	5000	4974	ug/L	-1	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12912166	12822205	-0.70

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96410166085.1 File : met09_sn_0816 Time : 11-OCT-2016 01:25
Cal : 96410166001 Caldate : 10-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12912166	12886159	-0.20

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96410166096 File : met09_sn_0816 Time : 11-OCT-2016 01:52
Cal : 96410166001 Caldate : 10-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.6666	2.7018	5000	4856	ug/L	-3	10	
Arsenic	A	2.5834	2.2779	5000	4921	ug/L	-2	10	
Barium	A	86.992	83.817	5000	4918	ug/L	-2	10	
Beryllium	A	7551.0	7545.7	500.0	505.5	ug/L	1	10	
Cadmium	A	157.67	153.27	5000	5012	ug/L	0	10	
Chromium	A	225.29	220.60	5000	4987	ug/L	0	10	
Cobalt	A	43.886	42.664	5000	4928	ug/L	-1	10	
Copper	A	351.61	373.04	5000	4880	ug/L	-2	10	
Lead	A	20.078	18.441	5000	4865	ug/L	-3	10	
Molybdenum	A	22.299	21.463	5000	4849	ug/L	-3	10	
Nickel	A	113.17	115.79	5000	4912	ug/L	-2	10	
Selenium	A	2.9646	3.0514	5000	4869	ug/L	-3	10	
Silver	A	92.132	89.080	1000	988.7	ug/L	-1	10	
Thallium	A	2.6565	2.4505	5000	4748	ug/L	-5	10	
Vanadium	A	264.71	257.65	5000	4974	ug/L	-1	10	
Zinc	A	54.978	65.607	5000	4944	ug/L	-1	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12912166	12899099	-0.10

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96410166097 File : met09_sn_0816 Time : 11-OCT-2016 01:54
Cal : 96410166001 Caldate : 10-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12912166	13176459	2.05

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96410166108 File : met09_sn_0816 Time : 11-OCT-2016 02:18
Cal : 96410166001 Caldate : 10-OCT-2016
Standards: S30837

Analyte	Ch	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Antimony	A	2.6666	2.7430	5000	4930	ug/L	-1	10	
Arsenic	A	2.5834	2.3219	5000	5016	ug/L	0	10	
Barium	A	86.992	85.061	5000	4991	ug/L	0	10	
Beryllium	A	7551.0	7540.9	500.0	505.1	ug/L	1	10	
Cadmium	A	157.67	155.47	5000	5083	ug/L	2	10	
Chromium	A	225.29	223.41	5000	5050	ug/L	1	10	
Cobalt	A	43.886	43.518	5000	5027	ug/L	1	10	
Copper	A	351.61	379.06	5000	4959	ug/L	-1	10	
Lead	A	20.078	18.808	5000	4962	ug/L	-1	10	
Molybdenum	A	22.299	21.749	5000	4913	ug/L	-2	10	
Nickel	A	113.17	117.35	5000	4978	ug/L	0	10	
Selenium	A	2.9646	3.1212	5000	4981	ug/L	0	10	
Silver	A	92.132	90.469	1000	1004	ug/L	0	10	
Thallium	A	2.6565	2.4930	5000	4830	ug/L	-3	10	
Vanadium	A	264.71	260.66	5000	5032	ug/L	1	10	
Zinc	A	54.978	66.584	5000	5018	ug/L	0	10	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12912166	12712788	-1.54

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 6010B

Inst : MET09 IDF : 1.0
Seqnum : 96410166109 File : met09_sn_0816 Time : 11-OCT-2016 02:20
Cal : 96410166001 Caldate : 10-OCT-2016

Analyte	Ch	Quant	IQL	LOD	Units	Flags
Antimony	A	ND	10.00	8.000	ug/L	
Arsenic	A	ND	5.000	4.000	ug/L	
Barium	A	ND	5.000	2.500	ug/L	
Beryllium	A	ND	2.000	1.000	ug/L	
Cadmium	A	ND	5.000	2.500	ug/L	
Chromium	A	ND	5.000	2.500	ug/L	
Cobalt	A	ND	5.000	2.500	ug/L	
Copper	A	ND	5.000	2.500	ug/L	
Lead	A	ND	5.000	4.000	ug/L	
Molybdenum	A	ND	5.000	2.500	ug/L	
Nickel	A	ND	5.000	2.500	ug/L	
Selenium	A	ND	10.00	5.000	ug/L	
Silver	A	ND	5.000	2.500	ug/L	
Thallium	A	ND	10.00	8.000	ug/L	
Vanadium	A	ND	5.000	2.500	ug/L	
Zinc	A	ND	20.00	16.00	ug/L	

ISTD (ICAL 002)	Ch	ICAL Abund	Abund	%Drift
Yttrium	A	12912166	13017962	0.82

SAMPLE PREPARATION SUMMARY

Batch # : 239884
Started By : RLG
Method : 3050B
Spike #1 ID : S30743

Prep Date : 06-OCT-2016 13:45
Spike #2 ID : S30742

Analysis : ICP
Finished By : RLG
Units : g
Spike #3 ID : S30560

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
281516-001		Soil	1.04	50	1	48.08						6010	
281516-002		Soil	.91	50	1	54.95						6010	
281516-003		Soil	1	50	1	50.0						6010	
281516-004		Soil	.96	50	1	52.08						6010	
281516-005		Soil	.95	50	1	52.63						6010	
281516-006		Soil	.97	50	1	51.55						6010	
281516-007		Soil	.96	50	1	52.08						6010	
281516-008		Soil	.91	50	1	54.95						6010	
281516-009		Soil	1.07	50	1	46.73						6010	
281516-010		Soil	.94	50	1	53.19						6010	
281516-011		Soil	1.06	50	1	47.17						6010	
281516-012		Soil	1.08	50	1	46.30						6010	
281516-013		Soil	.95	50	1	52.63						6010	
281516-014		Soil	1.02	50	1	49.02						6010	
281516-015		Soil	.96	50	1	52.08						6010	
281516-016		Soil	.91	50	1	54.95						6010	
281516-017		Soil	.94	50	1	53.19						6010	
281516-018		Soil	.92	50	1	54.35						6010	
281516-019		Soil	1.06	50	1	47.17						6010	
QC854590	BLANK	Soil	.94	50	1	53.19							
QC854591	BS	Soil	.93	50	1	53.76		.5	.5	.5			
QC854592	BSD	Soil	1.04	50	1	48.08		.5	.5	.5			
QC854593	MS	Soil	.92	50	1	54.35		.5	.5	.5			
QC854594	MSD	Soil	.93	50	1	53.76		.5	.5	.5			
QC854595	SER	Soil	1.04	50	1	48.08							
QC854596	PDS	Soil	1.04	50	1	48.08							

Analyst: MNA Date: 10/10/16 Reviewer: PRW Date: 10/11/16

Soil Digestion for ICP & ICP-MS Curtis & Tompkins, Ltd. Version 11, Dec.2015

LIMS Batch #: 239884 Digestion Method: Time ON: 13:45 **BK3940**

Date Digested: 10/6/2016 ☑ EPA 3050b Time OFF: 16:20 Page 34

Digested by: RLG ☐ _____

Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Filtered? (y/n)	ID ✓	Comments
BLANK		0.94	☑50 ☐	Y	✓	QC854590
BS		0.93	☑50 ☐		✓	1
BSD		1.04	☑50 ☐		✓	2
MS		0.92	☑50 ☐		✓	3
MSD		0.93	☑50 ☐		✓	4
2815/16-001	A	1.04	☑50 ☐		✓	MSS
-002		0.91	☑50 ☐		✓	
-003		1.00	☑50 ☐		✓	
-004		0.96	☑50 ☐		✓	
-005		0.95	☑50 ☐		✓	
-006		0.97	☑50 ☐		✓	
-007		0.96	☑50 ☐		✓	
-008		0.91	☑50 ☐		✓	
-009		1.07	☑50 ☐		✓	
-010		0.94	☑50 ☐		✓	
-011		1.06	☑50 ☐		✓	
-012		1.08	☑50 ☐		✓	
-013		0.95	☑50 ☐		✓	
-014		1.02	☑50 ☐		✓	
-015		0.96	☑50 ☐		✓	
-016		0.91	☑50 ☐		✓	
-017		0.94	☑50 ☐		✓	
-018		0.92	☑50 ☐		✓	
-019		1.06	☑50 ☐		✓	
			☐50 ☐			

Balance ID: metals prep calibration has been checked? ☑ Yes ☐ No

	Reagent ID or LIMS #		Initials / Date
SCP Digestion tubes / ESS Watch glass, lot#	250653-0026	1512329-6149-NQ	RLG 10/6/16
Blank 'matrix' lot#	S941-6H017		
0.5 mL of spike solution (Std1) was added to all spikes	S30743		
0.5 mL of spike solution (Std2) was added to all spikes	S30742		
0.5 mL of spike solution (Std3) was added to all spikes	S30560		
Digestion Block ID, Probe Location	TETON	6	
Temperature (°C), Thermometer ID	95°	SN4153837	
1:1 HNO3 Reagent ID	JTB140712		
concentrated HNO3 lot#	JTB140712		
3mL 30% hydrogen peroxide lot#	JTB133998		
concentrated HCl lot#	JTB140285		
☑ filtered thru' Whatman 541, lot#	97386694		
Relinquished to ICP group	ICP		

Pipettes

Vol.(mL)	ID
0.5	N27150D
5	2016708
1	
1.5	

10/6/16

Digestion Chemist / Date

Continued from page ∅

Continued on page _____

Reviewed Online/ See LIMS

SAMPLE PREPARATION SUMMARY

Batch # : 239887 Analysis : ICP
Started By : RLG Prep Date : 06-OCT-2016 13:45 Finished By : RLG
Method : 3050B Units : g
Spike #1 ID : S30743 Spike #2 ID : S30742 Spike #3 ID : S30560

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
281516-020		Soil	1.09	50	1	45.87						6010	
281516-021		Soil	.95	50	1	52.63						6010	
281516-022		Soil	1.04	50	1	48.08						6010	
281516-023		Soil	.97	50	1	51.55						6010	
281516-024		Soil	1.04	50	1	48.08						6010	
281516-025		Soil	1.04	50	1	48.08						6010	
281516-026		Soil	.95	50	1	52.63						6010	
281657-001		Soil	.95	50	1	52.63						6010	
281666-005		Soil	1.1	50	1	45.45						6010	
281713-001		Soil	1.01	50	1	49.50						6010	
281716-001		Soil	.96	50	1	52.08						6010	
281728-003		Soil	.99	50	1	50.51						6010	
281790-001		Soil	1.03	50	1	48.54						6010	
281810-001		Soil	.97	50	1	51.55						6010	
281813-001		Soil	.93	50	1	53.76						6010	
281813-002		Soil	.95	50	1	52.63						6010	
281813-003		Soil	.97	50	1	51.55						6010	
281813-004		Soil	.92	50	1	54.35						6010	
QC854610	BLANK	Soil	.99	50	1	50.51							
QC854611	BS	Soil	.92	50	1	54.35		.5	.5	.5			
QC854612	BSD	Soil	1.03	50	1	48.54		.5	.5	.5			
QC854613	MS	Soil	1.06	50	1	47.17		.5	.5	.5			
QC854614	MSD	Soil	.95	50	1	52.63		.5	.5	.5			
QC854615	SER	Soil	.96	50	1	52.08							
QC854616	PDS	Soil	.96	50	1	52.08							

Analyst: MNA Date: 10/07/16 Reviewer: _____ Date: _____

15 **Soil Digestion for ICP & ICP-MS** Curtis & Tompkins, Ltd. Version 11, Dec.2015

LIMS Batch #: 239887 Digestion Method: ☑ EPA 3050b ☐ _____ Time ON: 13:45 Time OFF: 16:20 BK3940 Page 35

Date Digested: 10/6/2016

Digested by: RLG

Sample #	Container ID	Weight of Sample (g)	Final Volume (mL)	Filtered? (y/n)	ID ✓	Comments
BLANK		0.99	☑50 ☐	Y	✓	QC854610
BS		0.92	☑50 ☐		✓	1
BSD		1.03	☑50 ☐		✓	2
MS		1.06	☑50 ☐		✓	3
MSD		0.95	☑50 ☐		✓	4
281516 -020	A	1.09	☑50 ☐		✓	
-021		0.95	☑50 ☐		✓	
-022		1.04	☑50 ☐		✓	
-023		0.97	☑50 ☐		✓	
-024		1.04	☑50 ☐		✓	
-025		1.04	☑50 ☐		✓	
-026		0.95	☑50 ☐		✓	
281657 -001	C	0.95	☑50 ☐		✓	
2816666 - ~~005~~ MBH 10/6 -005		1.10	☑50 ☐		✓	comp 2816661-4 @30g each
281713 - 001	B	1.01	☑50 ☐		✓	
281716 - 001	B	0.96	☑50 ☐		✓	MSS
281728 - 003	F	0.99	☑50 ☐		✓	
281790 - 001	B	1.03	☑50 ☐		✓	
281810 - 001	B	0.97	☑50 ☐		✓	
281813 -001	G	0.93	☑50 ☐		✓	
-002	H	0.95	☑50 ☐		✓	
-003	G	0.97	☑50 ☐		✓	
-004	H	0.92	☑50 ☐		✓	
			☐50 ☐			
			☐50 ☐			

Balance ID: metals prep calibration has been checked? ☑ Yes ☐ No

	Reagent ID or LIMS #		Initials / Date
SCP Digestion tubes / ESS Watch glass, lot#	250653-0026	1512329-6149 NG	RLG 10/6/16
Blank 'matrix' lot#	S941-6H017		
0.5 mL of spike solution (Std1) was added to all spikes	S30743		
0.5 mL of spike solution (Std2) was added to all spikes	S30742		
0.5 mL of spike solution (Std3) was added to all spikes	S30560		
Digestion Block ID, Probe Location	TETON	6 MBH 10/10/16	
Temperature (°C), Thermometer ID	95°	SN415~~3~~3837	
1:1 HNO3 Reagent ID	JTB140712		
concentrated HNO3 lot#	JTB140712		
3mL 30% hydrogen peroxide lot#	JTB133998		
concentrated HCl lot#	JTB140285		
☑ filtered thru Whatman 541, lot#	9738694		
Relinquished to ICP group	ICP		

Pipettes

Vol.(mL)	ID
.5	N27150D
.5	2016708
1	
1.5	

10/6/16

Digestion Chemist / Date

Continued from page ~~5~~

Continued on page _____

Reviewed Online/ See LIMS

Mercury Data

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1066395471

Instrument : MET44 Begun : 09/30/16 15:11
Method : EPA 7470A SOP Version : hg_water_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
001	met44	ICALBLK				09/30/16 15:11	1.0		
002	met44	ICAL	ICAL1			09/30/16 15:12	1.0	1	
003	met44	ICAL	ICAL2			09/30/16 15:13	1.0	1	
004	met44	ICAL	ICAL3			09/30/16 15:15	1.0	1	
005	met44	ICAL	ICAL4			09/30/16 15:16	1.0	1	
006	met44	ICAL	ICAL5			09/30/16 15:17	1.0	1	
007	met44	ICV				09/30/16 15:18	1.0	2	
008	met44	ICB				09/30/16 15:19	1.0		
009	met44	BLANK	QC853808	Soil	239683	09/30/16 15:24	1.0		
010	met44	BS	QC853809	Soil	239683	09/30/16 15:25	1.0		
011	met44	BSD	QC853810	Soil	239683	09/30/16 15:26	1.0		
012	met44	MSS	281516-005	Soil	239683	09/30/16 15:27	1.0		
013	met44	MS	QC853811	Soil	239683	09/30/16 15:28	1.0		
014	met44	MSD	QC853812	Soil	239683	09/30/16 15:29	1.0		
015	met44	SER	QC853813	Soil	239683	09/30/16 15:30	5.0		
016	met44	CCV				09/30/16 15:31	1.0	3	
017	met44	CCB				09/30/16 15:33	1.0		
018	met44	SAMPLE	281332-001	Miscell.	239683	09/30/16 15:34	1.0		
019	met44	SAMPLE	281333-001	Miscell.	239683	09/30/16 15:35	1.0		
020	met44	SAMPLE	281334-001	Miscell.	239683	09/30/16 15:36	1.0		
021	met44	SAMPLE	281335-001	Miscell.	239683	09/30/16 15:37	1.0		
022	met44	SAMPLE	281336-001	Miscell.	239683	09/30/16 15:38	1.0		
023	met44	SAMPLE	281516-001	Soil	239683	09/30/16 15:40	1.0		
024	met44	SAMPLE	281516-002	Soil	239683	09/30/16 15:41	1.0		
025	met44	SAMPLE	281516-003	Soil	239683	09/30/16 15:42	1.0		
026	met44	SAMPLE	281516-004	Soil	239683	09/30/16 15:43	1.0		
027	met44	SAMPLE	281516-006	Soil	239683	09/30/16 15:44	1.0		
028	met44	CCV				09/30/16 15:45	1.0	3	
029	met44	CCB				09/30/16 15:46	1.0		
030	met44	SAMPLE	281516-007	Soil	239683	09/30/16 15:47	1.0		
031	met44	SAMPLE	281516-008	Soil	239683	09/30/16 15:49	1.0		
032	met44	SAMPLE	281516-009	Soil	239683	09/30/16 15:50	1.0		
033	met44	SAMPLE	281516-010	Soil	239683	09/30/16 15:51	1.0		
034	met44	SAMPLE	281516-011	Soil	239683	09/30/16 15:52	1.0		
035	met44	SAMPLE	281516-012	Soil	239683	09/30/16 15:53	1.0		
036	met44	SAMPLE	281516-013	Soil	239683	09/30/16 15:54	1.0		
037	met44	SAMPLE	281516-014	Soil	239683	09/30/16 15:55	1.0		
038	met44	SAMPLE	281516-015	Soil	239683	09/30/16 15:57	1.0		
039	met44	X	RINSE			09/30/16 15:58	1.0		
040	met44	CCV				09/30/16 15:59	1.0	3	
041	met44	CCB				09/30/16 16:00	1.0		
042	met44	BLANK	QC853803	Soil	239682	09/30/16 16:01	1.0		
043	met44	BS	QC853804	Soil	239682	09/30/16 16:02	1.0		
044	met44	BSD	QC853805	Soil	239682	09/30/16 16:03	1.0		
045	met44	MSS	281512-001	Soil	239682	09/30/16 16:04	1.0		
046	met44	MS	QC853806	Soil	239682	09/30/16 16:06	1.0		
047	met44	MSD	QC853807	Soil	239682	09/30/16 16:07	1.0		
048	met44	SAMPLE	281512-002	Soil	239682	09/30/16 16:08	1.0		
049	met44	SAMPLE	281512-003	Soil	239682	09/30/16 16:09	1.0		
050	met44	SAMPLE	281512-004	Soil	239682	09/30/16 16:10	1.0		
051	met44	SAMPLE	281512-005	Soil	239682	09/30/16 16:11	1.0		
052	met44	CCV				09/30/16 16:12	1.0	3	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1066395471

Instrument : MET44 Begun : 09/30/16 15:11
Method : EPA 7470A SOP Version : hg_water_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used	
053	met44	CCB				09/30/16 16:14	1.0		
054	met44	SAMPLE	281512-007	Soil	239682	09/30/16 16:15	1.0		
055	met44	SAMPLE	281512-008	Soil	239682	09/30/16 16:16	1.0		
056	met44	SAMPLE	281512-009	Soil	239682	09/30/16 16:17	1.0		
057	met44	SAMPLE	281512-010	Soil	239682	09/30/16 16:18	1.0		
058	met44	SAMPLE	281512-011	Soil	239682	09/30/16 16:19	1.0		
059	met44	SAMPLE	281512-012	Soil	239682	09/30/16 16:20	1.0		
060	met44	SAMPLE	281512-013	Soil	239682	09/30/16 16:22	1.0		
061	met44	SAMPLE	281512-014	Soil	239682	09/30/16 16:23	1.0		
062	met44	SAMPLE	281512-015	Soil	239682	09/30/16 16:24	1.0		
063	met44	SAMPLE	281512-016	Soil	239682	09/30/16 16:25	1.0		
064	met44	CCV				09/30/16 16:26	1.0	3	
065	met44	CCB				09/30/16 16:27	1.0		
066	met44	SAMPLE	281512-017	Soil	239682	09/30/16 16:28	1.0		
067	met44	SAMPLE	281512-018	Soil	239682	09/30/16 16:30	1.0		
068	met44	SAMPLE	281512-019	Soil	239682	09/30/16 16:31	1.0		
069	met44	SAMPLE	281512-020	Soil	239682	09/30/16 16:32	1.0		
070	met44	SAMPLE	281512-021	Soil	239682	09/30/16 16:33	1.0		
071	met44	XSAMPLE	281512-021	Soil	239682	09/30/16 16:34	1.0		
072	met44	X	RINSE			09/30/16 16:35	1.0		
073	met44	MS	QC853811	Soil	239683	09/30/16 16:36	1.0		
074	met44	MSD	QC853812	Soil	239683	09/30/16 16:37	1.0		
075	met44	SER	QC853813	Soil	239683	09/30/16 16:39	5.0		
076	met44	CCV				09/30/16 16:40	1.0	3	
077	met44	CCB				09/30/16 16:41	1.0		

LCS 09/30/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 77.

Standards used: 1=S31076 2=S31078 3=S31079

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 METALS Soil: EPA 7470A

Inst : MET44
Calnum : 1066395471001
Units : ug/L

Date : 30-SEP-2016 15:11
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met44	1066395471002	ICAL1	30-SEP-2016 15:12	S31076 (500X)
L2	met44	1066395471003	ICAL2	30-SEP-2016 15:13	S31076 (200X)
L3	met44	1066395471004	ICAL3	30-SEP-2016 15:15	S31076 (50X)
L4	met44	1066395471005	ICAL4	30-SEP-2016 15:16	S31076 (20X)
L5	met44	1066395471006	ICAL5	30-SEP-2016 15:17	S31076 (10X)

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Mercury	-0.001	0.0106	0.0117	0.0113	0.0116	LIN0	0.07317	85.9181		0.0089	1.000	.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Mercury	0.2000	**-68**	0.5000	6	2.0000	4	5.0000	-1	10.000	0

Instrument amount = a0 + response * a1 + response^2 * a2; LIN0=Linear regression including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281516 METALS Soil
EPA 7470A

Inst : MET44
Calnum : 1066395471001 Cal Date : 30-SEP-2016

ICV 1066395471007 (30-SEP-2016) stds: S31078

Analyte	Spiked	Quant	Units	%D	Max	Flags
Mercury	5.000	4.962	ug/L	-1	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066395471008 File : met44 Time : 30-SEP-2016 15:19
Cal : 1066395471001 Caldate : 30-SEP-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066395471016 File : met44 Time : 30-SEP-2016 15:31
Cal : 1066395471001 Caldate : 30-SEP-2016
Standards: S31079

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0089	0.0116	5.000	5.074	ug/L	1	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066395471017 File : met44 Time : 30-SEP-2016 15:33
Cal : 1066395471001 Caldate : 30-SEP-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066395471028 File : met44 Time : 30-SEP-2016 15:45
Cal : 1066395471001 Caldate : 30-SEP-2016
Standards: S31079

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0089	0.0105	5.000	4.601	ug/L	-8	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066395471029 File : met44 Time : 30-SEP-2016 15:46
Cal : 1066395471001 Caldate : 30-SEP-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066395471040 File : met44 Time : 30-SEP-2016 15:59
Cal : 1066395471001 Caldate : 30-SEP-2016
Standards: S31079

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0089	0.0110	5.000	4.799	ug/L	-4	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066395471041 File : met44 Time : 30-SEP-2016 16:00
Cal : 1066395471001 Caldate : 30-SEP-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066395471064 File : met44 Time : 30-SEP-2016 16:26
Cal : 1066395471001 Caldate : 30-SEP-2016
Standards: S31079

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0089	0.0114	5.000	4.979	ug/L	0	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066395471065 File : met44 Time : 30-SEP-2016 16:27
Cal : 1066395471001 Caldate : 30-SEP-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066395471076 File : met44 Time : 30-SEP-2016 16:40
Cal : 1066395471001 Caldate : 30-SEP-2016
Standards: S31079

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0089	0.0114	5.000	4.971	ug/L	-1	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066395471077 File : met44 Time : 30-SEP-2016 16:41
Cal : 1066395471001 Caldate : 30-SEP-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS SEQUENCE SUMMARY FOR 1066399728

Instrument : MET44 Begun : 10/03/16 14:08
Method : EPA 7470A SOP Version : hg_water_rv19

#	File	Type	Sample ID	Matrix	Batch	Analyzed	IDF	Stds Used
001	met44	ICALBLK				10/03/16 14:08	1.0	
002	met44	ICAL	ICAL1			10/03/16 14:09	1.0	1
003	met44	ICAL	ICAL2			10/03/16 14:10	1.0	1
004	met44	ICAL	ICAL3			10/03/16 14:12	1.0	1
005	met44	ICAL	ICAL4			10/03/16 14:13	1.0	1
006	met44	ICAL	ICAL5			10/03/16 14:14	1.0	1
007	met44	ICV				10/03/16 14:15	1.0	2
008	met44	ICB				10/03/16 14:16	1.0	
009	met44	BLANK	QC854032	Soil	239739	10/03/16 14:17	1.0	
010	met44	BS	QC854033	Soil	239739	10/03/16 14:18	1.0	
011	met44	BSD	QC854034	Soil	239739	10/03/16 14:20	1.0	
012	met44	MSS	281451-001	Soil	239739	10/03/16 14:21	1.0	
013	met44	MS	QC854035	Soil	239739	10/03/16 14:22	1.0	
014	met44	MSD	QC854036	Soil	239739	10/03/16 14:23	1.0	
015	met44	SER	QC854037	Soil	239739	10/03/16 14:24	5.0	
016	met44	SAMPLE	281453-001	Soil	239739	10/03/16 14:25	1.0	
017	met44	SAMPLE	281455-001	Soil	239739	10/03/16 14:26	1.0	
018	met44	SAMPLE	281496-001	Soil	239739	10/03/16 14:27	1.0	
019	met44	CCV				10/03/16 14:29	1.0	3
020	met44	CCB				10/03/16 14:30	1.0	
021	met44	SAMPLE	281516-016	Soil	239739	10/03/16 14:31	1.0	
022	met44	SAMPLE	281516-017	Soil	239739	10/03/16 14:32	1.0	
023	met44	SAMPLE	281516-018	Soil	239739	10/03/16 14:33	1.0	
024	met44	SAMPLE	281516-019	Soil	239739	10/03/16 14:34	1.0	
025	met44	SAMPLE	281516-020	Soil	239739	10/03/16 14:36	1.0	
026	met44	SAMPLE	281516-021	Soil	239739	10/03/16 14:37	1.0	
027	met44	SAMPLE	281516-022	Soil	239739	10/03/16 14:38	1.0	
028	met44	SAMPLE	281516-023	Soil	239739	10/03/16 14:39	1.0	
029	met44	SAMPLE	281516-024	Soil	239739	10/03/16 14:40	1.0	
030	met44	SAMPLE	281516-025	Soil	239739	10/03/16 14:41	1.0	
031	met44	CCV				10/03/16 14:42	1.0	3
032	met44	CCB				10/03/16 14:43	1.0	
033	met44	SAMPLE	281516-026	Soil	239739	10/03/16 14:45	1.0	
034	met44	SAMPLE	281536-001	Soil	239739	10/03/16 14:46	1.0	
035	met44	SAMPLE	281539-001	Soil	239739	10/03/16 14:47	1.0	
036	met44	SAMPLE	281549-001	Soil	239739	10/03/16 14:48	1.0	
037	met44	SAMPLE	281571-001	Soil	239739	10/03/16 14:49	1.0	
038	met44	SAMPLE	281677-003	Soil	239739	10/03/16 14:50	1.0	
039	met44	CCV				10/03/16 14:51	1.0	3
040	met44	CCB				10/03/16 14:53	1.0	

LCS 10/03/16 : I verified that the vials loaded on the instrument matched the sequence data entry, for runs 1 through 40.

Standards used: 1=S31087 2=S31089 3=S31090

CURTIS & TOMPKINS INITIAL CALIBRATION FOR 281516 METALS Soil: EPA 7470A

Inst : MET44
Calnum : 1066399728001
Units : ug/L

Date : 03-OCT-2016 14:08
X Axis : R

Level	File	Seqnum	Sample ID	Analyzed	Stds
L1	met44	1066399728002	ICAL1	03-OCT-2016 14:09	S31087 (500X)
L2	met44	1066399728003	ICAL2	03-OCT-2016 14:10	S31087 (200X)
L3	met44	1066399728004	ICAL3	03-OCT-2016 14:12	S31087 (50X)
L4	met44	1066399728005	ICAL4	03-OCT-2016 14:13	S31087 (20X)
L5	met44	1066399728006	ICAL5	03-OCT-2016 14:14	S31087 (10X)

Analyte	L1	L2	L3	L4	L5	Type	a0	a1	a2	Avg	r^2 %RSD	MnR^2	Flg
Mercury	0.0065	0.0060	0.0069	0.0071	0.0070	LIN0	0.02297	142.782		0.0067	1.000	.99	

Spiked Amounts / Drifts	L1	%D	L2	%D	L3	%D	L4	%D	L5	%D
Mercury	0.2000	4	0.5000	-10	2.0000	-1	5.0000	1	10.000	0

Instrument amount = a0 + response * a1 + response^2 * a2; LIN0=Linear regression including 0,0 point

CURTIS & TOMPKINS 2ND SOURCE CALIBRATION SUMMARY FOR 281516 METALS Soil
EPA 7470A

Inst : MET44
Calnum : 1066399728001 Cal Date : 03-OCT-2016

ICV 1066399728007 (03-OCT-2016) stds: S31089

Analyte	Spiked	Quant	Units	%D	Max	Flags
Mercury	5.000	4.978	ug/L	0	10	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066399728008 File : met44 Time : 03-OCT-2016 14:16
Cal : 1066399728001 Caldate : 03-OCT-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066399728019 File : met44 Time : 03-OCT-2016 14:29
Cal : 1066399728001 Caldate : 03-OCT-2016
Standards: S31090

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0067	0.0072	5.000	5.192	ug/L	4	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066399728020 File : met44 Time : 03-OCT-2016 14:30
Cal : 1066399728001 Caldate : 03-OCT-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066399728031 File : met44 Time : 03-OCT-2016 14:42
Cal : 1066399728001 Caldate : 03-OCT-2016
Standards: S31090

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0067	0.0071	5.000	5.120	ug/L	2	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066399728032 File : met44 Time : 03-OCT-2016 14:43
Cal : 1066399728001 Caldate : 03-OCT-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

CURTIS & TOMPKINS CONTINUING CALIBRATION FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066399728039 File : met44 Time : 03-OCT-2016 14:51
Cal : 1066399728001 Caldate : 03-OCT-2016
Standards: S31090

Analyte	Avg RF/CF	RF/CF	Spiked	Quant	Units	%D	Max %D	Flags
Mercury	0.0067	0.0071	5.000	5.092	ug/L	2	20	

CURTIS & TOMPKINS INSTRUMENT BLANK FOR 281516 METALS Soil
EPA 7470A

Inst : MET44 IDF : 1.0
Seqnum : 1066399728040 File : met44 Time : 03-OCT-2016 14:53
Cal : 1066399728001 Caldate : 03-OCT-2016

Analyte	Quant	IQL	LOD	Units	Flags
Mercury	ND	0.2000	0.1000	ug/L	

SAMPLE PREPARATION SUMMARY

Batch # : 239683
Started By : LCS
Method : METHOD
Spike #1 ID : S31076

Prep Date : 30-SEP-2016 12:00

Analysis : HG
Finished By : LCS
Units : g

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
281332-001		Miscell.	.62	50	1	80.65						7471-HG	
281333-001		Miscell.	.65	50	1	76.92						7471-HG	
281334-001		Miscell.	.61	50	1	81.97						7471-HG	
281335-001		Miscell.	.63	50	1	79.37						7471-HG	
281336-001		Miscell.	.59	50	1	84.75						7471-HG	
281516-001		Soil	.62	50	1	80.65						T22/HG	
281516-002		Soil	.65	50	1	76.92						T22/HG	
281516-003		Soil	.58	50	1	86.21						T22/HG	
281516-004		Soil	.64	50	1	78.13						T22/HG	
281516-005		Soil	.63	50	1	79.37						T22/HG	
281516-006		Soil	.58	50	1	86.21						T22/HG	
281516-007		Soil	.62	50	1	80.65						T22/HG	
281516-008		Soil	.65	50	1	76.92						T22/HG	
281516-009		Soil	.62	50	1	80.65						T22/HG	
281516-010		Soil	.61	50	1	81.97						T22/HG	
281516-011		Soil	.58	50	1	86.21						T22/HG	
281516-012		Soil	.62	50	1	80.65						T22/HG	
281516-013		Soil	.65	50	1	76.92						T22/HG	
281516-014		Soil	.59	50	1	84.75						T22/HG	
281516-015		Soil	.56	50	1	89.29						T22/HG	
QC853808	BLANK	Soil	.65	50	1	76.92							
QC853809	BS	Soil	.56	50	1	89.29		1.25					
QC853810	BSD	Soil	.61	50	1	81.97		1.25					
QC853811	MS	Soil	.55	50	1	90.91		1.25					
QC853812	MSD	Soil	.57	50	1	87.72		1.25					
QC853813	SER	Soil	.63	50	1	79.37		1.25					

LCS 09/30/16 : MS failed, MSD passed, RPD within limits, reporting with matrix interference suspected.

Analyst: LCS Date: 09/30/16 Reviewer: PRW Date: 09/30/16

Soil Digestion for Mercury

Curtis & Tompkins, Ltd.

LIMS Batch #: 239683 Digestion Method: ☒ EPA 7471A/ 7471B ☐ _____

BK3932

Date Digested: 9/30/16

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Sample #	container ID	Sample Weight (g)	Final Volume (mL)	Filtered? (y/n)	Comments
MB		.65	☑ 50 ☐ ___	y	
BS		.56	☑ 50 ☐ ___		
BSD		.61	☑ 50 ☐ ___		
MS		.55	☑ 50 ☐ ___		
MSD		.57	☑ 50 ☐ ___		
281332-001	A	.62	☑ 50 ☐ ___		
281333-001		.65	☑ 50 ☐ ___		
281334-001		.61	☑ 50 ☐ ___		
281335-001		.63	☑ 50 ☐ ___		
281336-001		.59	☑ 50 ☐ ___		
281516-001	A	.62	☑ 50 ☐ ___		
-002		.65	☑ 50 ☐ ___		
-003		.58	☑ 50 ☐ ___		
-004		.64	☑ 50 ☐ ___		
-005		.63	☑ 50 ☐ ___		MSS
-006		.58	☑ 50 ☐ ___		
-007		.62	☑ 50 ☐ ___		
-008		.65	☑ 50 ☐ ___		
-009		.62	☑ 50 ☐ ___		
-010		.61	☑ 50 ☐ ___		
-011		.58	☑ 50 ☐ ___		
-012		.62	☑ 50 ☐ ___		
-013		.65	☑ 50 ☐ ___		
-014		.59	☑ 50 ☐ ___		
-015		.56	☑ 50 ☐ ___		

Balance ID: Hg calibration has been checked? ☒ Yes ☐ No

	Reagent ID/ LIMS# / Time	Initials / Date
Digestion Tubes, Lot #	EK16244	LS 9/30
Blank/LCS 'matrix' ID	D1069103	
1.25 mL of spike standard was added to all spikes	S31076	
☒ ICAL digested with this batch? ICAL Std S#	S31077	
ICV / CCV LIMS S#	S31078/S31079	
Digestion Temperature (°C), and Probe Location	91 / 22	
Digestion block ID	Denali	
Thermometer #	455822	
Digestion Started at (time)	12:00	
Aqua Regia (HNO3+ HCl) Reagent ID	09.30.16	
5% $KMnO_4$ reagent ID	09.23.16	
NaCl.hydroxylamine hydrochloride Reagent ID	09.23.16	
Stannous Chloride Reagent ID	09.30.16	
Digestion Completd at (time)	12:30	
☒ filtered thru' 0.45 um syringe filter (lot #)	VWR 12854055	

Pipettes

Vol.(mL)	ID
.1	128153D
.25-1	G1569336
1.25-5	234078D
6-10	R22910D

LS 9/30/16

Prep Chemist / Date

Continued from page _____

Continued on page _____

Reviewed Online / See LIMS

Version 7, Dec.2015

SAMPLE PREPARATION SUMMARY

Batch # : 239739
Started By : LCS
Method : METHOD
Spike #1 ID : S31087

Prep Date : 03-OCT-2016 12:30

Analysis : HG
Finished By : LCS
Units : g

Sample	Stype	Matrix	Initial	Final	Clean DF	Prep DF	pH	Sp 1 Vol	Sp 2 Vol	Sp 3 Vol	Clean Method	Analysis	Comments
281451-001		Soil	.63	50	1	79.37						T22/HG	
281453-001		Soil	.61	50	1	81.97						T22/HG	
281455-001		Soil	.55	50	1	90.91						T22/HG	
281496-001		Soil	.59	50	1	84.75						T22/HG	
281516-016		Soil	.61	50	1	81.97						T22/HG	
281516-017		Soil	.58	50	1	86.21						T22/HG	
281516-018		Soil	.56	50	1	89.29						T22/HG	
281516-019		Soil	.57	50	1	87.72						T22/HG	
281516-020		Soil	.65	50	1	76.92						T22/HG	
281516-021		Soil	.61	50	1	81.97						T22/HG	
281516-022		Soil	.6	50	1	83.33						T22/HG	
281516-023		Soil	.64	50	1	78.13						T22/HG	
281516-024		Soil	.58	50	1	86.21						T22/HG	
281516-025		Soil	.64	50	1	78.13						T22/HG	
281516-026		Soil	.63	50	1	79.37						T22/HG	
281536-001		Soil	.59	50	1	84.75						T22/HG	
281539-001		Soil	.6	50	1	83.33						T22/HG	
281549-001		Soil	.64	50	1	78.13						T22/HG	
281571-001		Soil	.58	50	1	86.21						T22/HG	
281677-003		Soil	.6	50	1	83.33						RCRA/HG	
QC854032	BLANK	Soil	.6	50	1	83.33							
QC854033	BS	Soil	.64	50	1	78.13		1.25					
QC854034	BSD	Soil	.6	50	1	83.33		1.25					
QC854035	MS	Soil	.58	50	1	86.21		1.25					
QC854036	MSD	Soil	.65	50	1	76.92		1.25					
QC854037	SER	Soil	.63	50	1	79.37							

Analyst: LCS Date: 10/03/16 Reviewer: PRW Date: 10/03/16

Soil Digestion for Mercury

Curtis & Tompkins, Ltd.

LIMS Batch #: 239739 Digestion Method: ☒ EPA 7471A/ 7471B

BK3932

Date Digested: 10/3/16 ☐ _____

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Sample #	container ID	Sample Weight (g)	Final Volume (mL)	Filtered? (y/n)	Comments
MB		.6	☒ 50 ☐	y	
BS		.64	☒ 50 ☐	y	
BSD		.6	☒ 50 ☐		
MS		.58	☒ 50 ☐		
MSD		.65	☒ 50 ☐		
281451-001	B	.63	☒ 50 ☐		MSD
281453-001		.61	☒ 50 ☐		
281455-001		.55	☒ 50 ☐		
281496-001	A	.59	☒ 50 ☐		
281516-016	A	.61	☒ 50 ☐		
-017		.58	☒ 50 ☐		
-018		.56	☒ 50 ☐		
-019		.57	☒ 50 ☐		
-020		.65	☒ 50 ☐		
-021		.61	☒ 50 ☐		
-022		.6	☒ 50 ☐		
-023		.64	☒ 50 ☐		
-024		.58	☒ 50 ☐		
-025		.64	☒ 50 ☐		
-026	A	.63	☒ 50 ☐		
281536-001		.59	☒ 50 ☐		Comp: A-D @ 30 g ea
281539-001	B	.6	☒ 50 ☐		
281549-001	B	.64	☒ 50 ☐		
281571-001	B	.58	☒ 50 ☐		Comp: A-D @ 10 g ea
281677-003		.6	☒ 50 ☐		Comp 1&2 @ 30 g ea

ID: Hg calibration has been checked? ☒ Yes ☐ No

	Reagent ID/ LIMS# / Time		Initials / Date
Digestion Tubes, Lot #	EK162644		YJ 10/3
Blank/LCS 'matrix' ID	D1069103		
1.25 mL of spike standard was added to all spikes	S31087		
☒ CAL digested with this batch? ICAL Std S#	S31088		
ICV / CCV LIMS S#	S31089/S31090		
Digestion Temperature (°C), and Probe Location	95	22	
Digestion block ID	~~Teflon~~ Rainier		
Thermometer #	415 4785 ↑ YJ 10/3		
Digestion Started at (time)	12:30		
Aqua Regia (HNO3+ HCl) Reagent ID	10.03.16		
5% $KMnO_4$ reagent ID	9.23.16		
NaCl.hydroxylamine hydrochloride Reagent ID	9.23.16		
Stannous Chloride Reagent ID	10.03.16		
Digestion Completd at (time)	13:00		
☒ filtered thru' 0.45 um syringe filter (lot #)	VWR 12854055		

ID
281530
1569 36
340780
22910D

LAS 10/3/16

Chemist / Date

Continued from page _____

Continued on page _____

Reviewed Online / See LIMS

Version 7, Dec.2015

Laboratory Job Number 281516

ANALYTICAL REPORT

Wet Chemistry

Matrix: Soil

Curtis & Tompkins, Ltd.

Moisture

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	ASTM D2216/CLP
Analyte:	Moisture, Percent	Diln Fac:	1.000
Matrix:	Soil	Received:	09/27/16
Units:	%	Analyzed:	09/30/16

Field ID	Lab ID	Result	RL	Batch#	Sampled
HA-21	281516-001	3	1	239666	09/26/16
HA-22	281516-002	16	1	239666	09/26/16
HA-23	281516-003	10	1	239666	09/26/16
HA-24	281516-004	9	1	239666	09/26/16
HA-25	281516-005	7	1	239666	09/26/16
HA-26	281516-006	7	1	239666	09/26/16
HA-27	281516-007	10	1	239666	09/26/16
HA-28	281516-008	8	1	239666	09/26/16
HA-29	281516-009	9	1	239666	09/26/16
HA-30	281516-010	11	1	239666	09/26/16
HA-31	281516-011	8	1	239666	09/27/16
HA-32	281516-012	7	1	239666	09/27/16
HA-33	281516-013	7	1	239666	09/27/16
HA-34	281516-014	7	1	239666	09/27/16
HA-35	281516-015	6	1	239666	09/27/16
HA-36	281516-016	6	1	239666	09/27/16
HA-37	281516-017	17	1	239666	09/27/16
HA-38	281516-018	16	1	239666	09/27/16
HA-39	281516-019	8	1	239666	09/27/16
HA-40	281516-020	5	1	239666	09/27/16
HA-41	281516-021	8	1	239667	09/27/16
HA-42	281516-022	7	1	239667	09/27/16
HA-43	281516-023	10	1	239667	09/27/16
HA-44	281516-024	14	1	239667	09/27/16
HA-45	281516-025	9	1	239667	09/27/16
HA-46	281516-026	17	1	239667	09/27/16

RL= Reporting Limit

Batch QC Report

Moisture

Lab #:	281516	Location:	SJ Columbine Reservoir Sampling
Client:	Remedy Engineering	Prep:	METHOD
Project#:	106101	Analysis:	ASTM D2216/CLP
Analyte:	Moisture, Percent	Diln Fac:	1.000
Type:	SDUP	Analyzed:	09/30/16
Units:	%		

Field ID	MSS Lab ID	Lab ID	Matrix	MSS Result	Result	RL	RPD	Lim	Batch#	Sampled	Received
HA-40	281516-020	QC853756	Soil	5.012	5.219	1.000	4	26	239666	09/27/16	09/27/16
ZZZZZZZZZZ	281545-007	QC853757	Miscell.	0.9967	1.008	1.000	1	26	239667	09/23/16	09/28/16

RL= Reporting Limit
RPD= Relative Percent Difference

94.0

Curtis & Tompkins, Ltd.

Percent Moisture Summary Report

Batch: 239666
Date: 09/30/16
Method: CLP SOW 390
Analyst: MFV

Sample	Tare (g)	Wet (g)	Dry (g)	Percent Solids	Percent Moisture
281516-001	11.3210	17.5448	17.3454	97	3
281516-002	10.9050	18.7630	17.5230	84	16
281516-003	11.3755	16.6916	16.1416	90	10
281516-004	11.2678	17.8550	17.2634	91	9
281516-005	11.0206	16.9867	16.5817	93	7
281516-006	11.2524	16.6039	16.2397	93	7
281516-007	11.3602	16.7796	16.2224	90	10
281516-008	11.3272	17.9269	17.4111	92	8
281516-009	11.3681	16.7028	16.2212	91	9
281516-010	10.9708	17.3474	16.6280	89	11
281516-011	11.0626	17.1647	16.6962	92	8
281516-012	11.3046	18.3197	17.8089	93	7
281516-013	11.3306	17.3452	16.9154	93	7
281516-014	11.4170	17.9987	17.5229	93	7
281516-015	11.3676	17.7403	17.3277	94	6
281516-016	11.2060	16.3534	16.0618	94	6
281516-017	11.0088	16.6669	15.6909	83	17
281516-018	11.0443	17.0279	16.0544	84	16
281516-019	11.3194	18.0006	17.4567	92	8
281516-020	11.2604	17.7205	17.3967	95	5
QC853756	11.3737	16.4746	16.2084	95	5
of 281516-020			RPD:	0.2%	4.0%

Moisture LOG

Curtis & Tompkins, Ltd.

LIMS Batch #: 239666
Date: 9-30-16

Page: **89**
Benchbook#: **BK 3889**
Scale Used
☑ Leachates Analytical
☐ _____

Sample # / Letter	Dish #	Dish Weight (g)	Sample + Dish Wt (g)	Final Weight (g)	*Comments
BLK	32	11.3160	Ø	11.3159	
281516-001 A	84	11.3210	17.5448	17.3454	
-002	72	10.9050	18.7630	17.5230	
-003	30	11.3755	16.6916	16.1416	
-004	89	11.2678	17.8550	17.2634	
-005	23	11.0206	16.9867	16.5817	
-006	4	11.2524	16.6039	16.2397	
-007	93	11.3602	16.7796	16.2224	
-008	91	11.3272	17.9269	17.4111	
-009	45	11.3681	16.7028	16.2212	
-010	7	10.9708	17.3474	16.6280	
-011	60	11.0626	17.1647	16.6962	
-012	25	11.3046	18.3197	17.8089	
-013	36	11.3306	17.3452	16.9154	-013
-014	29	11.4170	17.9987	17.5229	
-015	37	11.3676	17.7403	17.3277	
-016	85	11.2060	16.3534	16.0618	
-017	3	11.0088	16.6669	15.6909	
-018	64	11.0443	17.0279	16.0544	
-019	9	11.3194	18.0006	17.4567	
-020	59	11.2604	17.7205	17.3967	
SOUP -020	94	11.3737	16.4746	16.2084	

Date/ Time IN: 9-30-16 0400
Temp (C) IN: 104
Date/ Time OUT: 9-30-16 2105
Temp (C) OUT: 104

9-30-16

Extraction Chemist **Date**

Reviewed Online / See LIMS

PROJECT AE163 METTLER

Notebook No. BK2394

Continued From Page

DATE	ANALYST	0.2000	100.0000	LEVEL	SET#
8-25-16	MN	0.2000	99.9999	✓	9907
8-26-16	MN	0.2000	99.9998	✓	9907
8-30-16	MN	0.2000	100.0001	✓	9907
8-31-16	MN	0.2000	100.0001	✓	9907
9-3-16	MN	0.2000	100.0000	✓	9907
9-12-16	VV	0.2002	99.9993	✓	9907
9-13-16	VV	0.2000	99.9998	✓	9907
9-14-16	VV	0.2000	99.9997	✓	9907
9-19-16	VV	0.2001	100.0001	✓	9907
9-20-16	MN	0.2001	100.0010	✓	9907
9-21-16	MN	0.2000	99.9997	✓	9907
9-22-16	MN	0.2000	99.9998	✓	9907
9-25-16	MN	0.2000	100.0000	✓	9907
9-28-16	MN	0.1999	100.0000	✓	9907
9-29-16	MN	0.2000	100.0000	✓	9907
9-30-16	MN	0.2000	100.0001	✓	9907

Continued on Page

Read and Understood By

Signed Date Signed Date

Percent Moisture Summary Report

Batch: 239667
Date: 09/30/16
Method: CLP SOW 390
Analyst: MFV

Sample	Tare (g)	Wet (g)	Dry (g)	Percent Solids	Percent Moisture
281496-001	11.0745	17.3194	16.7159	90	10
281516-021	11.0333	16.8258	16.3411	92	8
281516-022	11.0603	17.6250	17.1626	93	7
281516-023	10.8958	16.6680	16.1005	90	10
281516-024	10.8376	16.4928	15.6898	86	14
281516-025	11.3171	16.5753	16.1100	91	9
281516-026	11.0460	18.1610	16.9258	83	17
281545-001	11.6509	17.8699	17.8125	99	1
281545-002	11.3253	16.5733	16.5050	99	1
281545-003	11.1012	16.3370	16.2838	99	1
281545-004	11.6328	17.2172	17.1766	99	1
281545-005	10.8964	16.6562	16.6121	99	1
281545-006	11.2413	17.6276	17.5745	99	1
281545-007	11.3235	17.0925	17.0350	99	1
QC853757	11.0009	17.6359	17.5690	99	1
of 281545-007			RPD:	0.0%	1.2%

Moisture LOG **Curtis & Tompkins, Ltd.**

LIMS Batch #: 239667
Date: 9-30-16

Page: **90**
Benchbook#: **BK 3889**
Scale Used
☑ Leachates Analytical
☐ _____

Sample # / Letter	Dish #	Dish Weight (g)	Sample + Dish Wt (g)	Final Weight (g)	*Comments
BLK	70	11.2837	Ø	11.2835	
281496-001 A	28	11.0745	17.3194	16.7159	
281516-021	34	11.0333	16.8258	16.3411	
-022	14	11.0603	17.6250	17.1626	
-023	42	10.8958	16.6680	16.1005	
-024	90	10.8376	16.4928	15.6898	
-025	54	11.3171	16.5753	16.1100	
-026	49	11.0460	18.1610	16.9258	
281545-001	15	11.6509	17.8699	17.8125	
-002	57	11.3253	16.5733	16.5050	
-003	55	11.1012	16.3370	16.2838	
-004	66	11.6328	17.2172	17.1766	
-005	33	10.8964	16.6562	16.6121	
-006	83	11.2413	17.6276	17.5745	
-007	26	11.3235	17.0925	17.0350	
SDUP -007	53	11.0009	17.6359	17.5690	

MW 9-30-16

Date/ Time IN: 9-30-16 0415
Temp (C) IN: 104
Date/ Time OUT: 9-30-16 2105
Temp (C) OUT: 104

9-30-16
Extraction Chemist **Date**

Reviewed Online / See LIMS

PROJECT AE163 METTLER

Notebook No. BK 2394

Continued From Page

DATE	ANALYST	0.2000	100.0000	LEVEL	SET#
8-25-16	MN	0.2000	99.9999	✓	9907
8-26-16	MN	0.2000	99.9998	✓	9907
8-30-16	MN	0.2000	100.0001	✓	9907
8-31-16	MN	0.2000	100.0001	✓	9907
9-3-16	MN	0.2000	100.0000	✓	9907
9-12-16	VV	0.2002	99.9993	✓	9907
9-13-16	VV	0.2000	99.9998	✓	9907
9-14-16	VV	0.2000	99.9997	✓	9907
9-19-16	VV	0.2001	100.0001	✓	9907
9-20-16	MN	0.2001	100.0010	✓	9907
9-21-16	MN	0.2000	99.9997	✓	9907
9-22-16	MN	0.2000	99.9998	✓	9907
9-25-16	MN	0.2000	100.0000	✓	9907
9-28-16	MN	0.1999	100.0000	✓	9907
9-29-16	MN	0.2000	100.0000	✓	9907
9-30-16	MN	0.2000	100.0001	✓	9907

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Read and Understood By

Signed | Date | Signed | Date

Attachment 4

Data Quality Evaluation

ATTACHEMNT 4

Data Quality Evaluation for the September 2016 Soil Sampling Event - SJWC Columbine Reservoir

Introduction

This document presents the results of the data quality evaluation (DQE) for the San Jose Water Company's (SJWC) Columbine Reservoir in San Jose, California. The report summarizes the quality assurance/quality control (QA/QC) activities and an assessment of the quality of analytical data for soil samples collected by Remedy Engineering on September 26 and 27, 2016 at the SJWC site. Guidance for this DQE report came from the U.S. Environmental Protection Agency (USEPA) *Contract Laboratory National Functional Guidelines (NFG) for Organic Data Review,* October 1999; USEPA *NFG for Inorganic Data Review,* October 2004; and individual method requirements.

Analytical Data

This DQE report covers forty six (46) normal investigative samples collected during the September 2016 sampling event at the SJWC Columbine Reservoir. The samples were delivered to Curtis and Tompkins Laboratories, Berkeley, California. Samples were analyzed by the methods listed in 1. The analytical results of the samples were reported by the laboratory in two sample delivery groups (SDG) listed as 281460 and 281516. All analyses were conducted under strict adherence to the laboratory's established Quality Assurance Plan. Analytical performance was assessed by sample delivery group or analytical batch. Laboratory data, including chain-of-custody records, are included in Attachment 3 to the main summary report.

The laboratory package was assessed by reviewing the (1) chain-of-custody (COC) documentation; (2) holding time compliance; (3) lab blanks; (4) laboratory control samples/laboratory control sample duplicates (LCS/LCSD); (5) matrix spike and matrix spike duplicates (MS/MSD); (6) surrogate spike recoveries; (7) laboratory general comments; and (8) the required quality control (QC) samples.

The laboratory assigned data flags according to the USEPA guidance documents. Multiple flags are routinely applied to specific sample method/matrix/analyte combinations, but there will only be one final flag. A final flag is applied to the data and is the most conservative of the applied validation flags. The final flag also includes matrix and blank sample effects.

Data qualifiers used by the laboratory during this validation included:

C = Presence confirmed, but relative percent difference (RPD) between columns exceeds 40%. This flag was only used on pesticides (alpha-Chlordane)

J = Estimated value

U = Analyte was not detected above the method detection limit

Y = Sample exhibits chromatographic pattern which does not resemble standard. This flag was only used on Diesel (C10-C24 range).

Table 1
Analytical Parameters
Soil Sampling, September 2016, Summary Report, Site Investigation Activities for the San Jose Water Company's Columbine Reservoir in San Jose, California

Parameter	**Method**
Title 22 CAM Metals	EPA 6010, 7471
Pesticides	EPA 8081
Polychlorinated Biphenyls (PCBs)	EPA 8082
Total Petroleum Hydrocarbons as diesel/motor oil	EPA 8015
Moisture	COP SOW 390

Overall Assessment

The analytical results were evaluated using the criteria of precision, accuracy, representativeness, comparability, and completeness, as described in the USEPA guidance documents.

Precision

The precision (reproducibility) was determined by evaluating the calculated relative percent difference (RPD) values of samples from laboratory duplicate pairs (MS/MSD) sample results. The MS/MSD percent recoveries were within laboratory quality control limits. In several cases, the continuing calibration verification (CCV) sample drift results were high; however, average CCV drift met method requirements and these analyzes were not detected at or above the reporting level in the associated samples. Therefore, the QA/QC batch was accepted, showing that the laboratory was in control and the data is acceptable. These variabilities were flagged on the laboratory data sheets accordingly with appropriate data qualifiers.

Accuracy

Laboratory accuracy (correctness) was established by reviewing the demonstrated percent recoveries of MS and MSD samples, and of LCS and LCSD to verify that the data are not biased.

Representativeness

Data representativeness (degree to which data accurately and precisely depict the characteristics of a population) was verified through a review of the sample collection, storage, and preservation procedures and holding time compliance, and an evaluation of laboratory blank data. Procedures were appropriately followed. Some samples were received by the laboratory above the ideal holding temperature; however, the samples were delivered to the laboratory, on ice, immediately following completion of sample collection and so are considered acceptable.

Comparability

Data comparability (confidence with which one data set can be compared to another data set) was accomplished through use of standard USEPA analytical procedures and standard units for reporting. The results obtained are comparable to industry standards in that collection and analytical techniques followed approved, documented procedures.

Completeness

Determination of completeness (percentage of valid results in the data set) included a review of COC, laboratory analytical methods, and other necessary documents with this analytical data set to ensure that the analyses were performed as requested on the COC records. Completeness is expressed as the percentage of valid, or useable, measurements compared to planned measurements. Valid data are defined as data that were not rejected during data evaluation. The data set was 100 percent complete.

Conclusion

Based on the evaluation of the parameters described above, this DQE concludes that the data set is acceptable for the intended project use.