



**Former Joseph Guy Community Center
ARRA Funded Targeted Brownfields
Assessment**

Kwethluk, Alaska

Technical Direction Document: 09-09-0002

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List of Abbreviations and Acronyms

<u>Acronym</u>	<u>Abbreviation</u>
° F	degrees Fahrenheit
µg/kg	micrograms per kilogram
ADEC	Alaska Department of Environmental Conservation
ASHERA	Asbestos Hazard Emergency Response Act
ARRA	American Recovery and Reinvestment Act of 2009
AST	aboveground storage tank
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLP	Contract Laboratory Program
CF	cubic feet
CY	cubic yard
DRO	diesel range organics
E & E	Ecology & Environment, Inc.
EPA	United States Environmental Protection Agency
GPS	Global Positioning System
IDW	investigation-derived waste
LCY	loose cubic yards
mg/kg	milligrams per kilogram
NESHAP	National Emission Standards for Hazardous Air Pollutants
OVK	Organized Village of Kwethluk
PID	photoionization detector
QA/QC	quality assurance/quality control
RAL	Removal Action Level
RCRA	Resource Conservation and Recovery Act
RRO	residual range organics
RSL	Regional Screening Level
sf	square feet
SOW	Statement of Work
SQAP	Sampling and Quality Assurance Plan
START	Superfund Technical Assessment and Response Team
SVOC	semivolatile organic compound
TAL	Target Analyte List
TBA	Targeted Brownfields Assessment
TCDD	Tetrachlorodibenzodioxin
TEF	Toxicity Equivalency Factor
TEQ	Toxicity Equivalency Quotient
TM	Task Monitor
XRF	X-ray fluorescence

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Introduction

Pursuant to the United States Environmental Protection Agency (EPA) Region 10 Superfund Technical Assessment and Response Team (START) Contract EP-S7-06-02 and Technical Direction Document number 09-09-0002, Ecology and Environment, Inc. (E & E) performed a Targeted Brownfields Assessment (TBA) of the Former Joseph Guy Community Center Site located in Kwethluk, Alaska. The EPA's Brownfields Economic Redevelopment Initiative is designed to empower states, cities, tribes, communities, and other stakeholders in economic redevelopment to work together in a timely manner to prevent, assess, safely clean up, and sustainably reuse brownfields sites (EPA 2000).

This project was funded by the American Recovery and Reinvestment Act of 2009 (ARRA). Under this act, EPA received funds to carry out Brownfields projects authorized by section 104(k) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980. One of the purposes of this act is to invest in environmental protection.

The purpose of this project is to provide the Organized Village of Kwethluk (OVK) with an assessment of the Former Joseph Guy Community Center to determine if contamination is present at the site. This assessment involved the sampling of specific areas within the site. It also included the development of recommended cleanup options and estimates of relative costs for cleanup, should they be implemented.

The objective of this TBA report is to present the results of the limited site sampling for preliminary site characterization purposes. This report is organized as follows:

- Section 1 - Introduction: Authority for performance of this work and summary of report contents;
- Section 2 - Site Description: Description of site conditions, history, and site concerns;
- Section 3 - Investigation and Results: Summary of the field effort and chemicals detected at the site and a comparison of detected chemical concentrations to criteria values;
- Section 4 - Cleanup Options and Cost Estimate: Cleanup options for the site based on sample results and criteria values;
- Section 5 - Conclusions and Recommendations: Recommendation for the site based on the information gathered during this investigation; and
- Section 6 - References: List of references cited throughout the text.

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Site Description

This section describe the site location and background, general area conditions, site history, waste characteristics, future uses of the property, and exposure pathways.

2.1 Site Location

Site Name:	Former Joseph Guy Community Center
Site Address:	Intersection of Jay Hammond Way and Airport Road Kwethluk, AK 99621
Latitude/Longitude:	60.810278/-166.423945
Reference Point for Coordinates:	Center of Facility
Horizontal Collection Method:	Unknown
Horizontal Reference Datum:	WAD84
Legal Description:	Township 8 North, Range 69 West, Section 5
Parcel Number(s):	Parcel A, Lots 1 and 2
Size (in acres):	0.5
Borough:	Bethel
Site Owner:	Organized Village of Kwethluk 147 Jay Hammond Way Kwethluk, AK 99621 Tel.: (907) 757-6714; Fax: (907) 757-6328

2.2 Site Summary

The Former Joseph Guy Community Center was located at the intersection of Jay Hammond Way and Airport Road in Kwethluk, Alaska. The site is in a rural Alaskan village located approximately 12 miles east of Bethel, Alaska (Figure 2-1). The village is adjacent to the Lower Kuskokwim River. The area is typically ice free from June to October. Kwethluk is predominantly a Yup'ik Eskimo village that practices a subsistence lifestyle. In 2008, the population of the village was reported to be 764 people. Kwethluk is dependent on air transportation for year-round movement of freight and passengers. A State-owned 1,750-foot long by 35-foot wide gravel airstrip and a seaplane base are available. Barge services deliver cargo during the summer. There are no docking facilities. Snow machines, all-terrain vehicles, and skiffs are used for local travel,

and the river becomes an ice road during winter. Kwethluk's precipitation averages 16 inches per year, with snowfall of 50 inches. Summer temperatures average from 42 to 62 degrees Fahrenheit (° F); winter averages are -2 to 19° F (ADOC 2009).

The focus of the TBA is the former 5,000-square-foot (sf) Joseph Guy Community Center, which was incinerated during a fire in April 2006 (Figure 2-2). The center was an important part of the community since it housed the Kwethluk Indian Reorganization Act Council and eight village social services including the tribal court, the Indian Child Welfare Act office, the adult education school, and a suicide prevention office. In addition, the center was used for holding Potlatches, bingo games, school dances, and holiday parties (OVK 2009).

The Joseph Guy Community Center was built with a combination of federal, state, and private funds over the course of several years from 1998 to 2002 (OVK 2009). A second floor was present over a portion of the rear of the building. A glycol heating system was present on this floor. The lower level had offices, a large common area, a kitchen, and bathrooms.

The building burned rapidly over the span of approximately 4 hours in April 2006. The burned building was adjacent to the post office and the Head Start School and across the street from the Lower Kuskokwim School District School. The property is approximately 0.5 acre in size. Primary environmental concerns identified by the OVK include possible soil and water contamination and a direct threat to human health. Possible sources of contamination were speculated by the OVK to include the former glycol heating system, fluorescent lighting fixtures, burned computer and other electronic waste, and insulation waste which may contain asbestos (OVK 2009).

The center was primarily constructed of metal with steel I-beam supports and joists with corrugated sheet metal walls and roof. The floor was constructed from combustible materials. The building site was mounded up with dirt to raise the site above the floodplain. A Geotextile liner was placed over the mounded earth before the building was constructed. Styrofoam was used to assist in leveling the foundation. Interior walls were constructed of particle board and sheet rock.

2.3 Site Ownership

The property is owned by the OVK, which is the federally recognized tribe in the community (OVK 2009).

2.4 Source Characteristics

To date, no sampling of building debris or surrounding soils has been conducted. Additionally, no removal or demolition activities have been conducted. Though containing physical and possibly chemical hazards, the building is not currently fenced. Given the burned structure's proximity to Head Start and K-12 schools, the property presents significant safety and health hazards for school children, in addition to the community at large.

2.5 Projected/Planned Site Uses

The OVK plans to construct a multi-use facility on the property once the burned building is demolished and contamination, if present, is addressed. The new multi-use facility is proposed to be 9,000 sf and would contain office space for the OVK, as well as necessary social services offices. Further, it would be a gathering place for community activities (OVK 2009).

In January 2008, the OVK developed a feasibility study and business plan for the proposed multi-use facility. The new facility is expected to enhance tribal self-determination and sustainability by providing a centralized location for tribal operations and more efficient and consolidated delivery of services to the people of Kwethluk. The proposed multi-use facility would serve as a central community location for activities, social gatherings, tribal and community meetings, and other important quality-of-life enhancing activities for the community of Kwethluk and surrounding villages (OVK 2009).

2.6 Site Visit

On October 15, 2009, a site visit was conducted at the Former Joseph Guy Community Center. Photographs of the site taken during the site visit are provided as Appendix A. Attendees at the site visit included the following people:

- Joanne LaBaw, EPA;
- Linda Costello, E & E;
- Samuel Nicori, OVK; and
- Max Angellan, OVK.

The floor of the building was completely consumed during the fire, exposing the soil beneath. Based on visual observations, it is estimated that approximately 90% of the remaining building debris is metal/steel. Very little wall insulation is still present. The roof of the building and the second floor have collapsed. No insulation remains in the ceiling of the building. The building in its current state is unsafe to enter. As viewed from the exterior, burned debris includes folding chair frames, a water tank, the metal remains of the glycol heating system, metal furnace ducts, broken glass, metal piping, and large metal cans that previously contained food items in the kitchen area.

A 300-gallon aboveground storage tank (AST) containing heating oil was formerly present at the rear of the building. It is not known whether this tank was damaged during the fire. It also is not known who removed the tank or for what purpose.

Spring floods in 2006 and 2009 completely covered the building site to a depth of approximately 1 foot. If present, the floods may have washed away surface contamination.

2. Site Description

Two small cabins, which were on the property when the community center burned, are still present on the property. The cabins once were rented out by the OVK, but they are no longer in use. Cabin windows have been boarded up.

Following the walk-through of the site, a meeting was held to consult with OVK tribal elders regarding the history of the site and their preferences for cleanup and redevelopment. Tribal elders have a strong preference for disposing of the burned debris outside of the village, perhaps selling the steel/metal to a recycling facility and barging it out to another location. Two bucket loaders are currently available in the village for use in demolition activities. These will be available until approximately October 2010. Also, there is one certified welder in the village who could assist with cutting the large steel and metal pieces in the building. As previously mentioned, the OVK plans to build a multi-use facility on the property once demolition and environmental cleanup, if necessary, are completed.

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Investigation and Results

E & E conducted field sampling at the Former Joseph Guy Community Center site on June 9, 2010. Fieldwork was conducted in coordination with the OVK.

3.1 Sampling Design

To fulfill project-specific objectives for the Former Joseph Guy Community Center Site TBA, a judgmental sampling design was used by intentionally collecting biased sampling data for preliminary site characterization. For this reason, the known or suspected locations of contamination were the focus of sampling.

The following subsections describe the types of sampling, analysis, and measurements that were conducted. Samples were collected in accordance with an approved sampling and quality assurance plan (SQAP; E & E 2010). Photographic documentation of the sample collection event is provided in Appendix A. When deviations from the SQAP were required, they were noted in the field logbook, recorded on the sample plan alteration form (Appendix B), and approved by the EPA Task Monitor (TM). Deviations from the SQAP are also detailed below.

A total of 48 samples were collected during the field event (Figure 3-1). A description of each sample submitted for fixed laboratory analysis is provided in Table 3-1. Location data for each sample station was collected using Global Positioning System (GPS) technology. GPS coordinates are provided in Appendix C.

3.1.1 Potential Site Contaminants

Several types of contaminants may have been released as a result of the building fire. Metals may have been released to soils as a result of the burning of this largely steel and metal building. Metals may be present in ash and may have been released to soils as the exposed metal debris has weathered over the years since the fire. Phthalates and dioxins/furans may have been generated and released during the burning of plastic office equipment; impacting adjacent site soils and building debris. Wall and ceiling insulation may contain asbestos. Finally, the status of the heating oil AST during and after the fire is not known. If this tank ruptured or leaked during the fire, adjacent soils may have been impacted.

3.1.2 Sampling

The following features were sampled to determine whether contamination is present at these locations:

3. Investigation and Results

- **Building Interior:** Eight surface soil samples (some containing ash or burned debris) were collected from building interior locations to determine whether surficial material inside the building is contaminated. Selected locations were from areas most likely to include office equipment, plastic counters, and kitchen supplies based on the known location of offices and the facility's kitchen. The SQAP included submitting four samples for Target Analyte List (TAL) metals, semivolatile organic compounds (SVOCs; which include phthalates), and dioxins/furans analyses. The remaining four samples were to be archived. Following consultation with the TM, it was decided that all eight samples would be analyzed for TAL metals and SVOCs; four samples would be analyzed for dioxins/furans; and the four remaining dioxins/furans aliquots would be archived. During sample processing, one sample meant for archiving was inadvertently shipped to the laboratory for analysis. For this reason, only three of the interior soil samples were archived. After analytical results were received for the first five samples, the TM was consulted to determine whether the remaining three samples should be analyzed for dioxins/furans. A decision was made not to analyze these samples since no dioxin/furan sample results exceeded regulatory criteria (see Section 3.5 below). Six wipe samples were collected from the building's interior. These samples were only analyzed for dioxins/furans.
- **Building Exterior:** The SQAP proposed sampling ten co-located surface soil/subsurface soil sample locations from points outside the building to assess whether site soils have been impacted. Six points were placed near the building sidewalls and four were placed approximately 10 feet from the sidewalls. The original sampling design, as proposed in the SQAP, included two samples from each point: one from 0 to 6 inches below ground surface (bgs) and one from 6 to 12 inches bgs. However, at some locations, the subsurface sample depth could not be extended to 12 inches since the geotextile liner and underlying Styrofoam™ were present above this interval. At two sample locations (FJ16 and FJ18), the presence of the liner and Styrofoam™ prevented subsurface sample collection. At these two locations, subsurface soil samples were not collected.

All surface and subsurface samples collected from the building's exterior were analyzed for TAL metals and SVOCs. The six surface soil samples collected near the building sidewalls were also analyzed for dioxins/furans. Dioxins/furans sample aliquots from the remaining four surface soil sample locations and from the eight subsurface soil samples were archived. After analytical results were received for the first six samples, the TM was consulted to determine whether the remaining 12 samples should be analyzed for dioxins/furans. A decision was made not to analyze these samples since no dioxin/furan sample results exceeded regulatory criteria (see Section 3.5 below). Two locations from the building's exterior walls were selected for wipe sampling. Wipe samples were only analyzed for dioxins/furans.

3. Investigation and Results

- **Heating Oil AST:** Two surface soil samples were collected from the area of the former heating oil AST. These samples were intended to determine whether heating oil had leaked or spilled onto the ground surface. During sample collection, oil-stained soil with a petroleum odor was observed to be present near a fill or transfer pipe near the location of the former AST. These samples were analyzed for diesel range organics (DRO) and residual range organics (RRO).
- **Potential Asbestos-Containing Material:** Twelve samples of material inside the building were collected for asbestos analysis. An Asbestos Hazard Emergency Response Act (AHERA)-certified inspector selected the material and appropriate sample locations for meeting National Emission Standards for Hazardous Air Pollutants (NESHAP) pre-demolition asbestos inspection requirements. These samples were collected to assess whether asbestos is present at the site and to help in determining appropriate demolition and disposal options for asbestos-containing material, if present.

3.2 Analytical Methods

Forty-eight samples were collected during this TBA and were submitted for off-site fixed laboratory analysis. The samples were analyzed in varying combinations for SVOCs, TAL metals, dioxins/furans, DRO, RRO, and asbestos.

Copies of the quality assurance/quality control (QA/QC) and data validation memoranda are provided in Appendix D. Chain-of-custody forms are provided as Appendix E. The following samples were submitted to fixed laboratories for analysis:

- **SVOCs.** Twenty-six samples were submitted for SVOC analysis using EPA Contract Laboratory Program (CLP) statement of work (SOW) SOM01.2 by Selected Ion Monitoring. The samples were submitted to A4 Scientific, an EPA CLP laboratory located in The Woodlands, Texas.
- **TAL Metals.** Twenty-six samples were submitted for TAL metals analysis using EPA CLP SOW ILM05.4. The samples were submitted to A4 Scientific, an EPA CLP laboratory located in The Woodlands, Texas.
- **Dioxins/Furans.** Thirty-five samples were submitted for dioxin/furan analysis using EPA CLP SOW DLM02.2. Fifteen of these samples were archived. The TM made a decision to not have these samples analyzed for dioxins/furans. The samples were submitted to AXYS Analytical Services, Ltd., an EPA CLP laboratory located in Sydney, British Columbia, Canada.
- **DRO and RRO.** Two samples were submitted for DRO and RRO analysis using Alaska Department of Environmental Conservation (ADEC) Method AK-102/AK-103. The samples were submitted to Columbia Analytical Services, a subcontracted laboratory located in Kelso, Washington.
- **Asbestos.** Twelve samples were submitted for asbestos analysis using EPA Method 600/R-93/116. The samples were submitted to Manchester Environmental Laboratory, Inc., an EPA laboratory located in Manchester, Washington.

3.3 Regulatory Standards

3.3.1 Cleanup Criteria

Soil samples (some of which contained ash and burned insulation) and wipe samples were collected during the TBA. Analytical results for the soil, and wipe samples were compared to ADEC Method Two soil cleanup levels for residential land use scenarios. Cleanup levels are divided by climate zone and route of exposure. Since Kwethluk, Alaska, is not in the Arctic zone and receives less than 40 inches of precipitation per year, it falls under the “Under 40-Inch Zone” climate zone. The direct contact, outdoor inhalation, and migration to ground water routes of exposure were used to determine risk; however, the most stringent of these pathway-specific cleanup levels was used as the applicable cleanup level.

When no ADEC Method Two soil cleanup value exists for an analyte or the value is below the applicable detection limits, the result are compared to EPA Region 10 Screening Levels (RSLs). These screening levels are risk-based concentrations derived from equations combining exposure information assumptions with EPA toxicity data. They are developed in accordance with the EPA Soil Screening guidance and based on future residential land use assumptions and related exposure scenarios (EPA 1996). In the event that no other screening or cleanup levels are applicable, EPA Removal Action Levels (RSLs) are applied. These levels are designed to help determine whether a removal is justified based on a single-contaminant approach. Table 3-2 lists all regulatory criteria applied for surface soil results.

Arsenic is a naturally occurring metal in Alaska. It is often found in concentrations above the regulatory ADEC Method Two cleanup. ADEC guidance for arsenic allows that the presence of arsenic can be considered naturally occurring if a site has no known or suspected anthropogenic arsenic sources. Cleanup and/or institutional controls applicable to arsenic are typically not required in these situations (ADEC 2009).

ADEC and the EPA provide regulatory criteria for dioxin/furan Toxic Equivalency Quotients (TEQs) for soil samples. The TEQ is used to assess a sample’s toxicity by expressing the results of all dioxins and furans congeners detected as 2,3,7,8-tetrachlorodibenzodioxin (TCDD). This expression is determined by multiplying each dioxin/furan congener by its corresponding Toxic Equivalency Factor (TEF). TEFs approximate each dioxin/furan congener’s toxicity relative to the toxicity of 2,3,7,8-TCDD. TEQs for soil samples that were analyzed for dioxins/furans have been calculated for this project. These calculations are provided in Appendix F. When an analyte was not detected in a sample, the detection limit for it was used in the TEQ calculations to provide a conservative estimate of the TEQs for that sample.

Wipe samples were collected for this TBA. Regulatory cleanup levels do not exist for wipe samples. The samples were collected to assist the OVK with determining appropriate measures to ensure worker safety during building demolition. For this reason, although these sample results are provided, they will

not be evaluated as a part of this TBA. A summary of wipe sample results are provided in Appendix G

3.3.2 Demolition Criteria Regarding Asbestos

The EPA NESHAP regulation requires that an asbestos building inspection be performed prior to demolition. EPA also interprets the NESHAP as requiring an AHERA-certified inspector for the pre-demolition asbestos inspection.

The NESHAP requires 10-day advance notification prior to initiation of a demolition project, regardless of the amount of asbestos present. In Alaska, this notification is made to the EPA Alaska Operations Office.

3.4 Reporting of Sample Results

Table 3-3 provides soil sample analytical results. The frequency of exceedance of criteria values for all soil samples is presented in Table 3-4. QA/QC and data validation memoranda are provided in Appendix D. Analytical results were evaluated according to the following steps prior to being reported in the table:

- Analytes that were not detected in any samples were omitted from the table;
- All detected concentrations are shown in bold type; a nondetected concentration is shown as the detection limit reported by the laboratory (e.g., 0.66 U);
- The regulatory standards provided in the first column of the table were used as criteria values in determining whether contamination is present in the samples;
- Analytes detected at concentrations greater than the criteria value were considered a potential concern, and the concentration is shaded; and
- Analytes with no comparative criteria levels are listed in the table but could not be qualitatively evaluated.

Based on EPA Region 10 policy, evaluation of aluminum, calcium, iron, magnesium, potassium, and sodium (i.e., common earth crust metals) is generally used only in mass tracing, which is beyond the scope of this report. Furthermore, these analytes are not associated with toxicity to humans under normal circumstances (EPA 1996). For these reasons, these analytes are not included in the evaluation or discussion, but are provided in the analytical summary table if they were detected above the instrument detection limit.

ADEC allows that the presence of arsenic can be considered naturally occurring if a site has no known or suspected anthropogenic arsenic sources (ADEC 2009). Since no such sources of arsenic are suspected outside of the burned community center, arsenic concentrations in soils adjacent to it are considered typical of background arsenic concentrations in Alaska. For this reason, the arsenic concentrations that exceed regulatory criteria outside the building will not be further evaluated. However, the arsenic concentrations that exceed regulatory criteria inside the building are suspected to be from an anthropogenic source and will be evaluated.

3.5 Soil Samples

Twenty surface soil samples (FJ01SS through FJ20SS) and eight subsurface samples (FJ09SB through FJ15SB, and FJ17SB) were collected from locations within and outside of the burned community center (Figure 3-1). Sample locations and analytical results are described in below. The frequency of exceedance data is presented in Table 3-4.

3.5.1 Interior Sample Locations

Surface soil samples FJ01SS through FJ08SS were collected inside the building. Many of these samples consisted of significant quantities of ash, charred wood, dry wall, and other burned debris.

3.5.2 Interior Sample Results

All samples were analyzed for SVOCs and TAL metals (Table 3-3). Samples FJ01SS, FJ03SS, FJ05SS, FJ06SS, and FJ07SS were also analyzed for dioxins/furans. Regulatory criteria for one or more metals were exceeded in all samples. Metals exceeding regulatory criteria included antimony, arsenic, chromium, cobalt, copper, and nickel. Antimony concentrations ranged from 8.3 to 387 mg/kg, exceeding the criteria value of 3.6 mg/kg. Arsenic concentrations ranged from 9.2 to 399 mg/kg, exceeding the criteria value of 3.9 mg/kg. Chromium concentrations ranged from 27.4 to 44.3 mg/kg, exceeding the criteria value of 25 mg/kg. Cobalt concentrations ranged from 23.7 to 26.7 mg/kg, exceeding the criteria value of 23 mg/kg. Copper concentrations ranged from 771 to 32,600 mg/kg, exceeding the criteria value of 460 mg/kg. Further, nickel exceeded the criteria value of 86 mg/kg in one sample at a concentration of 394 mg/kg.

Antimony exceeded the critical value in all but one sample. All of the samples had levels of arsenic above the criteria value. Copper well exceeded the critical value of 460 mg/kg in two samples; FJ05SS at 2,280 mg/kg and FJ06SS at 32,600 mg/kg. Sample FJ05SS also contained fairly high concentrations of antimony and arsenic. This sample consisted mainly of burned material including charred wood and drywall. Rusted nails also were present at the location. Sample FJ06SS also contained particularly high concentrations of nickel. This sample was described as consisting of silty soil and ash with some charred wood intermixed.

The SVOCs and dioxins/furans that were detected in interior soil samples did not exceed regulatory criteria.

3.5.3 Co-Located Exterior Sample Locations

Samples FJ09SS/SB, FJ10SS/SB, FJ14SS/SB, and FJ17SS/SB were collected from locations outside the building approximately 15 feet from the building corners with the exception of FJ09SS/SB which was offset closer to the building since a dirt road was present at the planned sample location. Samples FJ11SS/SB and FJ15SS/SB were collected immediately adjacent to the rear and front building doors; respectively. Samples FJ12SS/SB, FJ13SS/SB, FJ16SS, and FJ18SS were

collected immediately adjacent to the north and south exterior walls. Co-located subsurface soil samples were not collected with samples FJ16SS and FJ18SS because the geotextile liner was present at 6 inches bgs. This liner is underlain with eight or more inches of Styrofoam™. All surface and subsurface soil samples primarily consisted of fine, silty soil with some variation of color or moisture content.

3.5.4 Co-Located Exterior Sample Results

All samples were analyzed for SVOCs and TAL metals (Table 3-2). Additionally, samples FJ11SS, FJ12SS, FJ13SS, FJ15SS, FJ16SS, and FJ18SS were analyzed for dioxins/furans. Other than arsenic, no metals or dioxins/furans exceeded regulatory criteria. As previously mentioned, the concentrations of arsenic outside the burned community center, although above the regulatory criteria, are considered to be indicative of natural background arsenic concentrations in Alaska. For this reason, they are not indicative of a need to conduct cleanup or remediation activities for soils outside the building.

Two surface soil samples outside the former community center exceeded the regulatory critical value for SVOCs: n-nitroso-di-n-propylamine exceeded the critical value of 1.1 micrograms per kilogram ($\mu\text{g}/\text{kg}$) in sample FJ13SS at a concentration of 42 $\mu\text{g}/\text{kg}$; and bis(2-ethylhexyl)phthalate exceeded critical value of 1,300 $\mu\text{g}/\text{kg}$ in sample FJ15SS at a concentration of 2,700 $\mu\text{g}/\text{kg}$. Neither of these samples had unusual odors or characteristics. At each of these sample locations, a corresponding subsurface sample was collected. No exceedances of regulatory criteria were present in these deeper samples, indicating that the surficial contamination was not migrating to deeper soils.

3.5.5 AST Sample Locations

Surface soil samples FJ19SS and FJ20SS were collected at the location of the former AST. Sample FJ19SS was adjacent to the distribution line for the former AST which lead into the community center.

3.5.6 AST Sample Results

AST samples were analyzed for DRO and RRO. One of two surface soil samples collected at the location of the former AST contained DRO at an estimated concentration of 9,000 $\mu\text{g}/\text{kg}$ which exceeded regulatory critical value of 250 mg/kg. This sample (FJ19SS) was collected adjacent to the former AST distribution line. This sample was described as being petroleum-stained and having a strong petroleum odor.

3.6 Wipe Samples

Eight wipe samples (FJ01WI through FJ08WI) were collected from locations within and outside of the burned community center (Figure 3-1).

3.6.1 Wipe Sample Locations

All wipe samples were taken from metal building walls. Samples FJ01WI through FJ06WI were collected inside the building. Samples FJ07WI and FJ08WI were collected outside the building.

3.6.2 Wipe Sample Results

All wipe samples were analyzed for dioxins/furans. Dioxin/furan traces were discovered on all of the wipe samples from the walls of the community center. Regulatory cleanup levels do not exist for wipe samples; however, the samples results are provided in Appendix G to assist the OVK in ensuring worker safety during building demolition.

3.7 Bulk Samples—Asbestos Testing

Twelve bulk samples (FJ01BK through FJ12BK) of material suspected of containing asbestos were collected (Figure 3-2).

3.7.1 Bulk Sample Locations

Bulk samples were collected from a variety of materials suspected of containing asbestos. Samples FJ01BK, FJ02BK, and FJ03BK were of drywall. Samples FJ04BK and FJ05BK were of fiberglass insulation. Sample FJ06BK was of material that appeared to be computer wire insulation. Samples FJ07BK and FJ08BK were of charred material and soil/ash collected in the area of the building once used for janitorial/mechanical purposes. Sample FJ09BK was from a transformer casing located inside the building. Sample FJ10BK was from material inside a fire door. Sample FJ11BK was of an unknown white fibrous material inside a pipe extending from the rear exterior wall of the building. Sample FJ12BK was collected from the building's vapor barrier. All bulk samples appeared to contain fibrous material.

3.7.2 Bulk Sample Results

All samples were analyzed for asbestos. Asbestos was not present in any of the samples. Appendix D provides analytical data forms for these samples.

3.8 Investigation Derived Waste

Investigation-derived waste (IDW) generated during the Former Joseph Guy Community Center TBA sampling event included disposable sampling supplies and disposable personal protection equipment. All IDW was double-bagged in opaque plastic bags and disposed of at the local municipal landfill in Bethel, Alaska.

4

Cleanup Options and Cost Estimate

The following preliminary evaluation of cleanup options for the Former Joseph Guy Community Center site is based on the analytical data gathered during the investigation conducted for this TBA (Section 3). Sample results indicate that cleanup action is required at three locations. Changes in site conditions would require a reevaluation of the following recommendations. It is recommended that ADEC be consulted prior to conducting any cleanup activities. This TBA focused primarily on TAL metals, SVOCs, dioxins/furans, and DRO/RRO as the contaminants of concern. The decision to focus on these contaminants was based on available information and professional judgment. Given this limitation, it is possible that other contaminants could also be present at levels exceeding ADEC Method Two soil cleanup levels, EPA RSLs, or EPA RALs.

The preliminary cleanup action area covers approximately 5,100 sf of the site. Due to the relatively minor lateral and vertical extent of contaminated soil, only one cleanup option was identified for this site and is described below. A detailed preliminary cost estimate, including notes and assumptions, is provided in Appendix H. A summary of estimated costs associated with this cleanup option is presented in Tables 4-1 and 4-2.

The cost estimates included in this section were developed using unit prices contained in *RS Means Site Work & Landscape Cost Data* (RS Means 2011), vendor quotes, and professional judgment based on costs at similar sites. The quantities used have been estimated based on analytical data, site observations, and best engineering judgment. The work to be performed is intended to address the known environmental conditions resulting from past practices. Any additional costs incurred as a result of new or differing discoveries would be in addition to the projected estimated costs described in this section. The estimated cost includes a 15 percent contingency (EPA and USACE 2000) to allow for unforeseen costs. These estimates do not include additional study/investigation, design, long-term monitoring, five-year reviews, site closeout, etc.

4.1 Option 1 – Removal and Disposal

Multiple options were not developed for site remediation due to the small size of the removal action and the remote location with limited locally available treatment technologies. The cleanup option focuses on the removal and disposal of contaminated soil and scrap metal from the community center structure. It has been assumed that all material requiring removal or disposal will be placed on barges for transport to either recycling or disposal facilities.

Twenty surface soil samples and eight subsurface samples were collected from locations within and outside of the burned community center.

- All of the samples collected inside the former community center footprint (FJ01SS through FJ08SS) had levels of arsenic above the critical value of 3.9 mg/kg (i.e., ADEC Method Two Soil Cleanup Level, Migration to Ground Water). Also of note, antimony exceeded the critical value of 3.6 mg/kg (i.e., ADEC Method Two Soil Cleanup Level, Migration to Ground Water) in all but one sample and copper well exceeded the critical value of 460 mg/kg (i.e., ADEC Method Two Soil Cleanup Level, Migration to Ground Water) in two samples; FJ05SS at 2,280 mg/kg and FJ06SS at 32,600 mg/kg.
- Two surface soil samples outside the former community center exceeded the critical value (i.e., ADEC Method Two Soil Cleanup Level, Migration to Ground Water) for SVOCs: n-nitroso-di-n-propylamine exceeded the critical value of 1.1 µg/kg in sample FJ13SS and bis(2-ethylhexyl)phthalate exceeded the critical value of 1,300 µg/kg in sample FJ15SS.
- Additionally, sample FJ19SS, located outside of the building footprint in the vicinity of the former AST, was found to contain levels of DRO above the critical value of 250 mg/kg (i.e., ADEC Method Two Soil Cleanup Level, Migration to Ground Water).

The removal area will include the entire footprint of the building plus the three spots outside of the building footprint which had concentrations of contaminants above critical values. Figure 4-1 provides a depiction of the removal areas. The excavation depth for the entire excavation is down to either a 1-foot depth, or the geotextile liner, which was observed to be at a depth of approximately 6 to 12 inches during field sampling. All samples outside the former community center were considered discontinuous spots of contamination and, therefore, a 10-sf area around each of the sample locations outside the building was selected for removal. An excavator should be used for the soil removal. If contamination is found to exist outside the boundary of excavation in any direction, either through visual observation, presence of an odor, or field screening results, the excavation should continue until all contamination has been removed. A 20% expansion factor was applied to determine a total volume of 6,120 loose cubic feet (CF). The soil unit weight was assumed to be 2,800 pounds/loose cubic yards (LCY). The total estimated volume of soil that needs to be excavated was determined to be 5,100 bank CF (in place), based upon the size of the building footprint as well as a professionally determined buffer around the contamination found outside of

4. Cleanup Options and Cost Estimate

the building footprint. The excavated soil will then be loaded onto a barge. Backfill should be obtained from a clean, locally available source. Backfill material will be compacted and graded. During excavation of the arsenic contaminated soil, X-ray fluorescence (XRF) field screening should be conducted to ensure all contaminated soil has been removed. Likewise, during the excavation of the diesel contaminated soil, a photoionization detector (PID) should be used to ensure all contaminated soil has been removed. Confirmation sampling should be conducted to ensure all contamination has been removed. This should be conducted by ADEC-registered samplers.

Dioxin/furan traces were discovered on all of the wipe samples from the walls of the burned community center. The community center should be knocked down using an excavator. The scrap metal from the building can then be sent to a scrap metal yard for recycling. No laws are known to exist that would prohibit recycling dioxin/furan contaminated metal. The scrap metal will be placed into a container on a barge. The dimensions of the former community center have been assumed to be:

- **Base:** 60 feet x 80 feet;
- **Side Walls:** 80 feet x 12 feet x 2 walls;
- **Side Walls:** 60 feet x 12 feet x 2 walls; and
- **Roof:** 60 feet x 3 feet for two gables, and 2 x 80 feet x 70 feet for peaked roof.

The total scrap metal surface area is 19,540 CF, based on the values provided above.

Characterization sampling of the material to be removed will be required to determine whether it will be considered as a hazardous or non-hazardous waste. Disposal contractors should be hired for testing and disposal of the excavated material. Hazardous material should be sent to a Resource Conservation and Recovery Act (RCRA) Subtitle C landfill for disposal, while non-hazardous material should be sent to a RCRA Subtitle D landfill for disposal. Due to the nature of the contamination at the community center, decontamination of equipment and personnel will be required. This will produce decontamination water. It is estimated that disposal of two 55-gallon drums of decontamination water will be required. The decontamination water also should be tested to determine appropriate disposal options for that water. The drums can be placed on a barge for transfer to an appropriate disposal facility. It is assumed that the disposal facility as well as the recycling facility will be in Seattle, Washington, and that one barge will be used to transport all material for disposal and recycling.

4.1.1 Scenario 1 – Removal and Disposal of Hazardous Material

If the excavated material is determined to be hazardous, removal and disposal of the material in a RCRA Subtitle C landfill is estimated to cost \$436,500 (see Appendix H).



4. Cleanup Options and Cost Estimate

4.1.2 Scenario 2 – Removal and Disposal of Non-Hazardous Material

If the excavated material is determined to be non-hazardous, removal and disposal of the material in a RCRA Subtitle D landfill is estimated to cost \$375,700 (see Appendix H).

5

Conclusions

The Former Joseph Guy Community Center is located in Kwethluk, Alaska, a rural Alaskan village located approximately 12 miles east of Bethel, Alaska. The village is adjacent to the Lower Kuskokwim River. The former 5,000-sf Joseph Guy Community Center was destroyed by a fire in April 2006. The remains of the building include the collapsing side walls, collapsed roof, and burned interior contents such as chairs, computer equipment, kitchen equipment, and heating furnace. The burned building has been in its current state since the fire. An AST once was present to supply fuel to the building's furnace. This AST is no longer present.

The burned building is adjacent to the post office and the Head Start school, and across the street from the Lower Kuskokwim School District school. Given the burned structure's proximity to Head Start and K-12 schools, the property presents significant safety and health hazards for school children, in addition to the community at large.

The OVK plans to construct a multi-use facility on the property once the burned building is demolished and contamination is addressed. The new multi-use facility would contain office space for the OVK, as well as necessary social services offices. It also would be a gathering place for community activities.

5.1 Results Summary

The TBA field event occurred on June 9, 2010. In order to assess the possible presence of contamination within the property boundary, 28 soil samples were collected and submitted for fixed laboratory analysis.

- Surface soil samples inside the burned community center contained exceedances of regulatory criteria for several metals including antimony, arsenic, chromium, cobalt, copper, and nickel; indicating a need for remediation of these materials.
- Two surface soil samples collected outside the burned community center contained concentrations of n-nitroso-di-n-propylamine and bis(2-ethylhexyl)phthalate above regulatory criteria. Deeper soil samples at these locations did not likewise exceed regulatory criteria, indicating this contamination is localized and not migrating to deeper soils.
- One surface soil sample collected near the distribution line of the former AST exceeded regulatory criteria for DRO.



5. Conclusions

A pre-demolition asbestos inspection of the burned community center was conducted by an AHERA-certified inspector. During this survey, a total of 12 bulk samples were collected of material suspected of containing asbestos. Analytical results of these samples indicated no asbestos was present.

Two cleanup scenarios were explored, both of which were for removal and off-site disposal and recycling of material remaining at the former community center. Scenario 1 includes the excavation and off-site disposal of contaminated soil at a Subtitle C landfill (hazardous waste) and recycling of metal debris. This scenario is estimated to cost \$436,500. Scenario 2 includes the excavation and off-site disposal of soil at a Subtitle D landfill (non-hazardous waste) and recycling of metal debris. This scenario is estimated to cost \$375,700.

6

References

Alaska Department of Commerce (ADOC), 2009, Alaska Community Database, Community Information Summary, Kwethluk, Alaska, Web page:
http://www.commerce.state.ak.us/dca/commdb/CIS.cfm?Comm_Boro_name=Kwethluk.

Alaska Department of Environmental Conservation (ADEC), March 2009, Division of Spill Prevention and Response, Contaminated Sites Program, Technical Memorandum, *Arsenic in Soil*.

_____, October 9, 2008, *18 AAC 75 Oil and Hazardous Substances Pollution Control*, Web page:
http://www.dec.state.ak.us/spar/statutes_regs.htm#regs75.

Ecology and Environment, Inc. (E & E), May 2010, *Former Joseph Guy Community Center, Targeted Brownfields Assessment, Final Sampling and Quality Assurance Plan, Kwethluk, Alaska*, prepared for the United States Environmental Protection Agency, Contract Number EP-S7-06-02, Seattle, Washington.

Organized Village of Kwethluk (OVK), July 7, 2009, Targeted Brownfields Site Assessment Questionnaire.

RS Means Company, Inc. (RS Means), 2011, *RS Means Heavy Construction Cost Data*.

U.S. Environmental Protection Agency (EPA), December 2010, *Regional Screening Level Table*, Web page:
http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/index.htm.

_____, September 16, 2008, Removal Action Level Master Table.

_____, October 2000, Brownfield Economic Redevelopment Fact Sheet, EPA 500-F-00-241.

_____, 1996, *EPA Soil Screening Guidance User's Guide*.



6. References

U.S. Environmental Protection Agency (EPA) and United States Army Corps of Engineers (USACE), July 2000, *A Guide to Developing and Documenting Cost Estimates During the Feasibility Study*.

Figures

Source: iGage 2000.

ALASKA

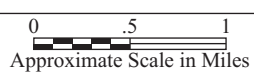


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Seattle, Washington

FORMER JOSEPH GUY
COMMUNITY CENTER
Kwethluk, Alaska

Figure 2-1

SITE VICINITY MAP



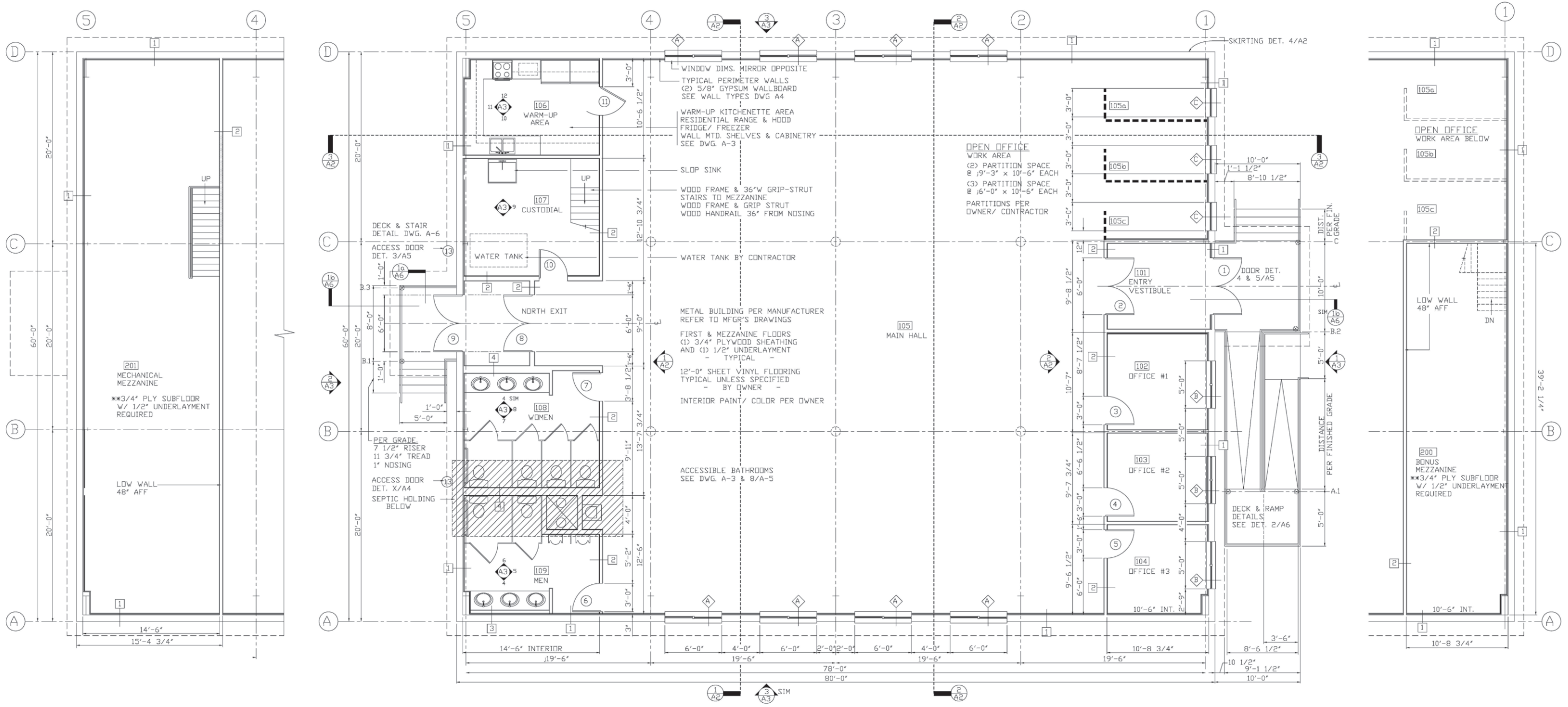
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Not to Scale

Cabin

Cabin

FJ17SS/SB ●

FJ16SS
×

FJ18SS
×

● FJ10SS/SB

■ FJ01WI

■ FJ02WI

FJ03SS ×

FJ03WI ■

FJ20SS

Former 300-Gallon Heating Oil AST

×

FJ01SS

×

FJ04SS

FJ19SS

■ FJ08WI

×

FJ02SS

● FJ15SS/SB

Former Joseph Guy Community Center

● FJ11SS/SB

×

FJ08SS

FJ05SS

■ FJ07WI

■ FJ06WI

×

FJ05SS

×

FJ07SS

FJ06SS

FJ04WI

■ FJ05WI

● FJ14SS/SB

● FJ13SS/SB

● FJ12SS/SB

● FJ09SS/SB

Key:

- × Soil Sample at 0-6"
- Soil Sample at 0-6" and 6-12"
- Wipe Sample
- AST Above-ground Storage Tank



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COMMUNITY CENTER
Kwethluk, Alaska

Figure 3-1
SOIL AND WIPE SAMPLE LOCATION MAP

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2/28/11

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Source: Organized Village of Kwethluk.

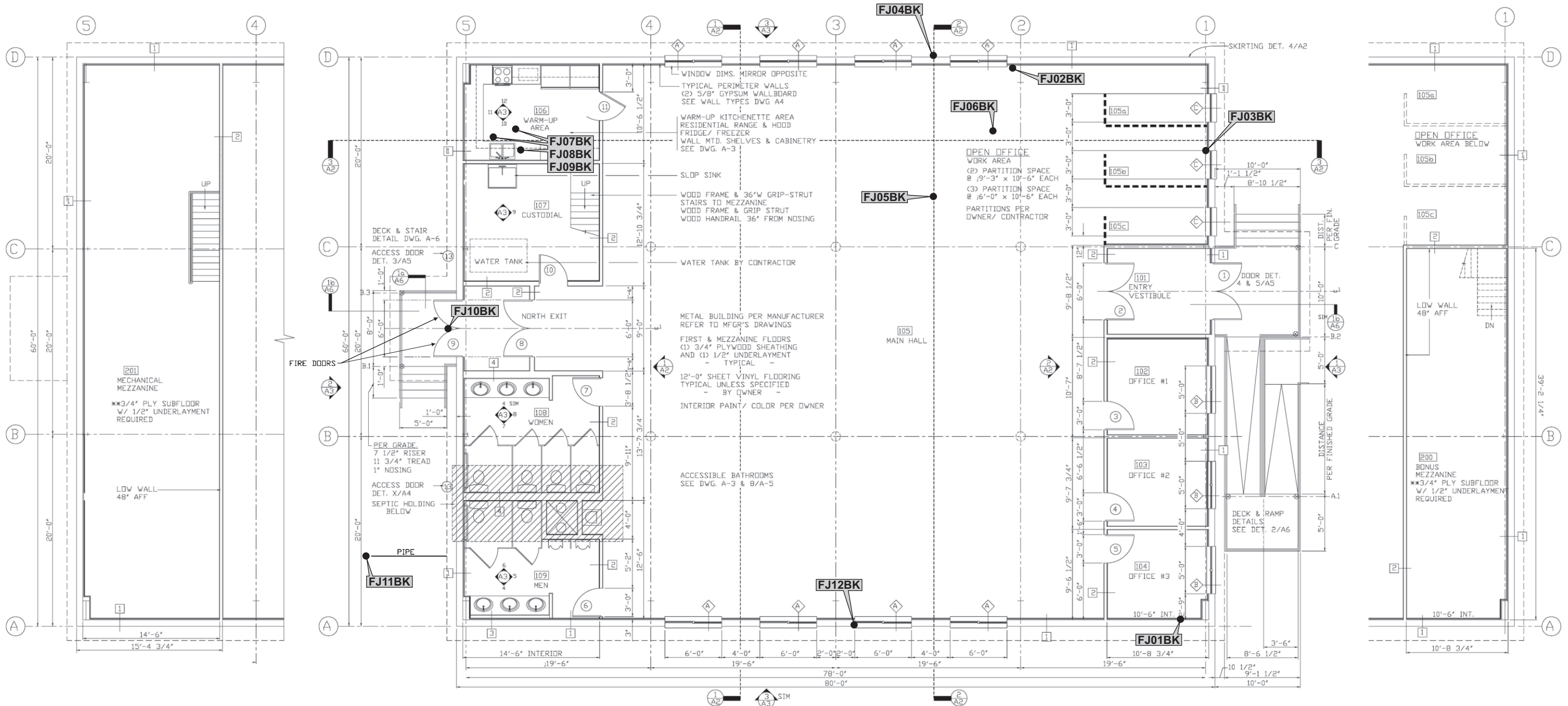
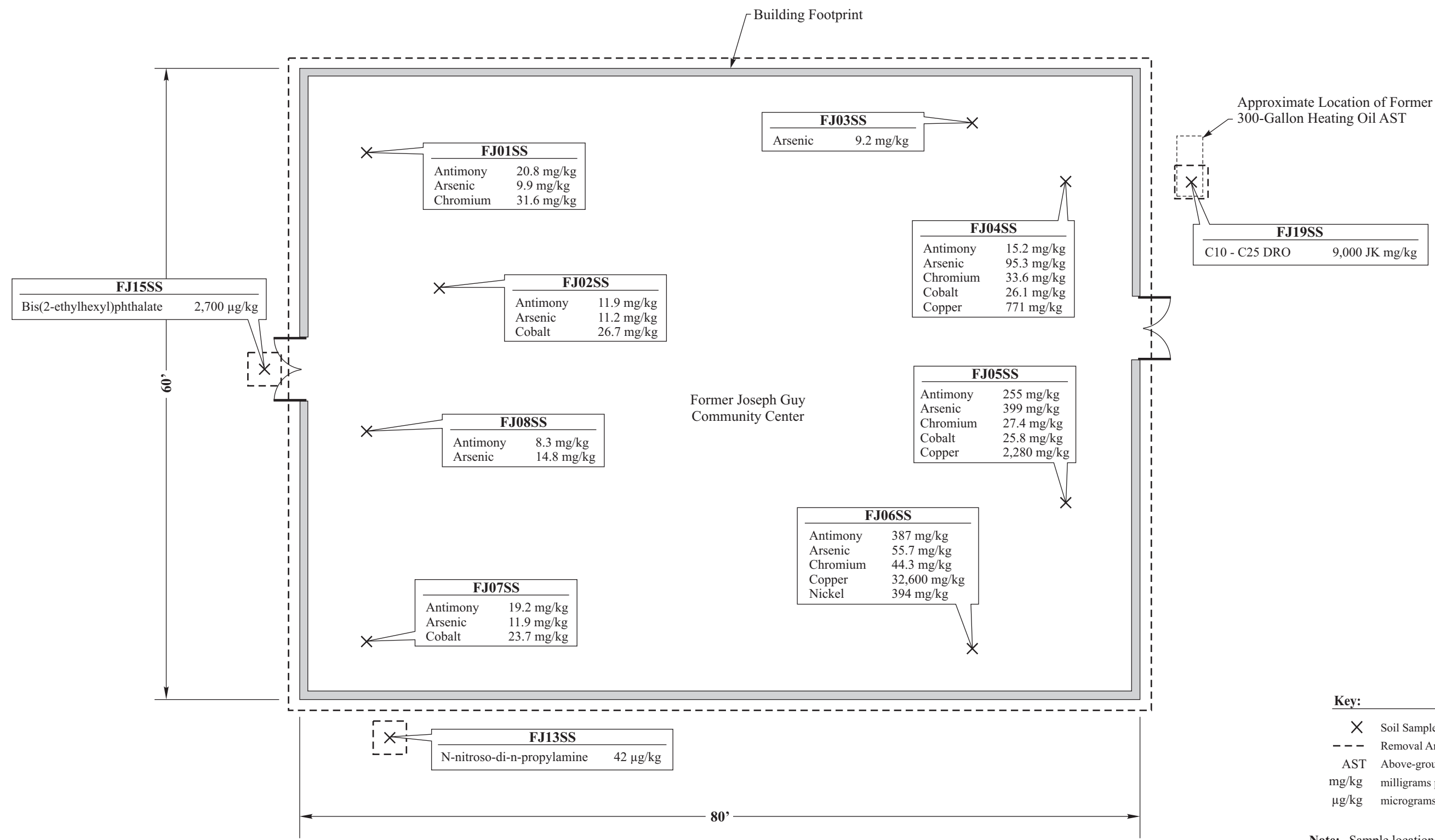


Figure 3-2
 BULK SAMPLE LOCATION MAP

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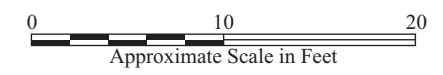
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Key:

- X Soil Sample at 0-6"
- - - Removal Area
- AST Above-ground Storage Tank
- mg/kg milligrams per kilogram
- µg/kg micrograms per kilogram

Note: Sample locations are approximate.



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Tables

Table 3-1 Sample Collection Summary

EPA Sample Number	Station	CLP Inorganic Sample ID	CLP Organic Sample ID	Matrix	Depth (inches)	Sampler	Date	Time	SVOCs by SIM	TAL Metals	Dioxins/Furans	RRO and DRO	Asbestos	Description
10234050	FJ01SS	MJCF30	JCF30	Soil	0-6	LC	6/9/2010	942	X	X	X			Dark grey ash and charred remains of burned material. Pebble size pieces of (possibly) drywall. Dry, no odor.
10234051	FJ02SS	MJCF31	JCF31	Soil	0-6	LC	6/9/2010	952	X	X	X ^a			Grey ash and burned material. Dry, no odor.
10234052	FJ03SS	MJCF32	JCF32	Soil	0-6	LC	6/9/2010	1022	X	X	X			Dark brown silty fine soil with some ash and charred remains of burned material. Damp, no odor.
10234053	FJ04SS	MJCF33	JCF33	Soil	0-6	LC	6/9/2010	1027	X	X	X ^a			Medium brown, fine sandy soil with ash. Dry, no odor.
10234054	FJ05SS	MJCF34	JCF34	Soil	0-6	LC	6/9/2010	1042	X	X	X			Mainly burned material including charred wood and dry wall with some fine silty brown soil. Rusted nails also present at sample location.
10234055	FJ06SS	MJCF35	JCF35	Soil	0-6	LC	6/9/2010	1055	X	X	X			Dark silty soil and ash intermixed with charred wood. Damp, no odor.
10234056	FJ07SS	MJCF36	JCF36	Soil	0-6	LC	6/9/2010	1122	X	X	X			Ash and burned material including charred wood and some silty soil. Dry, no odor.
10234057	FJ08SS	MJCF37	JCF37	Soil	0-6	LC	6/9/2010	1128	X	X	X ^a			Lots of multi-colored burned material, small amount of silty soil. Dry, no odor.
10234058	FJ09SS	MJCF38	JCF38	Soil	0-6	LC	6/9/2010	1226	X	X	X ^a			Medium brown, silty soil with a trace of organics. Dry, no odor.
10234059	FJ10SS	MJCF39	JCF39	Soil	0-6	LC	6/9/2010	1239	X	X	X ^a			Medium brown, silty soil with a trace of organics. Dry, no odor.
10234060	FJ11SS	MJCF40	JCF40	Soil	0-6	LC	6/9/2010	1300	X	X	X			Medium brown, silty soil. Slightly damp, no odor.
10234061	FJ12SS	MJCF41	JCF41	Soil	0-6	LC	6/9/2010	1320	X	X	X			Medium to light brown, silty soil. Trace organics, no odor.
10234062	FJ13SS	MJCF42	JCF42	Soil	0-6	LC	6/9/2010	1331	X	X	X			Medium brown, silty soil with some organics. Damp, no odor.
10234063	FJ14SS	MJCF43	JCF43	Soil	0-6	LC	6/9/2010	1340	X	X	X ^a			Medium brown, silty soil with some organics. Dry, no odor.
10234064	FJ15SS	MJCF44	JCF44	Soil	0-6	LC	6/9/2010	1406	X	X	X			Medium to dark brown, silty soil with a trace of organics. Damp, no odor.
10234065	FJ16SS	MJCF45	JCF45	Soil	0-6	LC	6/9/2010	1416	X	X	X			Dry, no odor. Geotextile liner encountered at 6 inches bgs. A co-located subsurface soil sample was not collected at this location.
10234066	FJ17SS	MJCF46	JCF46	Soil	0-6	LC	6/9/2010	1422	X	X	X ^a			Medium brown, silty soil with a trace of organics. Dry, no odor.
10234067	FJ18SS	MJCF47	JCF47	Soil	0-6	LC	6/9/2010	1431	X	X	X			Medium brown, silty soil. No organics. Dry, no odor. Geotextile liner encountered at 6 inches bgs. A co-located subsurface soil sample was not collected at this location.
10234068	FJ11SB	MJCF48	JCF48	Soil	6-12	LC	6/9/2010	1305	X	X	X ^a			Co-located with FJ11SS. Medium brown, silty soil. Slightly damp, no odor.

Table 3-1 Sample Collection Summary

EPA Sample Number	Station	CLP Inorganic Sample ID	CLP Organic Sample ID	Matrix	Depth (inches)	Sampler	Date	Time	SVOCs by SIM	TAL Metals	Dioxins/Furans	RRO and DRO	Asbestos	Description
10234069	FJ12SB	MJCF49	JCF49	Soil	6-12	LC	6/9/2010	1324	X	X	X ^a			Co-located with FJ12SS. Medium to light brown, silty soil. Trace organics, no odor.
10234070	FJ13SB	MJCF50	JCF50	Soil	6-12	LC	6/9/2010	1335	X	X	X ^a			Co-located with FJ13SS. Medium brown with grey streaks, silty soil. Trace organics. Damp, no odor.
10234071	FJ14SB	MJCF51	JCF51	Soil	6-9	LC	6/9/2010	1346	X	X	X ^a			inches bgs. Medium brown, silty soil with some organics. Dry, no odor.
10234072	FJ15SB	MJCF52	JCF52	Soil	6-8	LC	6/9/2010	1412	X	X	X ^a			Co-located with FJ15SS. Geotextile liner encountered at 8 inches bgs. Medium to dark brown, silty soil with a trace of organics. Damp, no odor.
10234073	FJ12BK		FJ12B	Bulk	NA	SH	6/9/2010	1530					X	Material from building vapor barrier.
10234074	FJ17SB	MJCF54	JCF54	Soil	6-12	LC	6/9/2010	1426	X	X	X ^a			Co-located with FJ17SS. Medium brown, silty soil with a trace of organics. Dry, no odor.
10234076	FJ01BK		FJ011	Bulk	NA	SH	6/9/2010	1445					X	Drywall with burned paper from northeast exterior corner.
10234077	FJ02BK		FJ02I	Bulk	NA	SH	6/9/2010	1448					X	Drywall from northwest interior corner wall.
10234078	FJ01WI		JCF58	Wipe	NA	LC	6/9/2010	1000			X			Wipe sample from interior wall.
10234079	FJ02WI		JCF59	Wipe	NA	LC	6/9/2010	1013			X			Wipe sample from interior wall.
10234080	FJ03WI		JCF60	Wipe	NA	LC	6/9/2010	1034			X			Wipe sample from interior wall.
10234081	FJ04WI		JCF61	Wipe	NA	LC	6/9/2010	1049			X			Wipe sample from interior wall.
10234082	FJ05WI		JCF62	Wipe	NA	LC	6/9/2010	1111			X			Wipe sample from interior wall.
10234083	FJ06WI		JCF63	Wipe	NA	LC	6/9/2010	1133			X			Wipe sample from interior wall.
10234084	FJ07WI		JCF64	Wipe	NA	LC	6/9/2010	1445			X			Wipe sample from exterior wall.
10234085	FJ08WI		JCF65	Wipe	NA	LC	6/9/2010	1453			X			Wipe sample from exterior wall.
10234086	FJ09WI		JCF66	Wipe	NA	LC	6/9/2010	1502			X			Field blank.
10234087	FJ09SB	MJCF56	JCF56	Soil	6-12	LC	6/9/2010	1230	X	X	X ^a			Co-located with FJ09SS. Medium brown, silty soil with a trace of organics. Dry, no odor.
10234088	FJ10SB	MJCF57	JCF57	Soil	6-12	LC	6/9/2010	1243	X	X	X ^a			Co-located with FJ10SS. Medium brown, silty soil with a trace of organics. Dry, no odor.
10234089	FJ19SS		FJ19S	Soil	0-6	LC	6/9/2010	1252				X		Brown silty soil with some petroleum staining. Strong petroleum odor.
10234090	FJ20SS		FJ20S	Soil	0-6	LC	6/9/2010	1258				X		Medium brown, silty soil. Dry, no staining, no odor.
10234091	FJ03BK		FJ03B	Bulk	NA	SH	6/9/2010	1450					X	Drywall from northwest interior corner wall.
10234092	FJ04BK		FJ04B	Bulk	NA	SH	6/9/2010	1458					X	Fiberglass insulation. White, fibrous with hard grey layer.
10234093	FJ05BK		FJ05B	Bulk	NA	SH	6/9/2010	1500					X	Fiberglass insulation. White/grey, fibrous with hard black layer.
10234094	FJ06BK		FJ06B	Bulk	NA	SH	6/9/2010	1505					X	Wires with insulation possibly from computers. Blue/white.
10234095	FJ07BK		FJ07B	Bulk	NA	SH	6/9/2010	1510					X	Orange charred material from janitorial/mechanical area of building.

Table 3-1 Sample Collection Summary

EPA Sample Number	Station	CLP Inorganic Sample ID	CLP Organic Sample ID	Matrix	Depth (inches)	Sampler	Date	Time	SVOCs by SIM	TAL Metals	Dioxins/Furans	RRO and DRO	Asbestos	Description
10234096	FJ08BK		FJ08B	Bulk	NA	SH	6/9/2010	1512					X	Composite of soil and ash from janitorial/mechanical area of building.
10234097	FJ09BK		FJ09B	Bulk	NA	SH	6/9/2010	1516					X	Transformer casing.
10234098	FJ10BK		FJ10B	Bulk	NA	SH	6/9/2010	1520					X	Material from inside a fire door at rear of building.
10234099	FJ11BK		FJ11B	Bulk	NA	SH	6/9/2010	1528					X	Unknown white fibrous material inside a pipe extending from the rear exterior wall of the building.

Key:

- bgs = below ground surface.
- BK = bulk sample.
- CLP = Contract Laboratory Program.
- EPA = United States Environmental Protection Agency.
- FJ = Former Joseph Guy Community Center designation.
- ID = Identification.
- LC = Linda Costello.
- NA = Not applicable.
- SB = Subsurface soil.
- SH = Steve Hall.
- SIM = Selected Ion Monitoring.
- SS = Surface soil.
- SVOCs = Semivolatile organic compounds.
- TAL = Target Analyte List.
- WI = Wipe sample.
- X = The samples was analyzed for this parameter.
- X^a = The sample aliquot was archived.

Table 3-2 Regulatory Criteria

Sample Type	Compound Name	Alaska Table B-1 Method Two Under 40 inch Zone ³			RSL Soil ¹ – Residential (mg/kg)	RAL Soil ² – Residential (mg/kg)
		Direct Contact (mg/kg)	Outdoor Inhalation (mg/kg)	Migration to Ground Water (mg/kg)		
Asbestos						
Insulation or Soil	Chrysotile	NA	NA	NA	NA	NA
Insulation or Soil	Anthophyllite asbestos	NA	NA	NA	NA	NA
Insulation or Soil	Cummingtonite-grunerite (Amosite)	NA	NA	NA	NA	NA
Insulation or Soil	Crocodolite	NA	NA	NA	NA	NA
Insulation or Soil	Tremolite	NA	NA	NA	NA	NA
Insulation or Soil	Actinolite	NA	NA	NA	NA	NA
Diesel and Residual Range Organics						
Soil	C ₆ -C ₁₀ Diesel Range Organics using AK 102	1400 ⁴	1400	300	NA	NA
Soil	C ₁₀ -C ₂₅ Diesel Range Organics using AK 102	10250 ⁴	12500	250	NA	NA
Soil	C ₂₅ -C ₃₆ Residual Range Organics	10000 ⁴	22000	11000	NA	NA
Dioxin/Furans						
Soil	2,3,7,8-TCDD	0.000047	NA	0.000058	0.0000045	0.000449
Soil	1,2,3,7,8-PeCDD	NA	NA	NA	NA	NA
Soil	1,2,3,4,7,8-HxCDD	NA	NA	NA	NA	NA
Soil	1,2,3,6,7,8-HxCDD	NA	NA	NA	NA	NA
Soil	1,2,3,7,8,9-HxCDD	NA	NA	NA	NA	NA
Soil	1,2,3,4,6,7,8-HpCDD	NA	NA	NA	NA	NA
Soil	OCDD	NA	NA	NA	NA	1.5
Soil	2,3,4,8-TCDD TEQ	0.000047	NA	0.000058	0.0000045	0.000449
Soil	2,3,7,8-TCDF	NA	NA	NA	NA	0.00373
Soil	1,2,3,7,8-PeCDF	NA	NA	NA	NA	0.0124
Soil	2,3,4,7,8-PeCDF	NA	NA	NA	NA	0.00124
Soil	1,2,3,4,7,8-HxCDF	NA	NA	NA	NA	NA
Soil	1,2,3,6,7,8-HxCDF	NA	NA	NA	NA	NA
Soil	1,2,3,7,8,9-HxCDF	NA	NA	NA	NA	NA
Soil	2,3,4,6,7,8-HxCDF	NA	NA	NA	NA	NA

Table 3-2 Regulatory Criteria

Sample Type	Compound Name	Alaska Table B-1 Method Two Under 40 inch Zone ³			RSL Soil ¹ – Residential (mg/kg)	RAL Soil ² – Residential (mg/kg)
		Direct Contact (mg/kg)	Outdoor Inhalation (mg/kg)	Migration to Ground Water (mg/kg)		
Soil	1,2,3,4,6,7,8-HpCDF	NA	NA	NA	NA	NA
Soil	1,2,3,4,7,8,9-HpCDF	NA	NA	NA	NA	NA
Soil	OCDF	NA	NA	NA	NA	1.24
Soil	2,3,4,8-TCDF TEQ	NA	NA	NA	NA	0.00373
Semivolatile Organic Compounds						
Soil	1,1'-Biphenyl	NA	NA	NA	3900	41100
Soil	1,2,4,5-Tetrachlorobenzene	NA	NA	NA	18	187
Soil	2,2'-Oxybis(1-choloropropane)	NA	NA	NA	4.6	32900
Soil	2,3,4,6-Tetrachlorophenol	NA	NA	NA	1800	18700
Soil	2,4,5-Trichlorophenol	6500	NA	67	6100	62400
Soil	2,4,6-Trichlorophenol	460	4100	1.4	44	624
Soil	2,4-Dichlorophenol	230	NA	1.3	180	1870
Soil	2,4-Dimethylphenol	1300	NA	8.8	1200	12500
Soil	2,4-Dinitrophenol	160	NA	0.54	120	1250
Soil	2,4-Dinitrotoluene	8.8	NA	0.0093	1.6	1240
Soil	2,6-Dinitrotoluene	8.9	NA	0.0094	61	626
Soil	2-Chloronaphthalene	4700	NA	120	6300	65700
Soil	2-Chlorophenol	510	2500	1.5	390	4110
Soil	2-Methylnaphthalene	280	750	6.1	310	3290
Soil	2-Methylphenol	3200	NA	15	3100	31200
Soil	2-Nitroaniline	NA	NA	NA	610	NA
Soil	2-Nitrophenol	NA	NA	NA	NA	NA
Soil	3,3'-Dicholorobenzidine	11	NA	0.19	1.1	108
Soil	3-Nitroaniline	NA	NA	NA	NA	187
Soil	4,6-Dinitro-2-methylphenol	NA	NA	NA	6.1	62.4
Soil	4-Bromophenyl-phenylether	NA	NA	NA	NA	NA
Soil	4-Chloro-3-methylphenol	NA	NA	NA	6100	NA
Soil	4-Chloroaniline	90	NA	0.057	2.4	899

Table 3-2 Regulatory Criteria

Sample Type	Compound Name	Alaska Table B-1 Method Two Under 40 inch Zone ³			RSL Soil ¹ – Residential (mg/kg)	RAL Soil ² – Residential (mg/kg)
		Direct Contact (mg/kg)	Outdoor Inhalation (mg/kg)	Migration to Ground Water (mg/kg)		
Soil	4-Chlorophenyl-phenyl ether	NA	NA	NA	NA	NA
Soil	4-Methylphenol	350	NA	1.5	310	NA
Soil	4-Nitroaniline	NA	NA	NA	24	1870
Soil	4-Nitrophenol	NA	NA	NA	NA	NA
Soil	Acenaphthene	2800	NA	180	3400	34900
Soil	Acenaphthylene	2800	NA	180	NA	NA
Soil	Acetophenone	NA	NA	NA	7800	82100
Soil	Anthracene	20600	NA	3000	17000	175000
Soil	Atrazine	NA	NA	NA	2.1	211
Soil	Benzaldehyde	NA	NA	NA	7800	82100
Soil	Benzo(a)pyrene	0.49	NA	2.1	0.015	1.48
Soil	Benzo(a)anthracene	4.9	NA	3.6	0.15	8.98
Soil	Benzo(b)fluoranthene	4.9	NA	12	0.15	8.98
Soil	Benzo(g,h,i)perylene	1400	NA	38700	NA	NA
Soil	Benzo(k)fluoranthene	49	NA	120	1.5	8.98
Soil	Bis(2-chloroethoxy)methane	NA	NA	NA	180	1870
Soil	Bis(2-chloroethyl)ether	3.3	6.2	0.0022	0.21	18.5
Soil	Bis(2-ethylhexyl)phthalate	220	NA	13	35	3470
Soil	Butylbenzylphthalate	2900	NA	920	260	25600
Soil	Caprolactam	NA	NA	NA	31000	312000
Soil	Carbazole	290	NA	6.5	NA	NA
Soil	Chrysene	490	NA	360	15	89.8
Soil	Dibenzo(a,h)anthracene	0.49	NA	4	0.015	2.63
Soil	Dibenzofuran	200	NA	11	78	NA
Soil	Diethylphthalate	61900	NA	130	49000	499000
Soil	Dimethylphthalate	773000	NA	1100	NA	NA
Soil	Di-n-butylphthalate	7900	NA	80	6100	62400
Soil	Di-n-octylphthalate	3100	NA	3800	NA	NA

Table 3-2 Regulatory Criteria

Sample Type	Compound Name	Alaska Table B-1 Method Two Under 40 inch Zone ³			RSL Soil ¹ – Residential (mg/kg)	RAL Soil ² – Residential (mg/kg)
		Direct Contact (mg/kg)	Outdoor Inhalation (mg/kg)	Migration to Ground Water (mg/kg)		
Soil	Fluoranthene	1900	NA	1400	2300	23300
Soil	Fluorene	2300	NA	220	2300	23300
Soil	Hexachlorobenzene	3.2	15	0.047	0.3	30.3
Soil	Hexachlorobutadiene	NA	NA	NA	6.2	622
Soil	Hexachlorocyclopentadiene	390	2	1.3	370	3730
Soil	Hexachloroethane	65	170	0.21	35	624
Soil	Indeno(1,2,3,-cd)pyrene	4.9	NA	41	0.15	8.98
Soil	Isophorone	5300	NA	3.1	510	51100
Soil	Naphthalene	1400	28	20	3.6	389
Soil	Nitrobenzene	51	120	0.094	4.8	411
Soil	N-Nitroso-di-n propylamine	0.52	NA	0.0011	0.069	6.94
Soil	N-Nitrosodiphenylamine	750	NA	15	99	9910
Soil	Pentachlorophenol	39	NA	0.047	.89	297
Soil	Phenanthrene	20600	NA	3000	NA	NA
Soil	Phenol	23200	NA	68	18000	187000
Soil	Pyrene	1400	NA	1000	1700	17500
TAL Metals						
Soil	Aluminum	NA	NA	NA	77000	791000
Soil	Antimony	41	NA	3.6	31	329
Soil	Arsenic	4.5	NA	3.9	0.39	38.9
Soil	Barium	20300	NA	1100	15000	164000
Soil	Beryllium	200	NA	42	160	1610
Soil	Cadmium	79	NA	5	70	729
Soil	Calcium	NA	NA	NA	NA	NA
Soil	Chromium	300	NA	25	0	27600
Soil	Cobalt	NA	NA	NA	23	244
Soil	Copper	4100	NA	460	3100	NA
Soil	Iron	NA	NA	NA	55000	575000

Table 3-2 Regulatory Criteria

Sample Type	Compound Name	Alaska Table B-1 Method Two Under 40 inch Zone ³			RSL Soil ¹ – Residential (mg/kg)	RAL Soil ² – Residential (mg/kg)
		Direct Contact (mg/kg)	Outdoor Inhalation (mg/kg)	Migration to Ground Water (mg/kg)		
Soil	Lead	400	NA	NA	400	NA
Soil	Magnesium	NA	NA	NA	NA	NA
Soil	Manganese	NA	NA	NA	1800	NA
Soil	Mercury	30	18	1.4	5.6	20
Soil	Nickel	2000	NA	86	1500	16400
Soil	Potassium	NA	NA	NA	NA	NA
Soil	Selenium	510	NA	3.4	390	4110
Soil	Silver	510	NA	11.2	390	4110
Soil	Sodium	NA	NA	NA	NA	NA
Soil	Thallium	8.1	NA	1.9	NA	53.2
Soil	Vanadium	710	NA	3400	5.5	NA
Soil	Zinc	30400	NA	4100	23000	246000
Soil	Cyanide	2000	NA	27	1600	16400

Key:
 AK = Alaska.
 mg/kg = milligram per kilogram.
 NA = Not available.
 RAL = Removal Action Level.
 RSL = Regional Screening Level.
 TAL = Target Analyte List.
 TEQ = Toxic Equivalency.

Notes:
 1 – USEPA Regional Screening Levels (December 2010).
 2 – USEPA Removal Action Levels (September 16, 2008).
 3 – ADEC Soil Cleanup Levels (January, 2009).
 4 – These values are based on ingestion not direct contact.

Table 3-3 Soil Samples Analytical Data Summary

EPA Sample ID Station Location ID CLP Sample ID Depth	Regulatory Standard Applied	10234050 FJ01SS MJCF30 0 - 6"	10234051 FJ02SS MJCF31 0 - 6"	10234052 FJ03SS MJCF32 0 - 6"	10234053 FJ04SS MJCF33 0 - 6"	10234054 FJ05SS MJCF34 0 - 6"	10234055 FJ06SS MJCF35 0 - 6"	10234056 FJ07SS MJCF36 0 - 6"	10234057 FJ08SS MJCF37 0 - 6"	10234058 FJ09SS MJCF38 0 - 6"	10234059 FJ10SS MJCF39 6 - 12"	10234058 FJ11SS MJCF40 6 - 12"	10234060 FJ12SS MJCF41 0 - 6"	10234068 FJ13SS MJCF42 0 - 6"	10234061 FJ14SS MJCF43 6 - 12"	10234062 FJ15SS MJCF44 0 - 6"	10234070 FJ16SS MJCF45 6 - 12"	10234063 FJ17SS MJCF46 0 - 6"	10234071 FJ18SS MJCF47 6 - 9"	10234064 FJ19SS MJCF48 0 - 6"	10234072 FJ20SS MJCF49 6 - 8"	10234065 FJ21SS MJCF50 0 - 6"	10234066 FJ22SS MJCF51 0 - 6"	10234074 FJ23SS MJCF52 6 - 12"	10234067 FJ24SS MJCF53 0 - 6"	10234089 FJ25SS MJCF54 0 - 6"	10234090 FJ26SS MJCF55 0 - 6"		
TAL Metals (mg/kg)																													
Aluminum	77000 ^d	5220	6240	9520	5200	8450	2340	7560	5780	9440	12300	9390	9640	9190	9820	10200	10700	9440	10500	9740	11100	8620	9580	8900	8950	10400	8980		
Antimony	3.6 ^e	20.8	11.9	1.3 JQ	15.2	255	387	19.2	8.3	3.8 U	4.2 U	4.0 U	3.8 U	4.2 U	1.2 JQ	4.0 U	4.1 U	3.9 U	3.9 U	4.1 U	4.4 U	3.9 U	3.9 U	4.2 U	4.2 U	4.1 U			
Arsenic	3.9 ^e	9.9	11.2	9.2	95.3	399	55.7	11.9	14.8	9.0	10.2	8.5	8.0	8.0	9.9	9.4	9.4	8.3	9.7	8.8	10.2	7.7	8.3	7.5	7.9	9.8	7.9		
Barium	1100 ^e	116	155	100	150	183	123	158	150	112	143	103	109	98.1	120	114	119	105	126	112	130	91.6	113	98.4	102	120	100		
Cadmium	5 ^e	0.77	1.2	0.30 JQ	0.96	2.3	1.2	0.57 JQ	0.57 JQ	0.30 JQ	0.35 JQ	0.29 JQ	0.29 JQ	0.30 JQ	0.28 JQ	0.32 JQ	0.33 JQ	0.29 JQ	0.37 JQ	0.41 JQ	0.36 JQ	0.28 JQ	0.28 JQ	0.26 JQ	0.28 JQ	0.31 JQ	0.29 JQ		
Calcium	NA	126000	133000	11900	182000	200000	156000	180000	138000	2600	3110	2580	2460	2340	2710	2740	2710	2700	2780	2400	2750	2510	2410	2330	2390	2540	2410		
Chromium	25 ^e	31.6	24.1	19.8	33.6	27.4	44.3	19.8	16.4	20.0	24.7	19.9	19.6	20.4	20.5	20.7	21.8	20.4	21.3	20.6	22.2	18.5	19.4	18.8	19.2	21.7	19.2		
Cobalt	23 ^d	19.7	26.7	9.8	26.1	25.8	10.9	23.7	19.7	9.6	11.4	9.6	9.2	9.1	9.7	10	11.5	9.4	10.3	10.5	10.7	8.6	9.6	9.1	9.3	10.1	9.2		
Copper	460 ^e	405	292	25.8	771	2280	32600	204	189	20.8	22.1	18.5	16.5	19.9	110	18.0	18.9	20.4	18.8	20.3	19.5	21.2	16.3	16.9	17.8	18.4	18.4		
Iron	55000 ^d	98600	50800	19400	69900	66900	94700	26100	26400	19400	23400	19400	19000	18900	20600	20400	21400	19400	20600	20400	22000	17900	19100	18400	18400	20600	18300		
Lead	400 ^a	27.1	27.7	6.3	19.0	81.8	66.6	47.4	10.8	5.3	8.1	5.0	6.0	4.6	6	7.1	6.9	5.7	7.1	5.7	7.3	5.3	6.2	4.6	4.9	6.8	4.9		
Magnesium	NA	2380	3210	5610	2450	1740	2310	10600	2970	4290	5290	4260	4200	4420	4530	4350	4680	4260	4430	4480	4760	4210	4290	4140	4150	4490	4180		
Manganese	1800 ^d	985 JL	668 JL	326 JL	617 JL	740 JL	525 JL	466 JL	454 JL	358 JL	388 JL	367 JL	347 JL	328 JL	396 JL	377 JL	394 JL	343 JL	412 JL	492 JL	420 JL	336 JL	344 JL	331 JL	332 JL	384 JL	329 JL		
Mercury	1.4 ^e	0.052 JQ	0.075 JQ	0.056 JQ	0.036 JQ	0.14 U	0.13 U	0.14 U	0.93	0.12	0.13	0.11 JQ	0.10 JQ	0.11 JQ	0.15	0.12	0.11 JQ	0.13	0.16	0.18	0.12	0.12	0.11 JQ	0.16	0.12	0.10 JQ	0.11 JQ		
Nickel	86 ^e	22.7	19.3	23.0	19.5	22.5	394	11.0	14.8	24.4	29.9	24.2	23.4	23.6	26.3	25.5	26.7	24.1	26.1	27.2	27.2	23.8	23.1	23.4	25.2	23.5			
Potassium	NA	505 JQ	859	749	721	442 JQ	448 JQ	435 JQ	536 JQ	667	828	672	689	709	658	678	757	665	732	720	787	779	766	624	647	750	657		
Silver	11.2 ^e	7.9	1.1 U	1.2 U	1.2 U	1.4 U	1.3 U	1.4 U	1.4 U	1.0 U	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U		
Sodium	NA	794	1460	259 JQ	2520	967	596 JQ	1110	473 JQ	524 U	589 U	557 U	527 U	578 U	604 U	557 U	560 U	573 U	543 U	548 U	565 U	605 U	541 U	536 U	583 U	586 U	568 U		
Vanadium	710 ^a	10.8	12.5	28.2	9.7	7.5	2.6 JQ	8.7	15.9	29.5	37.0	29.6	29.3	28.9	30.0	30.7	32.7	29.7	32.0	30.6	33.6	27.7	29.6	28.1	28.5	33.2	28.1		
Zinc	4100 ^e	1820	6310	611	2290	2690	1570	1250	911	74.7	76.3	66.3	64.1	107	73.4	64.0	66.9	64.5	66.2	69.6	68.8	135	66.4	64.3	61.8	64.3	76.8		
Diesel Range and Residual Range Organics (mg/kg)																													
C10 - C25 DRO	250 ^e																											9000 JK	220 JK
C25 - C36 RRO	10000 ^a																											190 JH	110 U
Dioxins/Furans (ng/kg)																													
2,3,7,8-TCDD	47 ^a	2.33		0.119 U		1.35 U	1.84	2.25 U					0.061 JQ		0.092 U			0.0483 U				0.097 U			0.0959 U			0.056 U	
1,2,3,7,8-PeCDD	NA	5.89		0.269 U		4.27 JQ	5.82	4.60 JQ					0.058 JQ		0.074 JQ			0.084 U				0.660 JQ			0.0564 U			0.155 JQ	
1,2,3,4,7,8-HxCDD	NA	5.80		0.376 JQ		4.53 JQ	5.11 JQ	2.37 U					0.0464 U		0.088 JQ			0.168 JQ				1.84 JQ			0.117 U			0.293 U	
1,2,3,6,7,8-HxCDD	NA	9.47		0.771 U		8.20	8.07	4.66					0.102 U		0.129 U			0.400 JQ				4.66 JQ			0.175 U			0.560 JQ	
1,2,3,7,8,9-HxCDD	NA	14.6		0.714 U		14.1	13.2	7.58					0.115 JQ		0.118 JQ			0.328 U				4.09 JQ			0.289 U			0.625 JQ	
1,2,3,4,6,7,8-HpCDD	NA	92.7		14.0 JQ		64.8	58.5	49.2					2.97 JQ		1.37 JQ			11.9				127			5.38			15.5	
OCDD	NA	631		125 JQ		304	308	309					35.3		14.3			97.5				1030			47.9			151	
2,3,7,8-TCDD TEQ	47 ^a	12.3		2.1		9.0	11.0	8.9					0.2		0.4			3.4				0.3			0.6				
2,3,7,8-TCDF	3730 ^e	116		3.30 JQ		66.9	83.9	61.1					0.294 U		0.509 JQ			0.507 JQ				0.809 JQ			0.559 JQ			1.51	
1,2,3,7,8-PeCDF	12400 ^e	12.7		0.579 U		9.49	15.9	6.33					0.055 JQ		0.116 JQ			0.086 U				0.184 JQ			0.115 U			0.179 U	
2,3,4,7,8-PeCDF	1240 ^e	30.4		0.893 JQ		18.7	23.6	8.57					0.107 U		0.255 U			0.218 U				0.543 U			0.113 U			0.422 U	
1,2,3,4,7,8-HxCDF	NA	16.3		0.763 JQ		19.3	25.1	7.70					0.0464 U		0.086 JQ			0.086 JQ				1.18 JQ			0.110 U			0.260 JQ	
1,2,3,6,7,8-HxCDF	NA	18.4		0.920 JQ		20.6	23.6	6.63					0.073 U		0.087 U			0.068 U				0.687 JQ			0.131 JQ			0.231 U	
2,3,4,6,7,8-HxCDF	NA	35.0		0.756 JQ		31.6	22.5	6.09					0.057 JQ		0.083 JQ			0.073 U				0.533 JQ			0.102 U			0.211 JQ	
1,2,3,4,6,7,8-HpCDF	NA	75.1		5.06		114	90.3	15.7					1.09 JQ		0.472 U			2.07 JQ				21.2			1.78 JQ			3.24 JQ	
1,2,3,4,7,8,9-HpCDF	NA	6.94		0.689 JQ		12.5	9.60	3.64 U					0.123 U		0.068 U			0.227 JQ				2.36 JQ			0.180 U			0.282 U	
OCDF	1240000 ^e	76.9		14.4		70.6	50.0	2.72 JQ					6.10 JQ		1.51 JQ			11.4				101			7.87 JQ			15.7	
2,3,7,8-TCDF TEQ	3730 ^e	29		0.9		21.2	24.3	11.2					0.1		0.2			0.2				0.8			0.2			0.4	
Semi-Volatile Organic Compounds (µg/kg)																													
Naphthalene	20000 ^e	190 JQ	2400	200 U	200 U	240 U	46 JQ	75 JQ	230 U	180 U	180 U	190 U	190 U	200 U	200 U	190 U	190 U	190 U	190 U	200 U	190 U	190 U	210 U	200 U	180 U	200 U	200 U	190 U	
Bis(2-ethylhexyl)phthalate	1300 ^e	330	1900 U	200 U	200 U	240 U	89 JQ	870	230 U	160 JQ	180 U	290	190 U	200 U	110 JQ	720	190 U	190 U	44 JQ	200 U	52 JQ	190 U	2700	56 JQ	180 U	40 JQ	200 U		

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Table 3-4 Summary of Criteria Value Exceedances

Analyte	Range of Detected Concentrations	Frequency of Detection	Frequency of Exceedance of Criteria Values	Criteria Value
TAL Metals (mg/kg)				
Antimony	8.3 – 387	5/26	5/26	3.6 ^a
Arsenic	7.5 - 399	26/26	8/26	3.9 ^a
Chromium	16.4 – 44.3	26/26	4/26	25 ^a
Cobalt	8.6 – 26.7	26/26	4/26	23 ^b
Copper	16.3 – 32,600	26/26	4/26	460 ^a
Nickel	11.0 - 394	26/26	1/26	86 ^a
Semivolatile Organic Compounds (µg/kg)				
Bis(2-ethylhexyl)phthalate	290 – 2,700	5/26	1/26	1,300 ^a
N-nitroso-di-n-propylamine	42	1/26	1/26	1.1 ^a
Diesel Range Organics (mg/kg)				
C10 – C25 RRO	9,000	1/2	1/2	250 ^a

Notes:

a - ADEC Soil Cleanup Levels, Method Two, Under 40 inch Zone, Migration to Ground Water.

b - EPA Regional Screening Levels, Soil, Residential.

Key:

ADEC = Alaska Department of Environmental Conservation.

EPA = United States Environmental Protection Agency.

µg/kg = micrograms per kilogram.

mg/kg = milligrams per kilogram.

RRO = Residual Range Organics.

RSL = Regional Screening Level.

Table 4-1 Cleanup Options and Rationale

Cleanup Option	Rationale
<i>Option 1, Scenario 1: Hazardous Waste Disposal</i>	If disposal profile sampling reveals soils must be disposed as hazardous waste, excavate the contaminated soil and transport it via barge to a RCRA Subtitle C landfill for disposal. Recycle all scrap metal.
<i>Option 1, Scenario 2: Non-Hazardous Waste Disposal</i>	If disposal profile sampling reveals soils can be disposed as non-hazardous waste, excavate the contaminated soil and transport it via barge to a RCRA Subtitle D landfill for disposal. Recycle all scrap metal.

Table 4-2 Preliminary Cost Estimate for Cleanup Options

Cleanup Option	Description	Estimated Cost	
<i>Option 1, Scenario 1: Hazardous Waste Disposal</i>	Construction Contractor Mobilization/Demobilization	\$18,000	
	Disposal Contractor Mobilization/Demobilization	\$1,741	
	Demolition of Building	\$10,463	
	Excavation	\$520	
	8CY Haul Truck	\$3,139	
	Backfill, stockpiled onsite	\$6,356	
	Placement and Compaction of Backfill	\$3,139	
	Transportation and Disposal (Barge)	\$266,952	
	Transportation and Disposal (Labor)	\$5,030	
	Transportation and Disposal (Drums)	\$400	
	Transportation of Scrap Metal for Recycling	\$8,207	
	Field Technicians (2)	\$6,800	
	Construction Summary Report	\$3,000	
	X-Ray Fluorescence (XRF), rental	\$76	
	Photoionization Detector (PID), rental	\$38	
	Arsenic Confirmation Sampling	\$4,760	
	DRO Confirmation Sampling	\$260	
	Construction Contingency (15%)	\$50,840	
	Subtotal:	\$382,850	
	Project Management (6%)	\$22,980	
	Construction Management (8%)	\$30,630	
	Subtotal:	\$53,610	
	Total:	\$436,500	
	<i>Option 1, Scenario 2: Non-Hazardous Waste Disposal</i>	Construction Contractor Mobilization/Demobilization	\$18,000
		Disposal Contractor Mobilization/Demobilization	\$1,741
		Demolition of Building	\$10,463
		Excavation	\$520
8CY Haul Truck		\$3,139	
Backfill, stockpiled onsite		\$6,356	
Placement and Compaction of Backfill		\$3,139	
Transportation and Disposal (Barge)		\$220,553	
Transportation and Disposal (Labor)		\$5,030	
Transportation and Disposal (Drums)		\$400	
Transportation of Scrap Metal for Recycling		\$8,207	
Field Technicians (2)		\$6,800	
Construction Summary Report		\$3,000	
X-Ray Fluorescence (XRF), rental		\$76	
Photoionization Detector (PID), rental		\$38	
Arsenic Confirmation Sampling		\$4,760	
DRO Confirmation Sampling		\$260	
Construction Contingency (15%)		\$43,880	
Subtotal:		\$329,490	
Project Management (6%)		\$19,770	
Construction Management (8%)		\$26,360	
Subtotal:		\$46,130	
Total:	\$375,700		

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A

Photographic Documentation



Photo 1 Interior of burned community center.

Direction: South Date: 10/15/09 Time: 14:34



Photo 2 Corner post under community center.

Direction: South Date: 10/15/09 Time: 14:36



Photo 3 Interior of burned community center facing west.

Direction: West Date: 10/15/09 Time: 14:37



Photo 4 Interior of burned community center facing west showing dirt exposed after the floor burned.

Direction: West Date: 10/15/09 Time: 14:37



Photo 5 Interior of building showing exposed dirt.

Direction: West

Date: 10/15/09

Time: 14:45



Photo 6 South end of building interior. Large, square metal frames are the remains of the building's furnace which prior to the fire was on the second level.

Direction: West

Date: 10/15/09

Time: 14:47



Photo 7 Remaining, metal ceiling. All insulation is gone from the ceiling.

Direction: West

Date: 10/15/09

Time: 14:50



Photo 8 Burned wall insulation.

Direction: South

Date: 10/15/09

Time: 14:52



Photo 9 South end of building.

Direction: Northwest Date: 10/15/09 Time: 14:53



Photo 10 Location of former above ground storage tank. Fuel line is still present.

Direction: Northwest Date: 10/15/09 Time: 14:55



Photo 11 Exterior electrical box on southern end of building.

Direction: North Date: 10/15/09 Time: 14:59



Photo 12 Metal buckets in the kitchen area. Boiler was above this location.

Direction: Down Date: 10/15/09 Time: 15:00



Photo 13 West side of building.

Direction: North

Date: 10/15/09

Time: 15:03



Photo 14 Under the southwest end of the building.

Direction: East

Date: 10/15/09

Time: 15:08



Photo 15 Styrofoam under the west end of the building used to help level the foundation.

Direction: East

Date: 10/15/09

Time: 15:09



Photo 16 Interior of the building pictured from the west side.

Direction: East

Date: 10/15/09

Time: 15:13



Photo 17 Interior of the building pictured from the west side.

Direction: Southeast Date: 10/15/09 Time: 15:15



Photo 18 Two small tribal rentals. These were present when the fire occurred.

Direction: Northeast Date: 10/15/09 Time: 15:18



Photo 1 Location of soil samples FJ09SS/FJ09SB.

Direction: Northeast

Date: 6/9/10 Time: 12:26



Photo 2 Location of soil samples FJ10SS/FJ10SB.

Direction: Northeast

Date: 6/9/10 Time: 12:39



Photo 3 Sample FJ19SS, an oil-stained soil sample collected near the former AST location.

Direction: Down

Date: 6/9/10 Time: 12:57



Photo 4 Location of soil samples FJ11SS/FJ11SB.

Direction: Northwest

Date: 6/9/10 Time: 13:05

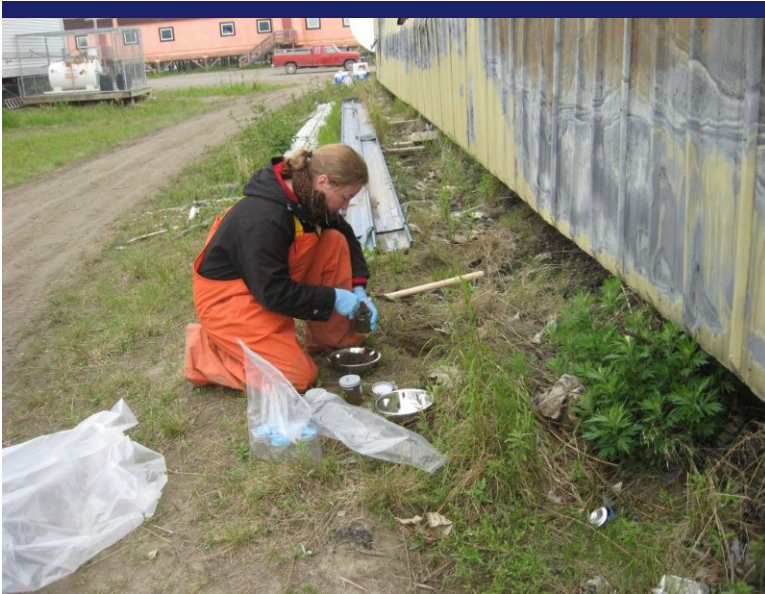


Photo 5 Location of soil samples FJ12SS/FJ12SB with school in the background.

Direction: North

Date: 6/9/10 Time: 13:20

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B

Sample Plan Alteration Form

SAMPLE PLAN ALTERATION FORM

Project Name and Number: Former Joseph Guy Community Center, TDD 09-09-0002

Material to be Sampled:

Surface soil inside the burned community center and subsurface soil outside this building.

Measurement Parameters:

Four surface soil samples were to be collected inside the building with aliquots for Target Analyte List (TAL) metals, semivolatile organic compounds (SVOCs), and dioxin/furans archived for possible analysis at a later date.

Standard Procedure for Field Collection and Laboratory Analysis (cite references):

Soil sampling standard operating procedures.

Reason for Change in Field Procedure or Analytical Variation:

The TAL metals and SVOCs aliquots were not archived and instead were analyzed to provide more information regarding the material inside the burned community center. The dioxin/furan aliquot was archived as originally planned. Also, two subsurface soil samples could not be collected due to the presence of a geotextile membrane overlaying Styrofoam in exterior areas of the building. Further, some subsurface soil samples that were intended to be collected from 6 to 12 inches below ground surface had depths of less than 12 inches for this same reason.

Variation from Field or Analytical Procedure:

All surface soil samples collected inside the burned community center were analyzed for TAL metals and SVOCs. Two subsurface soil samples were not collected and a few did not reach the proposed 12 inch sample depth.

Special Equipment, Materials, or Personnel Required:

None.

CONTACT	APPROVED SIGNATURE	DATE
Initiator: Linda Costello		6/14/10
START PL: Linda Costello		6/14/10
EPA TM: Joanne LaBaw		2/3/11
EPA QA Manager : Gina Grepa-Grove		02/03/2011

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C

**Global Positioning System
Coordinates**

Global Positioning System Sample Coordinates

Sample Number	Sample Description	Sample Date	Latitude	Longitude	Notes
FJ01SS	Surface soil	6/9/2010	60.81001 N	161.42339 W	Offset 5 feet to the south.
FJ02SS	Surface soil	6/9/2010	60.81005 N	161.42342 W	Offset 10 feet to the south.
FJ03SS	Surface soil	6/9/2010	60.80990 N	161.42339 W	Offset 6 feet to the south.
FJ04SS	Surface soil	6/9/2010	60.80991 N	161.42343 W	Offset 6 feet to the south.
FJ05SS	Surface soil	6/9/2010	60.80982 N	161.42363 W	
FJ06SS	Surface soil	6/9/2010	60.80989 N	161.42377 W	Offset 5 feet to the north.
FJ07SS	Surface soil	6/9/2010	60.81007 N	161.42372 W	
FJ08SS	Surface soil	6/9/2010	60.81010 N	161.42369 W	Offset 3 feet to the east.
FJ09SS	Surface soil	6/9/2010	60.80976 N	161.42381 W	
FJ10SS	Surface soil	6/9/2010	60.80981 N	161.42331 W	
FJ19SS	Surface soil	6/9/2010	60.80980 N	161.42346 W	
FJ20SS	Surface soil	6/9/2010	60.80973 N	161.42346 W	
FJ11SS	Surface soil	6/9/2010	60.80989 N	161.42355 W	
FJ12SS	Surface soil	6/9/2010	60.80991 N	161.42381 W	
FJ13SS	Surface soil	6/9/2010	60.81004 N	161.42366 W	
FJ14SS	Surface soil	6/9/2010	60.81007 N	161.42372 W	
FJ15SS	Surface soil	6/9/2010	60.80993 N	161.42336 W	
FJ16SS	Surface soil	6/9/2010	60.81002 N	161.42348 W	
FJ17SS	Surface soil	6/9/2010	60.81005 N	161.41690 W	
FJ18SS	Surface soil	6/9/2010	60.80984 N	161.42326 W	
FJ09SB	Subsurface soil	6/9/2010	60.80976 N	161.42381 W	
FJ10SB	Subsurface soil	6/9/2010	60.80981 N	161.42331 W	
FJ11SB	Subsurface soil	6/9/2010	60.80989 N	161.42355 W	
FJ12SB	Subsurface soil	6/9/2010	60.80991 N	161.42381 W	
FJ13SB	Subsurface soil	6/9/2010	60.81004 N	161.42366 W	
FJ14SB	Subsurface soil	6/9/2010	60.81007 N	161.42372 W	
FJ15SB	Subsurface soil	6/9/2010	60.80993 N	161.42336 W	
FJ17SB	Subsurface soil	6/9/2010	60.81005 N	161.41690 W	
FJ01WI	Wipe	6/9/2010	60.81001 N	161.42339 W	Near FJ01SS.
FJ02WI	Wipe	6/9/2010	60.81001 N	161.42351 W	
FJ03WI	Wipe	6/9/2010	60.80991 N	161.42334 W	
FJ04WI	Wipe	6/9/2010	60.80982 N	161.42368 W	Offset 3 feet to the east.
FJ05WI	Wipe	6/9/2010	60.80989 N	161.43281 W	Offset 2 feet to the north.
FJ06WI	Wipe	6/9/2010	60.81006 N	161.42377 W	Offset 1 foot to the west.
FJ07WI	Wipe	6/9/2010	60.81006 N	161.42377 W	
FJ08WI	Wipe	6/9/2010	60.81001 N	161.42348 W	
FJ09WI	Wipe	6/9/2010	NA	NA	Field Blank

Key:

N = North.

NA = Not applicable.

W = West.

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D

**Quality Assurance/Quality Control
and Data Validation Memoranda**



ecology and environment, inc.

International Specialists in the Environment

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MEMORANDUM

DATE: October 6, 2010

TO: Linda Costello, START-3 Project Manager, E & E, Seattle, Washington

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Data Summary Check,
Former Joseph Guy Community Center Site, Kwethluk, Alaska**

REF: TDD: 09-09-0002 PAN: 002233.0486.01BA

The data summary check of 19 soil samples collected from the Former Joseph Guy Community Center site located in Kwethluk, Alaska, has been completed. Semivolatile organic compound (SVOC) and SVOC-selective ion monitoring (SIM) analyses were performed by A4 Scientific, Inc., The Woodlands, Texas.

The samples were numbered:

JCF30 JCF31 JCF32 JCF33 JCF34 JCF35 JCF36 JCF37 JCF38 JCF39
JCF40 JCF41 JCF42 JCF43 JCF44 JCF45 JCF46 JCF47 JCF48

No discrepancies were noted. The secondary reviewer add the "Q" bias qualifier to "J"-qualified sample results to indicate that the results were estimated and less than the contract required quantitation limits.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Date: October 6, 2010

Reply to:
Attn of: OEA-095

MEMORANDUM

Subject: Data Validation Report for the Semivolatile Organic (SVOC/SIM) analyses of soil samples collected from the Former Joseph Guy Community Center Site
Case Number: 40216 SDG: JCF30

From: Raymond Wu, QA Chemist *R 10/6/10*
Office of Environmental Assessment (OEA - 095), USEPA Region 10

To: Joanne Labaw, Task Monitor
Office of Environmental Clean-up (ECL - 112), USEPA Region 10

CC: Linda Costello, Start 3 Project Leader
Ecology & Environment, Inc.

The quality assurance (QA) review of the analytical data generated from the analysis of 19 soil samples collected from the above referenced site has been completed. These samples were analyzed for SVOC / SIM (under MA 1957.0) in accordance with the USEPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Multi-Media, Multi-Concentration Organic Analyses (SOM01.2) by A4 Scientific located in The Woodlands, Texas.

All sample analyses were evaluated following EPA's Stage 2B Data Validation Electronic/Manual Process (S2BVEM). The validations were conducted and appropriate qualifiers were applied according to the Quality Control Specifications outlined in the Quality Assurance Project Plan for Former Joseph Guy Community Center Site in Kwethluk, Alaska, dated May, 2010, the technical specifications of USEPA CLP SOW for Organic Data Review, the Contract Laboratory Program's National Functional Guidelines for Organic Data Review, the Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use (EPA-540-R08-005). Some of the data quality elements might be qualified based on the professional judgment of the reviewer.

A summary of samples evaluated in this validation report and the pertinent dates for sample collection, sample receipt at the laboratory, extraction and analyses is listed in Sample Index Table found at the end of this report.

The conclusions presented herein are based on the information provided for the review.

I. DATA QUALIFICATIONS

Summary of Validation Qualifiers Applied:

After the S2VEM data review, the following data points were qualified:

Initial Calibration		BNA
BC5	The following semivolatile samples are associated with an initial calibration percent relative standard deviation (%RSD) outside criteria. Detected compounds are qualified J. Nondetected compounds are not qualified. Use professional judgement to qualify non-detected compounds.	
	JCF30, JCF31, JCF32, JCF33, JCF34, JCF35, JCF36, JCF37, JCF38, JCF39, JCF40, JCF41, JCF41MS, JCF41MSD, JCF42, JCF43, JCF44, JCF45, JCF46, JCF47, JCF48, SBLK2W, SBLK2WRE	
	Indeno (1,2,3-cd) pyrene SSTD0052M, SSTD0055X	
	JCF30, JCF31, JCF32, JCF33, JCF34, JCF35, JCF36, JCF37, JCF38, JCF39, JCF40, JCF41, JCF41MS, JCF41MSD, JCF42, JCF43, JCF44, JCF45, JCF46, JCF47, JCF48, SBLK2W, SBLK2WRE	
	Benzo (k) fluoranthene SSTD0052M	
	JCF30, JCF35, SBLK2WRE	
	Dibenzo (a,h) anthracene SSTD0055X	
	JCF31, JCF32, JCF33, JCF34, JCF36, JCF37, JCF38, JCF39, JCF40, JCF41, JCF41MS, JCF41MSD, JCF42, JCF43, JCF44, JCF45, JCF46, JCF47, JCF48, SBLK2W	
	Pentachlorophenol SSTD0052M	
	JCF30, JCF35, SBLK2WRE	
	2-Methylnaphthalene SSTD0052M	
	JCF30, JCF35, SBLK2WRE	
Continuing Calibration Verification		BNA
BC84	The following semivolatile samples are associated with an opening CCV percent difference (%D) exceeding the lower technical acceptance criteria. Detected compounds are qualified J. Nondetected compounds are qualified UJ.	
	Pentachlorophenol JCF32, JCF33, JCF34, JCF36, JCF38, JCF39, JCF40, JCF41, JCF42, SBLK2W	
	JCF32, JCF33, JCF34, JCF36, JCF38, JCF39, JCF40, JCF41, JCF42, SBLK2W	
Continuing Calibration Verification		BNA
BC84	The following semivolatile samples are associated with an opening CCV percent difference (%D) greater than the upper technical acceptance criteria. Detected compounds are qualified J. Nondetected compounds are not qualified.	
	JCF30, JCF31, JCF37, JCF41MS, JCF41MSD, JCF43, JCF44, JCF45, JCF46, JCF47, JCF48	
	4-Bromophenyl-phenylether JCF31, JCF37, JCF41MS, JCF41MSD, JCF43, JCF44, JCF45, JCF46, JCF47, JCF48	
	JCF31, JCF37, JCF41MS, JCF41MSD, JCF43, JCF44, JCF45, JCF46, JCF47, JCF48	
	Indeno (1,2,3-cd) pyrene JCF30, JCF31, JCF37, JCF41MS, JCF41MSD, JCF43, JCF44, JCF45, JCF46, JCF47, JCF48	
	JCF30, JCF31, JCF37, JCF41MS, JCF41MSD, JCF43, JCF44, JCF45, JCF46, JCF47, JCF48	
	N-Nitroso-di-n-propylamine JCF31, JCF37, JCF41MS, JCF41MSD, JCF43, JCF44, JCF45, JCF46, JCF47, JCF48	
	JCF31, JCF37, JCF41MS, JCF41MSD, JCF43, JCF44, JCF45, JCF46, JCF47, JCF48	
	Pentachlorophenol JCF31, JCF37, JCF41MS, JCF41MSD, JCF43, JCF44, JCF45, JCF46, JCF47, JCF48	
	JCF31, JCF37, JCF41MS, JCF41MSD, JCF43, JCF44, JCF45, JCF46, JCF47, JCF48	

Data Qualifiers

The following is a list of validation qualifiers applied to the sample result(s) when needed to indicate associated out-of-control QA/QC results.

Data Qualifiers	
U	The analyte was not detected at or above the reported result.
J	The analyte was positively identified. The associated numerical result is an estimate.
UJ	The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.
R	The data are unusable for all purposes.
N	There is evidence the analyte is present in this sample.
JN	There is evidence that the analyte is present. The associated numerical result is an estimate.

For site assessment and investigations, the following bias qualifiers are applied to the data in addition to the above data qualifiers when necessary to allow for data analysis and interpretation using Pre-Score software calculations for National Priority Listing Hazard Ranking Scoring (NPL-HRS).

Bias Qualifiers	
L	Low bias.
H	High bias.
Q	The result is estimated because the concentration is below the Contract Required Quantitation Limits (CRQLs).
K	Unknown Bias

Reasons for Validation Qualifiers

The reasons for applying a validation qualifier to a sample result are also listed in the validated electronic data deliverables (EDDs), under the column header "Reasons". Below is a list of reasons why a data point could be qualified during data validation. (Note: For S2VEM data validation, qualifiers were adopted directly from the electronic review.)

Reasons for Validation Qualifiers:	
<CRQL	The value reported is <Contract Required Quantitation Limits (CRQLs)
%D	The percent difference (%D) of the concentrations calculated off the primary and secondary columns are >60% and were qualified estimated.
MULT	Multiple runs were conducted for the analyte. Use the other value reported for the same analyte. The value which is not to be used is qualified 'R'.
USE R1	Use the value(s) reported off the initial analytical run

USE DIL	The value reported is over the calibration range. Use the value reported off the dilution run.
USE SIM	The value reported off the SIM run
USE SIM DIL	The value reported is over the calibration range. Use the value reported off the SIM dilution run.
SURR/DMCs	The surrogate/deuterated monitoring compound (DMC) recoveries did not meet the specified control limits. Results are qualified estimated.
RRF	The response factor for the analyte did not meet the minimum acceptance criteria (0.01).
MS/MSD	The spiked recoveries and/or RPDs did not meet the specified control limits. Results are qualified estimated.
MB	Analyte was qualified as non-detect due to contamination in the associated blank. The value reported is <5x or <10x (if common lab contaminant) the value in the blank.
ND	The analyte was not detected in the sample, and is reported at the CRQL with the 'U' Qualifier.
COELN	Initial identification erroneous. Peak due to co-elution with other detected target analytes.
ICAL	Initial Calibration criteria not met
CCV	Continuing calibration criteria not met
IS	Internal standard criteria not met
GPC	GPC Clean-up criteria not met.
CLN-UP	Silica gel, alumina or sulfur clean-up criteria not met
LCS	LCS/LCSD criteria not met
HT	Holding time criteria not met
STORE	Sample Storage and preservation specified not met
TEMP	Cooler recommended temperature exceeded at the verified time of sample receipt at the lab (VTSR)
M/Z	Mass/ion resolution ratio not met
DPE	Diphenyl ether interferences. False positive. Elevate reporting limits at level of detection
< CRQL	Positive hits under the contract required quantitation limit
R	Data is unusable
ISTD	Internal standard out of QC range

II. DATA REVIEW

The analytical data were evaluated following the recommended baseline checks used in the four stages of laboratory analytical data verification and validation for Superfund use listed as follows (EPA-540-R08-005, 2009):

Stage 1 - Data Validation				
	Verified		N/A	QC Procedure or Check
	YES	NO		
1	X			Documentation identifies the laboratory receiving and conducting analyses, and includes documentation for all samples submitted by the project or requester for analyses.
2	X			Requested analytical methods were performed and the analysis dates are present.
3	X			Requested target analyte results are reported along with the original laboratory data qualifiers and data qualifier definitions for each reported result
4	X			Requested target analyte result units are reported
5	X			Requested reporting limits for all samples are present and results at and below the requested (required) reporting limits are clearly identified (including sample detection limits if required).
6	X			Sampling dates (including times if needed), date and time of laboratory receipt of samples, and sample conditions upon receipt at the laboratory (including preservation, pH and temperature) are documented.
7	X			Sample results are evaluated by comparing sample conditions upon receipt at the laboratory (e.g., preservation checks) and sample characteristics (e.g., percent moisture) to the requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract.

Stage 2A - Data Validation				
	Verified		N/A	QC Procedure or Check
	YES	NO		
8	X			Requested methods (handling, preparation, cleanup, and analytical) are performed.
9	X			Method dates (including dates, times and duration of analysis for radiation counting measurements and other methods, if needed) for handling (e.g., Toxicity Characteristic Leaching Procedure), preparation, cleanup and analysis are present, as appropriate.
10	X			Requested spike analytes or compounds (e.g., surrogate, DMCs, LCS spikes, post digestion spikes) have been added, as appropriate.
11	X			Sample holding times (from sampling date to preparation and preparation to analysis) are evaluated.
12	X			Frequency of QC samples is checked for appropriateness (e.g., one LCS per twenty samples in a preparation batch).
13	X			Sample results are evaluated by comparing holding times and sample-related QC data to the requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract
Stage 2A - Data Validation QC Data				
14	X			method blanks
15	X			surrogate recoveries/deuterated monitoring compounds (DMC) recoveries
16	X			laboratory control sample (LCS) recoveries
17	X			matrix spike and matrix spike duplicate recoveries
18			X	serial dilutions
19			X	post digestion spikes
20			X	standard reference materials
21			X	equipment blanks
22			X	trip blanks

Stage 2B - Data Validation				
Stage 2B validation builds on the validation conducted in Stage 2A. Stage 2B validation of the laboratory analytical data package consists of the Stage 2A validation plus the verification and validation checks for the compliance of instrument-related QC.				
	Verified		N/A	QC Procedure or Check
	YES	NO		
23	X			Initial calibration data (e.g., ICAL standards, ICV standards, ICBs) are provided for all requested analytes and linked to field samples reported. For each initial calibration, the calibration type used is present along with the initial calibration equation used including any weighting factor(s) applied and the associated correlation coefficients, as appropriate. Recalculations of the standard concentrations using the initial calibration curve are present, along with their associated percent recoveries, as appropriate (e.g., if required by the project, method, or contract). For the ICV standard, the associated percent recovery (or percent difference, as appropriate) is present.
24	X			Appropriate number and concentration of initial calibration standards are present.
25	X			Continuing calibration data (e.g. CCV standards and CCBs) are provided for all requested analytes and linked to field samples reported, as appropriate. For the CCV standard(s), the associated percent recoveries (or percent differences, as appropriate) are present.
26	X			Reported samples are bracketed by CCV standards and CCBs standards as appropriate.
27	X			Method specific instrument performance checks are present as appropriate (e.g., tunes for mass spectrometry methods, DDT/Endrin breakdown checks for pesticides and aroclors, instrument blanks and interference checks for ICP methods).
28	X			Frequency of instrument QC samples is checked for appropriateness (e.g., gas chromatography-mass spectroscopy [GC-MS] tunes have been run every 12 hours).

Stage 3 - Data Validation				
Stage 3 validation builds on the validation conducted in Stage 2B. Stage 3 validation of the laboratory analytical data package consists of the Stage 2B validation plus the recalculation of instrument and sample results from the laboratory instrument responses, and comparison of recalculated results to laboratory reported results.				
	Verified		N/A	QC Procedure or Check
	YES	NO		
29		X		Instrument response data (e.g., GC peak areas, ICP corrected intensities) are reported for requested analytes, surrogates, internal standards, and DMCs for all requested field samples, matrix spikes, matrix spike duplicates, LCS, and method blanks as well as calibration data and instrument QC checks (e.g., tunes, DDT/Endrin breakdowns, inter-element correction factors, and Florisil cartridge checks).
30		X		Reported target analyte instrument responses are associated with appropriate internal standard analyte(s) for each (or selected) analyte(s) (for methods using internal standard for calibration).
31		X		Fit and appropriateness of the initial calibration curve used or required (e.g., mean calibration factor, regression analysis [linear or non-linear, with or without weighting factors, with or without forcing]) is checked with recalculation of the initial calibration curve for each (or selected) analyte(s) from the instrument response.
32		X		Comparison of instrument response to the minimum response requirements for each (or selected) analyte(s).
33		X		Recalculation of each (or selected) opening and closing CCV (and CCB) response from the peak data reported for each (or selected) analyte(s) from the instrument response, as appropriate.
34		X		Compliance check of recalculated opening and/or closing CCV (and CCB) response to recalculated initial calibration response for each (or selected) analyte(s).

35	X	Recalculation of percent ratios for each (or selected) tune from the instrument response, as appropriate.
36	X	Compliance check of recalculated percent ratio for each (or selected) tune from the instrument response.
37	X	Recalculation of each (or selected) instrument performance check (e.g., DDT/Endrin breakdown for pesticide analysis, instrument blanks, interference checks) from the instrument response.
38	X	Recalculation and compliance check of retention time windows (for chromatographic methods) for each (or selected) analyte(s) from the laboratory reported retention times.
39	X	Recalculation of reported results for each reported (or selected) target analyte(s) from the instrument response.
40	X	Recalculation of each (or selected) reported spike recovery (surrogate recoveries, DMC recoveries, LCS recoveries, duplicate analyses, matrix spike and matrix spike duplicate recoveries, serial dilutions, post digestion spikes, standard reference materials etc.) from the instrument response.
41	X	Each (or selected) sample result(s) and spike recovery(ies) are evaluated by comparing the recalculated numbers to the laboratory reported numbers according to the requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract
<p>Note: Selection of analytes, spikes, and performance evaluation checks for the Stage 3 validation checks for a laboratory analytical data package being verified and validated generally will depend on many factors including (but not limited to) the type of verification and validation being performed (manual or electronic), requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract, the number of laboratories reporting the data, the number and type of analytical methods reported, the number of analytes reported in each method, and the number of detected analytes.</p>		

Stage 4 - Data Validation				
Stage 4 validation builds on the validation conducted in Stage 3. Stage 4 validation of the laboratory analytical data package consists of the Stage 3 validation plus the evaluation of instrument outputs.				
	Verified		N/A	QC Procedure or Check
	YES	NO		
42		X		All required instrument outputs (e.g., chromatograms, mass spectra, atomic emission spectra, instrument background corrections, and interference corrections) for evaluating sample and instrument performance are present.
43		X		Sample results are evaluated by checking each (or selected) instrument output (e.g., chromatograms, mass spectra, atomic emission spectra data, instrument background corrections, interference corrections) for correct identification and quantitation of analytes (e.g., peak integrations, use of appropriate internal standards for quantitation, elution order of analytes, and interferences).
44		X		Each (or selected) instrument's output(s) is evaluated for confirmation of non-detected or tentatively identified analytes.
<p>Note: Selection of instrument outputs for the Stage 4 validation checks for a laboratory analytical data package being verified and validated generally will depend on many factors including, but not limited to, the type of verification and validation being performed (electronic or manual), requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract, the number of laboratories reporting the data, the number and type of analytical methods reported, the number of analytes reported in each method, and the number of detected analytes.</p>				

Please also note the six compounds (2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 4-Chloroaniline, Bis (2-chloroethyl) ether, Hexachlorobenzene, N-Nitroso-di-n-propylamine) should be reported from the SIM runs.

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF30

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-01
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D6092.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 11.4 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	190	U
108-95-2	Phenol	190	JQ
111-44-4	Bis(2-chloroethyl)ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	82	JQ
108-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	150	JQ
106-44-5	4-Methylphenol	130	JQ
621-64-7	N-Nitroso di-n-propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	JQ
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	43	JQ
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	52	JQ
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	60	JQ
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	370	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	370	U
83-32-9	Acenaphthene	190	U

XXXXXXXXXX

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF30

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-01
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: D6092.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 11.4 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	370	U
100-02-7	4-Nitrophenol	370	U
132-64-9	Dibenzofuran	44	JQ
121-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethylphthalate	100	JQ
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	370	U
534-52-1	4,6-Dinitro-2-methylphenol	370	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
118-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	370	U
85-01-8	Phenanthrene	170	JQ
120-12-7	Anthracene	27	JQ
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	45	JQ
206-44-0	Fluoranthene	73	JQ
129-00-0	Pyrene	80	JQ
85-68-7	Butylbenzylphthalate	550	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	190	U
218-01-9	Chrysene	190	U
117-81-7	Bis(2-ethylhexyl)phthalate	330	U
117-84-0	Di-n-octylphthalate	170	JQ
205-99-2	Benzo (b) fluoranthene	190	U
207-08-9	Benzo (k) fluoranthene	190	U
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	U
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	190	U
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

¹ Cannot be separated from Diphenylamine

000000052

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF31

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-02
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0797.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 11.4 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	770	JQ
108-95-2	Phenol	290	JQ
111-44-4	Bis(2-chloroethyl)ether	1900	U
95-57-8	2-Chlorophenol	1900	U
95-48-7	2-Methylphenol	120	JQ
108-60-1	2,2'-Oxybis(1-chloropropane)	1900	U
98-86-2	Acetophenone	530	JQ
106-44-5	4-Methylphenol	200	JQ
621-64-7	N-Nitroso-di-n-propylamine	1900	U
67-72-1	Hexachloroethane	1900	U
98-95-3	Nitrobenzene	1900	U
78-59-1	Isophorone	1900	U
88-75-5	2-Nitrophenol	1900	U
105-67-9	2,4-Dimethylphenol	1900	U
111-91-1	Bis(2-chloroethoxy)methane	1900	U
120-83-2	2,4-Dichlorophenol	1900	U
91-20-3	Naphthalene	2400	U
606-47-8	4-Chloroaniline	1900	U
87-68-3	Hexachlorobutadiene	1900	U
105-60-2	Caprolactam	1900	U
59-50-7	4-Chloro-3-methylphenol	1900	U
91-57-6	2-Methylnaphthalene	470	JQ
77-47-4	Hexachlorocyclopentadiene	1900	U
88-06-2	2,4,6-Trichlorophenol	1900	U
95-95-4	2,4,5-Trichlorophenol	1900	U
92-52-4	1,1'-Biphenyl	1000	JQ
91-58-7	2-Chloronaphthalene	1900	U
88-74-4	2-Nitroaniline	3700	U
131-11-3	Dimethylphthalate	1900	U
606-20-2	2,6-Dinitrotoluene	1900	U
208-96-8	Acenaphthylene	330	JQ
99-09-2	3-Nitroaniline	3700	U
83-32-9	Acenaphthene	1900	U

Mu

Mu

Mu

Mu

000000102

1K - FORM I SV-TIC
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF31

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-02
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0797.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 11.4 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 10.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	000563-46-2	2-Methyl-1-butene	1.12	2700	JN
02		Unknown-01 (3.97)	1.60	2400	JB
03	000100-42-5	Styrene	3.00	12000	JN
04	000264-09-5	Benzocycloheptatriene	6.29	1700	JN
05	001081-75-0	Benzene, 1,1'-(1,3-propaned.	8.42	3200	JN
06	000613-31-0	Anthracene, 9,10-dihydro-	8.70	1800	JN
07	000103-30-0	(E)-Stilbene	8.76	8600	JN
08		Unknown-02 (9.17)	8.81	4800	J
09	000486-25-9	9H-Fluoren-9-one	8.95	2600	JN
10	001083-30-3	.beta.-Phenylpropiophenone	9.52	1900	JN
11	000605-02-7	Naphthalene, 1-phenyl-	9.59	7600	JN
12	004505-48-0	1H-Indene, 2-phenyl-	9.62	3500	JN
13	003674-69-9	Phenanthrene, 4,5-dimethyl-	9.80	1700	JN
14	000613-12-7	Anthracene, 2-methyl-	9.93	4000	JN
15	035465-71-5	2-Phenylnaphthalene	10.17	27000	JN
16		Unknown-03 (9.17)	10.26	1900	J
17	010544-50-0	Cyclic octaatomic sulfur	10.58	4500	JN
18	000129-00-0	TIC:Pyrene	10.75	1600	JN
19	000613-59-2	Naphthalene, 2-(phenylmethyl	10.79	3700	JN
20	000092-06-8	m-Terphenyl	10.98	2900	JN
21	000483-65-8	Phenanthrene, 1-methyl-7-(1.	11.33	3300	JN
22		Unknown-04 (12.38)	12.20	1800	J
23		Unknown-05 (12.38)	12.25	2300	J
24	003648-21-3	1,2-Benzenedicarboxylic aci.	12.54	3300	JN
25		Unknown-06 (12.38)	12.58	1800	J
26		Unknown-07 (12.38)	13.05	1600	J
27	000612-71-5	1,1':3',1''-Terphenyl, 5'-p.	14.58	4500	JN
28					
29					
30	E966796 ²	Total Alkanes	N/A	5400	J

²EPA-designated Registry Number.

0000001001

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF32

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-03
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0676.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 13.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 6.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	200	U
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl)ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2'-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1'-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	380	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	380	U
83-32-9	Acenaphthene	200	U

000000159

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF32

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-03
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0676.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 13.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 6.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
51-28-5	2,4-Dinitrophenol	380	U
100-02-7	4-Nitrophenol	380	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	380	U
534-52-1	4,6-Dinitro-2-methylphenol	380	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
118-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	380	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
65-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo (a) anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	200	U
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo (b) fluoranthene	200	U
207-08-9	Benzo (k) fluoranthene	200	U
50-32-8	Benzo (a) pyrene	200	U
193-39-5	Indeno (1,2,3-cd) pyrene	200	U
53-70-3	Dibenzo (a,h) anthracene	200	U
191-24-2	Benzo (g,h,i) perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

¹Cannot be separated from Diphenylamine

000000160

1K - FORM I SV-TIC
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF32

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-03
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0676.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 13.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 6.8 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.99)	1.15	7600	J
02		Unknown-02 (3.99)	1.43	4600	J
03	000814-78-8	3-Buten-2-one, 3-methyl-	1.61	130	JNB
04		Unknown-03 (3.99)	2.28	140	JB
05		Unknown-04 (3.99)	2.50	120	J
06		Unknown-05 (3.99)	3.59	150	J
07		Unknown-06 (3.99)	4.09	220	J
08		Unknown-07 (9.19)	9.56	110	J
09	010544-50-0	Cyclic octaatomic sulfur	10.60	110	JN
10		Unknown-08 (9.19)	10.64	190	J
11	007390-81-0	Oxirane, hexadecyl-	13.91	300	JN
12		Unknown-09 (14.45)	15.09	150	J
13		Unknown-10 (14.45)	17.26	840	J
14		Unknown-11 (14.45)	17.76	300	J
15		Unknown-12 (14.45)	19.05	620	J
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30	E966796 ²	Total Alkanes	N/A	6600	J

²EPA-designated Registry Number.

000000001111

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF33

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-04
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0677.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 16.5 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	200	U
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl)ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2'-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
601-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1'-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	390	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	390	U
83-32-9	Acenaphthene	200	U

0000010

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF33

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-04
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0677.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 16.5 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
51-28-5	2,4-Dinitrophenol	390	U
100-02-7	4-Nitrophenol	390	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	390	U
534-52-1	4,6-Dinitro-2-methylphenol	390	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
100-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	390	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo (a) anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	200	U
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo (b) fluoranthene	200	U
207-06-9	Benzo (k) fluoranthene	200	U
50-32-8	Benzo (a) pyrene	200	U
193-39-5	Indeno (1,2,3-cd) pyrene	200	U
53-70-3	Dibenzo (a,h) anthracene	200	U
191-24-2	Benzo (g,h,i) perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

¹Cannot be separated from Diphenylamine

000000200

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF33

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-04
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0677.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 16.5 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	005076-19-7	Oxirane, trimethyl-	1.43	4200	JN
02		Unknown-01 (3.99)	2.62	180	J
03		Unknown-02 (3.99)	3.59	250	J
04		Unknown-03 (3.99)	4.09	390	J
05		Unknown-04 (9.19)	9.32	5300	J
06		Unknown-05 (9.19)	9.56	160	J
07	000057-10-3	n-Hexadecanoic acid	9.97	770	JN
08	007390-81-0	Oxirane, hexadecyl-	13.91	210	JN
09	000612-71-5	1,1':3',1''-Terphenyl, 5'-p.	14.61	150	JN
10		Unknown-06 (14.45)	15.08	120	J
11		Unknown-07 (14.45)	15.53	1200	J
12		Unknown-08 (14.45)	19.11	290	J
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	7200	J

²EPA-designated Registry Number.

000005201

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF34

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-05
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0678.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 29.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 6.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	240	U
108-95-2	Phenol	240	U
111-44-4	Bis(2-chloroethyl)ether	240	U
95-57-8	2-Chlorophenol	240	U
95-48-7	2-Methylphenol	240	U
108-60-1	2,2'-Oxybis(1-chloropropane)	240	U
98-86-2	Acetophenone	240	U
106-44-5	4-Methylphenol	240	U
621-64-7	N-Nitroso-di-n-propylamine	240	U
67-72-1	Hexachloroethane	240	U
98-95-3	Nitrobenzene	240	U
78-59-1	Isophorone	240	U
88-75-5	2-Nitrophenol	240	U
105-67-9	2,4-Dimethylphenol	240	U
111-91-1	Bis(2-chloroethoxy)methane	240	U
120-83-2	2,4-Dichlorophenol	240	U
91-20-3	Naphthalene	240	U
106-47-8	4-Chloroaniline	240	U
87-68-3	Hexachlorobutadiene	240	U
105-60-2	Caprolactam	240	U
59-50-7	4-Chloro-3-methylphenol	240	U
91-57-6	2-Methylnaphthalene	240	U
77-47-4	Hexachlorocyclopentadiene	240	U
88-06-2	2,4,6-Trichlorophenol	240	U
95-95-4	2,4,5-Trichlorophenol	240	U
92-52-4	1,1'-Biphenyl	240	U
91-58-7	2-Chloronaphthalene	240	U
88-74-4	2-Nitroaniline	470	U
131-11-3	Dimethylphthalate	240	U
606-20-2	2,6-Dinitrotoluene	240	U
208-96-8	Acenaphthylene	240	U
99-09-2	3-Nitroaniline	470	U
83-32-9	Acenaphthene	240	U

000000233

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF34

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-05
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0678.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 29.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 6.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
51-28-5	2,4-Dinitrophenol	470	U
100-02-7	4-Nitrophenol	470	U
132-64-9	Dibenzofuran	240	U
121-14-2	2,4-Dinitrotoluene	240	U
84-66-2	Diethylphthalate	240	U
86-73-7	Fluorene	240	U
7005-72-3	4-Chlorophenyl-phenylether	240	U
100-01-6	4-Nitroaniline	470	U
534-52-1	4,6-Dinitro-2-methylphenol	470	U
86-30-6	N-Nitrosodiphenylamine (1)	240	U
95-94-3	1,2,4,5-Tetrachlorobenzene	240	U
101-55-3	4-Bromophenyl-phenylether	240	U
118-74-1	Hexachlorobenzene	240	U
1912-24-9	Atrazine	240	U
87-86-5	Pentachlorophenol	470	U
85-01-8	Phenanthrene	240	U
120-12-7	Anthracene	240	U
86-74-8	Carbazole	240	U
84-74-2	Di-n-butylphthalate	240	U
206-44-0	Fluoranthene	240	U
129-00-0	Pyrene	240	U
85-68-7	Butylbenzylphthalate	240	U
91-94-1	3,3'-Dichlorobenzidine	240	U
56-55-3	Benzo (a) anthracene	240	U
218-01-9	Chrysene	240	U
117-81-7	Bis(2-ethylhexyl)phthalate	240	U
117-84-0	Di-n-octylphthalate	240	U
205-99-2	Benzo (b) fluoranthene	240	U
207-08-9	Benzo (k) fluoranthene	240	U
50-32-8	Benzo (a) pyrene	240	U
193-39-5	Indeno (1,2,3-cd) pyrene	240	U
53-70-3	Dibenzo (a,h) anthracene	240	U
191-24-2	Benzo (g,h,i) perylene	240	U
58-90-2	2,3,4,6-Tetrachlorophenol	240	U

¹Cannot be separated from Diphenylamine

00000240

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF34

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-05
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0678.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 29.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 6.8 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.99)	1.43	4600	J
02		Unknown-02 (3.99)	1.61	130	JB
03		Unknown-03 (3.99)	2.62	140	J
04	000108-38-3	Benzene, 1,3-dimethyl-	2.85	1100	JN
05		Unknown-04 (3.99)	3.59	360	J
06		Unknown-05 (3.99)	3.86	370	J
07		Unknown-06 (3.99)	4.09	300	J
08		Unknown-07 (3.99)	4.20	120	J
09	010544-50-0	Cyclic octaatomic sulfur	10.65	17000	JN
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	7700	J

²EPA-designated Registry Number.

000000241

ID - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF35

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-06
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D6070.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 20.0 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	210	U
108-95-2	Phenol	210	U
211-44-4	Bis(2-chloroethyl)ether	210	U
95-57-8	2-Chlorophenol	210	U
95-48-7	2-Methylphenol	210	U
108-60-1	2,2'-Oxybis(1-chloropropane)	210	U
98-86-2	Acetophenone	210	U
106-44-5	4-Methylphenol	210	U
621-64-7	N-Nitroso-di-n-propylamine	210	U
67-72-1	Hexachloroethane	210	U
98-95-3	Nitrobenzene	210	U
78-59-1	Isophorone	210	U
88-75-5	2-Nitrophenol	210	U
105-67-9	2,4-Dimethylphenol	210	U
111-91-1	Bis(2-chloroethoxy)methane	210	U
120-83-2	2,4-Dichlorophenol	210	U
91-20-3	Naphthalene	46	U
106-47-8	4-Chloroaniline	210	U
87-68-3	Hexachlorobutadiene	210	U
105-60-2	Caprolactam	210	U
59-50-7	4-Chloro-3-methylphenol	210	U
91-57-6	2-Methylnaphthalene	210	U
77-47-4	Hexachlorocyclopentadiene	210	U
88-06-2	2,4,6-Trichlorophenol	210	U
95-95-4	2,4,5-Trichlorophenol	210	U
92-52-4	1,1'-Biphenyl	210	U
91-58-7	2-Chloronaphthalene	210	U
88-74-4	2-Nitroaniline	410	U
131-11-3	Dimethylphthalate	210	U
606-20-2	2,6-Dinitrotoluene	210	U
208-96-8	Acenaphthylene	210	U
99-09-2	3-Nitroaniline	410	U
83-32-9	Acenaphthene	210	U

000000279

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF35

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-06
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D6070.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 20.0 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	410	U
100-02-7	4-Nitrophenol	410	U
132-64-9	Dibenzofuran	210	U
221-14-2	2,4-Dinitrotoluene	210	U
84-66-2	Diethylphthalate	210	U
86-73-7	Fluorene	210	U
7005-72-3	4-Chlorophenyl-phenylether	210	U
100-01-6	4-Nitroaniline	410	U
534-52-1	4,6-Dinitro-2-methylphenol	410	U
86-30-6	N-Nitrosodiphenylamine (1)	210	U
95-94-3	1,2,4,5-Tetrachlorobenzene	210	U
101-55-3	4-Bromophenyl-phenylether	210	U
118-74-1	Hexachlorobenzene	210	U
1912-24-9	Atrazine	210	U
87-86-5	Pentachlorophenol	410	U
85-01-8	Phenanthrene	66	JQ
120-12-7	Anthracene	210	U
86-74-8	Carbazole	210	U
84-74-2	Di-n-butylphthalate	57	JQ
206-44-0	Fluoranthene	42	JQ
129-00-0	Pyrene	42	JQ
85-68-7	Butylbenzylphthalate	100	JQ
91-94-1	3,3'-Dichlorobenzidine	210	U
56-55-3	Benzo (a) anthracene	210	U
218-01-9	Chrysene	210	U
117-81-7	Bis(2-ethylhexyl)phthalate	89	JQ
117-84-0	Di-n-octylphthalate	210	U
205-99-2	Benzo (b) fluoranthene	210	U
207-08-9	Benzo (k) fluoranthene	210	U
50-32-8	Benzo (a) pyrene	210	U
193-39-5	Indeno (1,2,3-cd) pyrene	210	U
53-70-3	Dibenzo (a,h) anthracene	210	U
191-24-2	Benzo (g,h,i) perylene	210	U
58-90-2	2,3,4,6-Tetrachlorophenol	210	U

¹Cannot be separated from Diphenylamine

5000000230

1K - FORM I SV-TIC
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF35

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-06
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: D6070.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 20.0 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.04)	2.60	260	J
02		Unknown-02 (3.04)	3.24	150	J
03	001081-75-0	Benzene, 1,1'-(1,3-propaned.	8.67	200	JN
04		Unknown-03 (9.56)	10.20	160	J
05		Unknown-04 (9.56)	10.87	200	J
06	010544-50-0	Cyclic octaatomic sulfur	11.25	500	JN
07		Unknown-05 (13.69)	11.87	160	J
08	000593-39-5	6-Octadecenoic acid, (Z)-	11.97	600	JN
09	000057-11-4	Octadecanoic acid	12.08	420	JN
10	000612-71-5	1,1':3',1''-Terphenyl, 5''-p.	15.99	240	JN
11	018277-85-5	Chloroacetic acid, tridecyl.	16.75	570	JN
12		Unknown-06 (15.76)	17.09	230	J
13		Unknown-07 (15.76)	17.14	160	J
14		Unknown-08 (15.76)	17.58	260	J
15		Unknown-09 (15.76)	17.63	300	J
16		Unknown-10 (15.76)	17.68	300	J
17		Unknown-11 (15.76)	18.17	240	J
18		Unknown-12 (15.76)	18.52	230	J
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	3800	J

²EPA-designated Registry Number.

000000281

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF36

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-07
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0679.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 26.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	230	U
108-95-2	Phenol	230	U
111-44-4	Bis(2-chloroethyl) ether	230	U
95-57-8	2-Chlorophenol	230	U
95-48-7	2-Methylphenol	230	U
108-60-1	2,2'-Oxybis(1-chloropropane)	230	U
98-86-2	Acetophenone	230	U
106-44-5	4-Methylphenol	230	U
621-64-7	N-Nitroso-di-n-propylamine	230	U
67-72-1	Hexachloroethane	230	U
98-95-3	Nitrobenzene	230	U
78-59-1	Isophorone	230	U
88-75-5	2-Nitrophenol	230	U
105-67-9	2,4-Dimethylphenol	230	U
111-91-1	Bis(2-chloroethoxy)methane	230	U
120-83-2	2,4-Dichlorophenol	230	U
91-20-3	Naphthalene	75	U
106-47-0	4-Chloroaniline	230	U
87-68-3	Hexachlorobutadiene	230	U
105-60-2	Caprolactam	230	U
59-50-7	4-Chloro-3-methylphenol	230	U
91-57-6	2-Methylnaphthalene	230	U
77-47-4	Hexachlorocyclopentadiene	230	U
88-06-2	2,4,6-Trichlorophenol	230	U
95-95-4	2,4,5-Trichlorophenol	230	U
92-52-4	1,1'-Biphenyl	230	U
91-58-7	2-Chloronaphthalene	230	U
88-74-4	2-Nitroaniline	450	U
131-11-3	Dimethylphthalate	230	U
606-20-2	2,6-Dinitrotoluene	230	U
208-96-8	Acenaphthylene	230	U
99-09-2	3-Nitroaniline	450	U
83-32-9	Acenaphthene	230	U

000000323

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF36

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-07
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0679.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 26.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	450	U
100-02-7	4-Nitrophenol	450	U
132-64-9	Dibenzofuran	230	U
121-14-2	2,4-Dinitrotoluene	230	U
84-66-2	Diethylphthalate	230	U
86-73-7	Fluorene	230	U
7005-72-3	4-Chlorophenyl-phenylether	230	U
100-01-6	4-Nitroaniline	450	U
534-52-1	4,6-Dinitro-2-methylphenol	450	U
86-30-6	N-Nitrosodiphenylamine (1)	230	U
95-94-3	1,2,4,5-Tetrachlorobenzene	230	U
101-55-3	4-Bromophenyl-phenylether	230	U
119-74-1	Hexachlorobenzene	230	U
1912-24-9	Atrazine	230	U
87-86-5	Pentachlorophenol	450	U
85-01-8	Phenanthrene	230	U
120-12-7	Anthracene	230	U
86-74-8	Carbazole	230	U
84-74-2	Di-n-butylphthalate	230	U
206-44-0	Fluoranthene	230	U
129-00-0	Pyrene	230	U
85-68-7	Butylbenzylphthalate	230	U
91-94-1	3,3'-Dichlorobenzidine	230	U
56-55-3	Benzo (a) anthracene	230	U
218-01-9	Chrysene	230	U
117-81-7	Bis (2-ethylhexyl) phthalate	870	
117-84-0	Di-n-octylphthalate	230	U
205-99-2	Benzo (b) fluoranthene	230	U
207-08-9	Benzo (k) fluoranthene	230	U
50-32-8	Benzo (a) pyrene	230	U
193-39-5	Indeno (1,2,3-cd) pyrene	230	U
53-70-3	Dibenzo (a,h) anthracene	230	U
191-24-2	Benzo (g,h,i) perylene	230	U
58-90-2	2,3,4,6-Tetrachlorophenol	230	U

¹Cannot be separated from Diphenylamine

000000324

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF36

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-07
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0679.D
 Level: (TRACE or LCW/MED) LOW Extraction: (Type): SONC
 % Moisture: 26.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.99)	1.41	8200	J
02	005076-19-7	Oxirane, trimethyl-	1.43	4700	JN
03		Unknown-02 (3.99)	1.61	180	J
04		Unknown-03 (3.99)	2.28	280	J
05		Unknown-04 (3.99)	2.50	310	J
06		Unknown-05 (3.99)	2.57	110	J
07		Unknown-06 (3.99)	3.59	410	J
08		Unknown-07 (3.99)	4.09	310	J
09		Unknown-08 (3.99)	4.21	100	J
10		Unknown-09 (9.19)	9.97	94	J
11	010544-50-0	Cyclic octaatomic sulfur	10.61	4700	JN
12		Unknown-10 (14.45)	13.91	150	J
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	4000	J

²EPA-designated Registry Number.

000000325

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF37

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-08
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0798.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 26.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	230	U
108-95-2	Phenol	230	U
111-44-4	Bis(2-chloroethyl)ether	230	U
95-57-8	2-Chlorophenol	230	U
95-48-7	2-Methylphenol	230	U
108-60-1	2,2'-Oxybis(1-chloropropane)	230	U
98-86-2	Acetophenone	230	U
106-44-5	4-Methylphenol	230	U
621-64-7	N-Nitroso di-n-propylamine	230	U
67-72-1	Hexachloroethane	230	U
98-95-3	Nitrobenzene	230	U
78-59-1	Isophorone	230	U
88-75-5	2-Nitrophenol	230	U
105-67-9	2,4-Dimethylphenol	230	U
111-91-1	Bis(2-chloroethoxy)methane	230	U
120-83-2	2,4-Dichlorophenol	230	U
91-20-3	Naphthalene	230	U
106-47-9	4-Chloroaniline	230	U
87-68-3	Hexachlorobutadiene	230	U
105-60-2	Caprolactam	230	U
59-50-7	4-Chloro-3-methylphenol	230	U
91-57-6	2-Methylnaphthalene	230	U
77-47-4	Hexachlorocyclopentadiene	230	U
88-06-2	2,4,6-Trichlorophenol	230	U
95-95-4	2,4,5-Trichlorophenol	230	U
92-52-4	1,1'-Biphenyl	230	U
91-58-7	2-Chloronaphthalene	230	U
88-74-4	2-Nitroaniline	450	U
131-11-3	Dimethylphthalate	230	U
606-20-2	2,6-Dinitrotoluene	230	U
208-96-8	Acenaphthylene	230	U
99-09-2	3-Nitroaniline	450	U
83-32-9	Acenaphthene	230	U

000000360

SOM01.2 (8/2007)

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF37

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-08
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0798.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 26.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
51-28-5	2,4-Dinitrophenol	450	U
100-02-7	4-Nitrophenol	450	U
132-64-9	Dibenzofuran	230	U
121-14-2	2,4-Dinitrotoluene	230	U
84-66-2	Diethylphthalate	230	U
86-73-7	Fluorene	230	U
7005-72-3	4-Chlorophenyl-phenylether	230	U
100-01-6	4-Nitroaniline	450	U
534-52-1	4,6-Dinitro-2-methylphenol	450	U
86-30-6	N-Nitrosodiphenylamine (1)	230	U
95-94-3	1,2,4,5-Tetrachlorobenzene	230	U
101-55-3	4-Bromophenyl-phenylether	230	U
116-74-1	Hexachlorobenzene	230	U
1912-24-9	Atrazine	230	U
87-86-5	Pentachlorophenol	450	U
85-01-8	Phenanthrene	230	U
120-12-7	Anthracene	230	U
86-74-8	Carbazole	230	U
84-74-2	Di-n-butylphthalate	230	U
206-44-0	Fluoranthene	230	U
129-00-0	Pyrene	230	U
85-68-7	Butylbenzylphthalate	230	U
91-94-1	3,3'-Dichlorobenzidine	230	U
56-55-3	Benzo (a) anthracene	230	U
218-01-9	Chrysene	230	U
117-81-7	Bis(2-ethylhexyl)phthalate	230	U
117-84-0	Di-n-octylphthalate	230	U
205-99-2	Benzo (b) fluoranthene	230	U
207-08-9	Benzo (k) fluoranthene	230	U
50-32-8	Benzo (a) pyrene	230	U
193-39-5	Indeno (1,2,3-cd) pyrene	230	U
53-70-3	Dibenzo (a,h) anthracene	230	U
191-24-2	Benzo (g,h,i) perylene	230	U
58-90-2	2,3,4,6-Tetrachlorophenol	230	U

¹Cannot be separated from Diphenylamine

000000351

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF37

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-08
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0798.D
 Level: (TRACE or LOW/MBD) LOW Extraction: (Type): SONC
 % Moisture: 26.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.97)	1.42	3800	J
02		Unknown-02 (3.97)	1.65	700	JB
03		Unknown-03 (3.97)	2.27	400	J
04		Unknown-04 (3.97)	2.48	410	J
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	100	J

²EPA-designated Registry Number.

000000352

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF38

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-09
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0681.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 4.6 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 6.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	180	U
108-95-2	Phenol	180	U
111-44-4	Bis(2-chloroethyl)ether	180	U
95-57-8	2-Chlorophenol	180	U
95-48-7	2-Methylphenol	180	U
108-60-1	2,2'-Oxybis(1-chloropropane)	180	U
98-86-2	Acetophenone	180	U
106-44-5	4-Methylphenol	180	U
621-64-7	N Nitroso di n propylamine	180	U
67-72-1	Hexachloroethane	180	U
98-95-3	Nitrobenzene	180	U
78-59-1	Isophorone	180	U
88-75-5	2-Nitrophenol	180	U
105-67-9	2,4-Dimethylphenol	180	U
111-91-1	Bis(2-chloroethoxy)methane	180	U
120-83-2	2,4-Dichlorophenol	180	U
91-20-3	Naphthalene	180	U
106-47-8	4-Chloroaniline	180	U
87-68-3	Hexachlorobutadiene	180	U
105-60-2	Caprolactam	180	U
59-50-7	4-Chloro-3-methylphenol	180	U
91-57-6	2-Methylnaphthalene	180	U
77-47-4	Hexachlorocyclopentadiene	180	U
88-06-2	2,4,6-Trichlorophenol	180	U
95-95-4	2,4,5-Trichlorophenol	180	U
92-52-4	1,1'-Biphenyl	180	U
91-58-7	2-Chloronaphthalene	180	U
88-74-4	2-Nitroaniline	340	U
131-11-3	Dimethylphthalate	180	U
606-20-2	2,6-Dinitrotoluene	180	U
208-96-8	Acenaphthylene	180	U
99-09-2	3-Nitroaniline	340	U
83-32-9	Acenaphthene	180	U

000000381

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF38

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-09
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0681.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 4.6 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 6.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	340	U
100-02-7	4-Nitrophenol	340	U
132-64-9	Dibenzofuran	180	U
221-14-2	2,4-Dinitrotoluene	180	U
84-66-2	Diethylphthalate	180	U
86-73-7	Fluorene	180	U
7005-72-3	4-Chlorophenyl-phenylether	180	U
100-01-6	4-Nitroaniline	340	U
534-52-1	4,6-Dinitro-2-methylphenol	340	U
86-30-6	N-Nitrosodiphenylamine (1)	180	U
95-94-3	1,2,4,5-Tetrachlorobenzene	180	U
101-55-3	4-Bromophenyl-phenylether	180	U
119-74-1	Hexachlorobenzene	180	U
1912-24-9	Atrazine	180	U
87-86-5	Pentachlorophenol	340	U
85-01-8	Phenanthrene	180	U
120-12-7	Anthracene	180	U
86-74-8	Carbazole	180	U
64-74-2	Di-n-butylphthalate	180	U
206-44-0	Fluoranthene	180	U
129-00-0	Pyrene	180	U
85-68-7	Butylbenzylphthalate	180	U
91-94-1	3,3'-Dichlorobenzidine	180	U
56-55-3	Benzo (a) anthracene	180	U
218-01-9	Chrysene	180	U
117-81-7	Bis(2-ethylhexyl)phthalate	160	U
117-84-0	Di-n-octylphthalate	180	U
205-99-2	Benzo (b) fluoranthene	180	U
207-08-9	Benzo (k) fluoranthene	180	U
50-32-8	Benzo (a) pyrene	180	U
193-39-5	Indeno (1,2,3-cd) pyrene	180	U
53-70-3	Dibenzo (a,h) anthracene	180	U
191-24-2	Benzo (g,h,i) perylene	180	U
58-90-2	2,3,4,6-Tetrachlorophenol	180	U

¹Cannot be separated from Diphenylamine

000000382

SOM01.2 (8/2007)

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF38

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 \Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-09
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0681.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 4.6 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 6.0 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.99)	1.41	6300	J
02	005076-19-7	Oxirane, trimethyl-	1.43	4700	JN
03	000814-78-8	3-Buten-2-one, 3-methyl-	1.61	280	JNB
04		Unknown-02 (3.99)	2.28	590	JB
05		Unknown-03 (3.99)	2.50	570	J
06		Unknown-04 (3.99)	4.09	160	J
07	001454-85-9	1-Heptadecanol	10.60	160	JN
08	003386-33-2	Octadecane, 1-chloro-	12.34	670	JN
09	014811-95-1	1,19-Eicosadiene	13.91	430	JN
10	067860-04-2	Oxirane, heptadecyl-	15.09	260	JN
11	056221-91-1	13-Tetradecen-1-ol acetate	15.54	310	JN
12	000474-62-4	Campesterol	16.64	340	JN
13	000083-47-6	.gamma.-Sitosterol	17.29	1900	JN
14		Unknown-05 (14.45)	17.76	340	J
15		Unknown-06 (14.45)	18.33	230	J
16		Unknown-07 (14.45)	19.05	750	J
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	5600	J

²EPA-designated Registry Number.

000000301

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF39

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-10
 Sample wt/vol: .30.0 (g/mL) g Lab File ID: G0682.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 10.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 4.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	190	U
108-95-2	Phenol	190	U
111-44-4	Bis(2-chloroethyl)ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	190	U
108-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	190	U
106-44-5	4-Methylphenol	190	U
621-64-7	N-Nitrosodi-n-propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
68-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	U
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	190	U
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	370	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	370	U
83-32-9	Acenaphthene	190	U

000000122

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF39

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-10
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0682.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 10.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 4.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
51-28-5	2,4-Dinitrophenol	370	U
100-02-7	4-Nitrophenol	370	U
132-64-9	Dibenzofuran	190	U
121-14-2	2,4-Dinitrochlorobenzene	190	U
84-66-2	Diethylphthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	370	U
534-52-1	4,6-Dinitro-2-methylphenol	370	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
118-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	370	U
85-01-8	Phenanthrene	190	U
120-12-7	Anthracene	190	U
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	16	J
206-44-0	Fluoranthene	190	U
129-00-0	Pyrene	190	U
85-68-7	Butylbenzylphthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	190	U
218-01-9	Chrysene	190	U
117-81-7	Bis(2-ethylhexyl)phthalate	290	U
117-84-0	Di-n-octylphthalate	190	U
205-99-2	Benzo (b) fluoranthene	190	U
207-08-9	Benzo (k) fluoranthene	190	U
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	U
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	190	U
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

¹Cannot be separated from Diphenylamine

000000423

SOM1.2 (8/2007)

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF39

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-10
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0682.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 10.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 4.6 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	BST. CONC.	Q
01		Unknown-01 (3.99)	1.43	5100	J
02	000814-78-8	3-Buten-2-one, 3-methyl-	1.61	210	JNB
03		Unknown-02 (3.99)	2.28	590	J
04		Unknown-03 (3.99)	2.50	640	J
05		Unknown-04 (3.99)	3.59	120	J
06		Unknown-05 (3.99)	3.86	130	J
07		Unknown-06 (3.99)	4.09	170	J
08		Unknown-07 (9.19)	10.61	100	J
09		Unknown-08 (9.19)	10.63	140	J
10	003386-33-2	Octadecane, 1-chloro-	12.34	700	JN
11	000638-66-4	Octadecanal	13.91	460	JN
12		Unknown-09 (14.45)	15.09	280	J
13	055103-80-5	Pregn-5-en-3-ol, 21-bromo-2.	17.29	1700	JN
14		Unknown-10 (14.45)	17.75	410	J
15	000559-74-0	Friedelan-3-one	19.05	860	JN
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	5800	J

²EPA-designated Registry Number.

000000424

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF40

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-11
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0683.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 13.5 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/28/2010
 GPC Cleanup: (Y/N) Y pH: 4.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	200	U
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl) ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2'-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-6	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1'-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	380	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	380	U
83-32-9	Acenaphthene	200	U

000000463

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF40

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-11
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0683.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 13.5 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/28/2010
 GPC Cleanup: (Y/N) Y pH: 4.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
51-28-5	2,4-Dinitrophenol	380	U
100-02-7	4-Nitrophenol	380	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	380	U
534-52-1	4,6-Dinitro-2-methylphenol	380	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
118-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	380	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo (a) anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	200	U
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo (b) fluoranthene	200	U
207-08-9	Benzo (k) fluoranthene	200	U
50-32-8	Benzo (a) pyrene	200	U
193-39-5	Indeno (1,2,3-cd) pyrene	200	U
53-70-3	Dibenzo (a,h) anthracene	200	U
191-24-2	Benzo (g,h,i) perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

¹Cannot be separated from Diphenylamine

000000464

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF40

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-11
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0683.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 13.5 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/28/2010
 GPC Cleanup: (Y/N) Y pH: 4.8 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.99)	1.43	5100	J
02		Unknown-02 (3.99)	1.61	180	JB
03		Unknown-03 (3.99)	2.28	240	J
04		Unknown-04 (3.99)	2.50	220	J
05		Unknown-05 (3.99)	3.59	120	J
06		Unknown-06 (3.99)	4.09	220	J
07		Unknown-07 (9.19)	8.32	160	J
08	017851-53-5	1,2-Benzenedicarboxylic aci.	9.56	160	JN
09		Unknown-08 (9.19)	10.61	98	J
10		Unknown-09 (9.19)	10.64	170	J
11		Unknown-10 (12.39)	11.52	130	J
12		Unknown-11 (14.46)	19.06	300	J
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	5500	J

²EPA-designated Registry Number.

000000465

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
JCF41

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-12
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0684.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 10.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/28/2010
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	190	U
108-95-2	Phenol	190	U
111-44-4	Bis(2-chloroethyl)ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	190	U
106-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	190	U
106-44-5	4-Methylphenol	190	U
621-64-7	N-Nitroso-di-n-propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	U
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	190	U
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	370	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	370	U
83-32-9	Acenaphthene	190	U

000000503

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF41

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-12
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0684.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 10.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/28/2010
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
51-28-5	2,4-Dinitrophenol	370	U
100-02-7	4-Nitrophenol	370	U
132-64-9	Dibenzofuran	190	U
121-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethylphthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	370	U
534-52-1	4,6-Dinitro-2-methylphenol	370	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
118-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	370	U
85-01-8	Phenanthrene	190	U
120-12-7	Anthracene	190	U
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	21	U
206-44-0	Fluoranthene	190	U
129-00-0	Pyrene	190	U
85-68-7	Butylbenzylphthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	190	U
218-01-9	Chrysene	190	U
117-81-7	Bis(2-ethylhexyl)phthalate	720	U
117-84-0	Di-n-octylphthalate	190	U
205-99-2	Benzo (b) fluoranthene	190	U
207-08-9	Benzo (k) fluoranthene	190	U
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	U
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	190	U
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

¹ Cannot be separated from Diphenylamine

00000504

1K - FORM I SV-TIC
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF41

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-12
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0684.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 10.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/28/2010
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.99)	1.13	180	J
02		Unknown-02 (3.99)	1.43	3800	J
03	000625-33-2	3-Penten-2-one	1.61	160	JN
04		Unknown-03 (3.99)	2.28	400	JB
05		Unknown-04 (3.99)	2.50	370	J
06	000112-92-5	1-Octadecanol	10.60	230	JN
07	062016-79-9	Heptacosane, 1-chloro-	11.94	170	JN
08	000638-66-4	Octadecanal	12.92	170	JN
09	000112-84-5	13-Docosenamide, (Z)-	13.64	1800	JN
10	007390-81-0	Oxirane, hexadecyl- (01)	13.91	560	JN
11	007390-81-0	Oxirane, hexadecyl- (02)	15.08	330	JN
12	056221-91-1	13-Tetradecen-1-ol acetate	15.54	470	JN
13		Unknown-05 (14.45)	17.29	1500	J
14		Unknown-06 (14.45)	17.76	190	J
15	000559-74-0	Friedelan-3-one	19.05	1300	JN
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	7400	J

²EPA-designated Registry Number.

000000505

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF42

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-13
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0687.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 12.8 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/28/2010
 GPC Cleanup: (Y/N) Y pH: 4.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	190	U
108-95-2	Phenol	190	U
111-44-4	Bis(2-chloroethyl)ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	190	U
108-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	190	U
106-44-5	4-Methylphenol	190	U
61-61-7	N Nitroso di n propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	U
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	190	U
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	380	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	380	U
83-32-9	Acenaphthene	190	U

000000544

SOM01.2 (8/2007)

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF42

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-13
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0687.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 12.8 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/28/2010
 GPC Cleanup: (Y/N) Y pH: 4.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
51-28-5	2,4-Dinitrophenol	380	U
100-02-7	4-Nitrophenol	380	U
132-64-9	Dibenzofuran	190	U
101-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethylphthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	380	U
534-52-1	4,6-Dinitro-2-methylphenol	380	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
116-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	380	U
85-01-8	Phenanthrene	190	U
120-12-7	Anthracene	190	U
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	39	JQ
206-44-0	Fluoranthene	190	U
129-00-0	Pyrene	190	U
85-68-7	Butylbenzylphthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	190	U
218-01-9	Chrysene	190	U
117-81-7	Bis(2-ethylhexyl)phthalate	44	JQ
117-84-0	Di-n-octylphthalate	190	U
205-99-2	Benzo (b) fluoranthene	190	U
207-08-9	Benzo (k) fluoranthene	190	U
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	U
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	190	U
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

² Cannot be separated from Diphenylamine

000000545

SOM01.2 (8/2007)

1K - FORM I SV-TIC
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF42

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-13
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0687.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 12.8 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/28/2010
 GPC Cleanup: (Y/N) Y pH: 4.8 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	005076-19-7	Oxirane, trimethyl-	1.43	4800	JN
02	000814-78-8	3-Buten-2-one, 3-methyl-	1.61	390	JNB
03		Unknown-01 (3.99)	2.28	420	J
04		Unknown-02 (3.99)	2.50	420	JB
05	000108-38-3	Benzene, 1,3-dimethyl-	2.85	610	JN
06		Unknown-03 (3.99)	4.09	190	J
07	002136-72-3	Ethanol, 2-(octadecyloxy)-	12.34	1100	JN
08	007390-81-0	Oxirane, hexadecyl-	13.91	530	JN
09		Unknown-04 (14.45)	14.89	190	J
10	000638-66-4	Octadecanal	15.09	310	JN
11	056221-91-1	13-Tetradecen-1-ol acetate	15.53	610	JN
12		Unknown-05 (14.45)	16.21	200	J
13	000083-46-5	.beta.-Sitosterol	17.29	2100	JN
14	1000194-64-2	4,4,6a,6b,8a,11,12,14b-Octa.	17.76	620	JN
15	000638-95-9	.alpha.-Amyrin	17.99	1000	JN
16	001058-61-3	Stigmast-4-en-3-one	18.34	230	JN
17	000559-74-0	Friedelan-3-one	19.05	960	JN
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	6600	J

²EPA-designated Registry Number.

000000548

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF43

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-14
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0801.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 8.8 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	190	U
108-95-2	Phenol	190	U
111-44-4	Bis(2-chloroethyl)ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	190	U
108-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	190	U
106-44-5	4-Methylphenol	190	U
621-64-7	N-Nitrosodi-n-propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	U
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	190	U
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	360	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	360	U
83-32-9	Acenaphthene	190	U

000000584

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF43

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-14
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0801.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 8.8 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
51-28-5	2,4-Dinitrophenol	360	U
100-02-7	4-Nitrophenol	360	U
132-64-9	Dibenzofuran	190	U
101-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethylphthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	360	U
534-52-1	4,6-Dinitro-2-methylphenol	360	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
118-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	360	U
85-01-8	Phenanthrene	190	U
120-12-7	Anthracene	190	U
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	18	U
206-44-0	Fluoranthene	190	U
129-00-0	Pyrene	190	U
85-68-7	Butylbenzylphthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	190	U
218-01-9	Chrysene	190	U
117-81-7	Bis(2-ethylhexyl)phthalate	52	U
117-84-0	Di-n-octylphthalate	190	U
205-99-2	Benzo (b) fluoranthene	190	U
207-08-9	Benzo (k) fluoranthene	190	U
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	U
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	190	U
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

¹Cannot be separated from Diphenylamine

000000585

SOM01.2 (8/2007)

1K - FORM I SV-TIC
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF43

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-14
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0801.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: B.B Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	005076-19-7	Oxirane, trimethyl-	1.42	2800	JN
02		Unknown-01 (3.97)	2.27	430	J
03		Unknown-02 (3.97)	2.48	460	J
04		Unknown-03 (3.97)	3.84	170	J
05		Unknown-04 (3.97)	4.07	180	J
06	000629-73-2	1-Hexadecene	10.58	280	JN
07	000638-66-4	Octadecanal (01)	12.90	170	JN
08	000638-66-4	Octadecanal (02)	13.88	640	JN
09	056554-90-6	13-Octadecenal	15.05	390	JN
10		Unknown-05 (14.42)	15.50	820	J
11		Unknown-06 (14.42)	17.22	2500	J
12	001617-70-5	Lup-20(29)-en-3-one	17.73	3600	JN
13		Unknown-07 (14.42)	18.84	430	J
14	000559-74-0	Friedelan-3-one	19.01	1500	JN
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	9000	J

²EPA-designated Registry Number.

000000586

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF44

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-15
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0802.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 17.4 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	210	U
108-95-2	Phenol	210	U
111-44-4	Bis(2-chloroethyl)ether	210	U
95-57-8	2-Chlorophenol	210	U
95-48-7	2-Methylphenol	210	U
108-60-1	2,2'-Oxybis(1-chloropropane)	210	U
98-86-2	Acetophenone	210	U
106-44-5	4-Methylphenol	210	U
991-64-7	N-Nitroso-di-n-propylamine	210	U
67-72-1	Hexachloroethane	210	U
98-95-3	Nitrobenzene	210	U
78-59-1	Isophorone	210	U
88-75-5	2-Nitrophenol	210	U
105-67-9	2,4-Dimethylphenol	210	U
111-91-1	Bis(2-chloroethoxy)methane	210	U
120-83-2	2,4-Dichlorophenol	210	U
91-20-3	Naphthalene	210	U
106-47-8	4-Chloroaniline	210	U
87-68-3	Hexachlorobutadiene	210	U
105-60-2	Caprolactam	210	U
59-50-7	4-Chloro-3-methylphenol	210	U
91-57-6	2-Methylnaphthalene	210	U
77-47-4	Hexachlorocyclopentadiene	210	U
88-06-2	2,4,6-Trichlorophenol	210	U
95-95-4	2,4,5-Trichlorophenol	210	U
92-52-4	1,1'-Biphenyl	210	U
91-58-7	2-Chloronaphthalene	210	U
88-74-4	2-Nitroaniline	400	U
131-11-3	Dimethylphthalate	210	U
606-20-2	2,6-Dinitrotoluene	210	U
208-96-8	Acenaphthylene	210	U
99-09-2	3-Nitroaniline	400	U
83-32-9	Acenaphthene	210	U

000000625

SOM01.2 (8/2007)

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF44

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-15
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0802.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 17.4 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
51-28-5	2,4-Dinitrophenol	400	U
100-02-7	4-Nitrophenol	400	U
132-64-9	Dibenzofuran	210	U
21-14-2	2,4-Dinitrotoluene	210	U
84-66-2	Diethylphthalate	210	U
86-73-7	Fluorene	210	U
7005-72-3	4-Chlorophenyl-phenylether	210	U
100-01-6	4-Nitroaniline	400	U
534-52-1	4,6-Dinitro-2-methylphenol	400	U
86-30-6	N-Nitrosodiphenylamine (1)	210	U
95-94-3	1,2,4,5-Tetrachlorobenzene	210	U
101-55-3	4-Bromophenyl-phenylether	210	U
118-74-1	Hexachlorobenzene	210	U
1912-24-9	Atrazine	210	U
87-86-5	Pentachlorophenol	400	U
85-01-8	Phenanthrene	210	U
120-12-7	Anthracene	210	U
86-74-8	Carbazole	210	U
84-74-2	Di-n-butylphthalate	24	J
206-44-0	Fluoranthene	210	U
129-00-0	Pyrene	210	U
85-68-7	Butylbenzylphthalate	370	
91-94-1	3,3'-Dichlorobenzidine	210	U
56-55-3	Benzo (a) anthracene	210	U
218-01-9	Chrysene	210	U
117-81-7	Bis(2-ethylhexyl)phthalate	2700	
117-84-0	Di-n-octylphthalate	33	J
205-99-2	Benzo (b) fluoranthene	210	U
207-08-9	Benzo (k) fluoranthene	210	U
50-32-8	Benzo (a) pyrene	210	U
193-39-5	Indeno (1,2,3-cd) pyrene	210	U
53-70-3	Dibenzo (a,h) anthracene	210	U
191-24-2	Benzo (g,h,i) perylene	210	U
58-90-2	2,3,4,6-Tetrachlorophenol	210	U

Cannot be separated from Diphenylamine

000000626

1K - FORM I SV-TIC
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF44

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-15
Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0802.D
Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
% Moisture: 17.4 Decanted: (Y/N) N Date Received: 06/12/2010
Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0
CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	005076-19-7	Oxirane, trimethyl-	1.42	7500	JN
02		Unknown-01 (3.97)	2.26	540	J
03		Unknown-02 (3.97)	2.48	570	J
04		Unknown-03 (12.38)	12.32	1100	J
05	1000195-88-7	Indole, 3-[2',2'-bis(methox.	12.74	270	JN
06		Unknown-04 (12.38)	13.31	440	J
07		Unknown-05 (14.42)	13.46	810	J
08		Unknown-06 (14.42)	13.59	550	J
09		Unknown-07 (14.42)	13.64	1200	J
10		Unknown-08 (14.42)	13.71	1100	J
11		Unknown-09 (14.42)	13.79	690	J
12	057866-08-7	Tetracosanal	13.88	780	JN
13		Unknown-10 (14.42)	13.92	680	J
14		Unknown-11 (14.42)	13.98	760	J
15		Unknown-12 (14.42)	14.06	490	J
16	1000155-82-2	Bicyclo[10.8.0]eicosane, cis	15.05	270	JN
17		Unknown-13 (14.42)	17.22	450	J
18	001617-70-5	Lup-20 (29) -en-3-one	17.72	440	JN
19		Unknown-14 (14.42)	19.00	820	J
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	7000	J

²EPA-designated Registry Number.

000000627

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF45

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-16
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0791.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 6.8 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/01/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	180	U
108-95-2	Phenol	180	U
111-44-4	Bis(2-chloroethyl)ether	180	U
95-57-8	2-Chlorophenol	180	U
95-48-7	2-Methylphenol	180	U
108-60-1	2,2'-Oxybis(1-chloropropane)	180	U
98-86-2	Acetophenone	180	U
106-44-5	4-Methylphenol	180	U
621-64-7	N-Nitroso-di-n-propylamine	180	U
67-72-1	Hexachloroethane	180	U
98-95-3	Nitrobenzene	180	U
78-59-1	Isophorone	180	U
88-75-5	2-Nitrophenol	180	U
105-67-9	2,4-Dimethylphenol	180	U
111-91-1	Bis(2-chloroethoxy)methane	180	U
120-83-2	2,4-Dichlorophenol	180	U
91-20-3	Naphthalene	180	U
106-47-8	4-Chloroaniline	180	U
87-68-3	Hexachlorobutadiene	180	U
105-60-2	Caprolactam	180	U
59-50-7	4-Chloro-3-methylphenol	180	U
91-57-6	2-Methylnaphthalene	180	U
77-47-4	Hexachlorocyclopentadiene	180	U
88-06-2	2,4,6-Trichlorophenol	180	U
95-95-4	2,4,5-Trichlorophenol	180	U
92-52-4	1,1'-Biphenyl	180	U
91-58-7	2-Chloronaphthalene	180	U
88-74-4	2-Nitroaniline	350	U
131-11-3	Dimethylphthalate	180	U
606-26-2	2,6-Dinitrotoluene	180	U
208-96-8	Acenaphthylene	180	U
99-09-2	3-Nitroaniline	350	U
83-32-9	Acenaphthene	180	U

00000567

SOM01.2 (8/2007)

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF45

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-16
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0791.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 6.8 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/01/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
51-28-5	2,4-Dinitrophenol	350	U
100-02-7	4-Nitrophenol	350	U
132-64-9	Dibenzofuran	180	U
121-14-2	2,4-Dinitrotoluene	180	U
84-66-2	Diethylphthalate	180	U
86-73-7	Fluorene	180	U
7005-72-3	4-Chlorophenyl-phenylether	180	U
100-01-6	4-Nitroaniline	350	U
534-52-1	4,6-Dinitro-2-methylphenol	350	U
86-30-6	N-Nitrosodiphenylamine (1)	180	U
95-94-3	1,2,4,5-Tetrachlorobenzene	180	U
101-55-3	4-Bromophenyl-phenylether	180	U
118-74-1	Hexachlorobenzene	180	U
1912-24-9	Atrazine	180	U
87-86-5	Pentachlorophenol	350	U
85-01-8	Phenanthrene	180	U
120-12-7	Anthracene	180	U
86-74-8	Carbazole	180	U
84-74-2	Di-n-butylphthalate	38	JC
206-44-0	Fluoranthene	180	U
129-00-0	Pyrene	180	U
85-68-7	Butylbenzylphthalate	180	U
91-94-1	3,3'-Dichlorobenzidine	180	U
56-55-3	Benzo (a) anthracene	180	U
218-01-9	Chrysene	180	U
117-81-7	Bis(2-ethylhexyl)phthalate	180	U
117-84-0	Di-n-octylphthalate	180	U
205-99-2	Benzo (b) fluoranthene	180	U
207-08-9	Benzo (k) fluoranthene	180	U
50-32-8	Benzo (a) pyrene	180	U
193-39-5	Indeno (1,2,3-cd) pyrene	180	U
53-70-3	Dibenzo (a,h) anthracene	180	U
191-24-2	Benzo (g,h,i) perylene	180	U
58-90-2	2,3,4,6-Tetrachlorophenol	180	U

*Cannot be separated from Diphenylamine

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SOM01.2 (8/2007)

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF45

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-16
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0791.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 6.8 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/01/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.97)	1.42	4500	J
02		Unknown-02 (3.97)	2.27	290	J
03		Unknown-03 (3.97)	2.48	300	J
04		Unknown-04 (3.97)	4.08	200	J
05	000112-27-6	Triethylene glycol	5.59	480	JN
06	001461-22-9	Stannane, tributylchloro-	8.33	2300	JN
07		Unknown-05 (9.17)	8.62	190	J
08	004792-15-8	Pentaethylene glycol	9.09	470	JN
09	000084-69-5	1,2-Benzenedicarboxylic aci.	9.55	170	JN
10	000638-66-4	Octadecanal	13.88	420	JN
11	056554-92-8	10-Octadecenal	15.06	200	JN
12	056221-91-1	13-Tetradecen-1-ol acetate	15.49	360	JN
13	000083-46-5	.beta.-Sitosterol	17.26	840	JN
14	000559-74-0	Friedelan-3-one	19.00	790	JN
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	6700	J

²EPA-designated Registry Number.

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1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF46

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-17
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0792.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 14.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/01/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	200	U
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl)ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2'-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso di n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1'-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	380	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	380	U
83-32-9	Acenaphthene	200	U

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SOM01.2 (8/2007)

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF46

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-17
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0792.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 14.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/01/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
51-28-5	2,4-Dinitrophenol	380	U
100-02-7	4-Nitrophenol	380	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	380	U
534-52-1	4,6-Dinitro-2-methylphenol	380	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
119-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	380	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo (a) anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	40	U
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo (b) fluoranthene	200	U
207-08-9	Benzo (k) fluoranthene	200	U
50-32-8	Benzo (a) pyrene	200	U
193-39-5	Indeno (1,2,3-cd) pyrene	200	U
53-70-3	Dibenzo (a,h) anthracene	200	U
191-24-2	Benzo (g,h,i) perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

¹ Cannot be separated from Diphenylamine

000000799

1K - FORM I SV-TIC
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF46

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-17
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0792.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 14.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/01/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.97)	1.13	1300	J
02		Unknown-02 (3.97)	1.42	3800	J
03		Unknown-03 (3.97)	2.26	570	J
04		Unknown-04 (3.97)	2.48	600	JB
05	000108-38-3	Benzene, 1,3-dimethyl-	2.83	490	JN
06		Unknown-05 (3.97)	4.08	150	J
07		Unknown-06 (9.17)	8.31	170	J
08		Unknown-07 (9.17)	9.55	170	J
09	036653-82-4	1-Hexadecanol	10.57	410	JN
10		Unknown-08 (12.38)	12.32	550	J
11		Unknown-09 (14.42)	13.67	140	J
12		Unknown-10 (14.42)	13.88	170	J
13		Unknown-11 (14.42)	17.26	870	J
14		Unknown-12 (14.42)	17.72	140	J
15	300574-36-1	5-Bromo-4-oxo-4,5,6,7-tetra.	19.00	360	JN
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	5200	J

²EPA-designated Registry Number.

000000710

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF47

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-18
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0793.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 12.0 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 4.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	190	U
108-95-2	Phenol	190	U
111-44-4	Bis(2-chloroethyl)ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	190	U
108-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	190	U
106-44-5	4-Methylphenol	190	U
621-64-7	N-Nitroso di-n-propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	U
106-47-6	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	190	U
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	380	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	380	U
83-32-9	Acenaphthene	190	U

000000719

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF47

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-18
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0793.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 ‡ Moisture: 12.0 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 4.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	380	U
100-02-7	4-Nitrophenol	380	U
132-64-9	Dibenzofuran	190	U
121-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethylphthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	380	U
534-52-1	4,6-Dinitro-2-methylphenol	380	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
118-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	380	U
85-01-8	Phenanthrene	190	U
120-12-7	Anthracene	190	U
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	190	U
206-44-0	Fluoranthene	190	U
129-00-0	Pyrene	190	U
85-68-7	Butylbenzylphthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	190	U
218-01-9	Chrysene	190	U
117-81-7	Bis(2-ethylhexyl)phthalate	190	U
117-84-0	Di-n-octylphthalate	190	U
205-99-2	Benzo (b) fluoranthene	190	U
207-08-9	Benzo (k) fluoranthene	190	U
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	U
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	190	U
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

¹Cannot be separated from Diphenylamine

000000750

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF47

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-1B
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0793.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 12.0 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 4.5 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	005076-19-7	Oxirane, trimethyl-	1.42	4400	JN
02		Unknown-01 (3.98)	1.55	460	J
03		Unknown-02 (3.98)	1.60	160	J
04		Unknown-03 (3.98)	2.26	550	JB
05		Unknown-04 (3.98)	2.48	570	J
06	000622-96-8	Benzene, 1-ethyl-4-methyl-	3.57	150	JN
07		Unknown-05 (3.98)	3.84	190	J
08		Unknown-06 (3.98)	4.08	210	J
09		Unknown-07 (9.17)	9.55	110	J
10		Unknown-08 (9.17)	10.62	120	J
11	000629-80-1	Hexadecanal	13.89	210	JN
12		Unknown-09 (14.42)	17.22	290	J
13		Unknown-10 (14.42)	17.72	170	J
14		Unknown-11 (14.42)	19.00	620	J
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30	E966796 ²	Total Alkanes	N/A	5700	J

²EPA-designated Registry Number.

000000751

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF48

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-19
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0794.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 17.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 4.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	200	U
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl)ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2'-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1'-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	400	U
131-11-3	Dimethylphthalate	200	U
666-88-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	400	U
83-32-9	Acenaphthene	200	U

000000789

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
JCF48

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-19
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0794.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 17.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 4.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
51-28-5	2,4-Dinitrophenol	400	U
100-02-7	4-Nitrophenol	400	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	400	U
534-52-1	4,6-Dinitro-2-methylphenol	400	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
118-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	400	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	38	J ^Q
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo (a) anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	110	J ^Q
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo (b) fluoranthene	200	U
207-08-9	Benzo (k) fluoranthene	200	U
50-32-8	Benzo (a) pyrene	200	U
193-39-5	Indeno (1,2,3-cd) pyrene	200	U
53-70-3	Dibenzo (a,h) anthracene	200	U
191-24-2	Benzo (g,h,i) perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

¹Cannot be separated from Diphenylamine

000000790

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF48

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-19
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0794.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 17.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 4.8 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.98)	1.42	9900	J
02		Unknown-02 (3.98)	2.26	260	J
03		Unknown-03 (3.98)	2.48	290	J
04	1000283-05-1	3-Chloropropionic acid, hep.	10.58	550	JN
05		Unknown-04 (12.38)	12.33	1300	J
06	000638-66-4	Octadecanal	13.89	590	JN
07	000124-25-4	Tetradecanal	15.06	370	JN
08	006971-40-0	17-Pentatriacontene	15.50	800	JN
09		Unknown-05 (14.42)	15.57	330	J
10	000083-47-6	gamma.-Sitosterol	17.26	2100	JN
11		Unknown-06 (14.42)	17.59	250	J
12		Unknown-07 (14.42)	17.72	540	J
13		Unknown-08 (14.42)	17.96	420	J
14	001058-61-3	Stigmast-4-en-3-one	18.29	250	JN
15		Unknown-09 (14.42)	18.84	860	J
16	000559-74-0	Friedelan-3-one	19.01	2600	JN
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	8300	J

²EPA-designated Registry Number.

000000791

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF30

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-01
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0936.D
 Extraction: (Type) SONC
 % Moisture: 11.4 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
106-47-8	4-Chloroaniline	64	U
111-44-4	Bis(2-chloroethyl) ether	2.3	U
118-74-1	Hexachlorobenzene	53	U
621-64-7	N-Nitroso-di-n-propylamine	12	U

000001211

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF31

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-02
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0930.D
 Extraction: (Type) SONC
 % Moisture: 11.4 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
121-14-2	2,4-Dinitrotoluene	100	U
606-20-2	2,6-Dinitrotoluene	100	U
106-47-8	4-Chloroaniline	640	U
111-44-4	Bis(2-chloroethyl) ether	22	U
118-74-1	Hexachlorobenzene	530	U
621-64-7	N-Nitroso-di-n-propylamine	120	U

000001216

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF32

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-03
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0917.D
 Extraction: (Type) SONC
 % Moisture: 13.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 6.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
106-47-8	4-Chloroaniline	66	U
111-44-4	Bis(2-chloroethyl) ether	2.3	U
118-74-1	Hexachlorobenzene	54	U
621-64-7	N-Nitroso-di-n-propylamine	13	U

000001219

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF33

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-04
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0924.D
 Extraction: (Type) SONC
 % Moisture: 16.5 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
121-14-2	2,4-Dinitrotoluene	11	U
606-20-2	2,6-Dinitrotoluene	11	U
106-47-8	4-Chloroaniline	68	U
111-44-4	Bis(2-chloroethyl)ether	2.4	U
118-74-1	Hexachlorobenzene	56	U
621-64-7	N-Nitroso-di-n-propylamine	13	U

000001224

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF34

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-05
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0918.D
 Extraction: (Type) SONC
 % Moisture: 29.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 6.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
121-14-2	2,4-Dinitrotoluene	13	U
606-20-2	2,6-Dinitrotoluene	13	U
106-47-8	4-Chloroaniline	81	U
111-44-4	Bis(2-chloroethyl)ether	2.8	U
118-74-1	Hexachlorobenzene	67	U
621-64-7	N-Nitroso-di-n-propylamine	16	U

000001229

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF35

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: D012266-06
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0928.D
 Extraction: (Type) SONC
 % Moisture: 20.0 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
121-14-2	2,4-Dinitrotoluene	11	U
606-20-2	2,6-Dinitrotoluene	11	U
106-47-8	4-Chloroaniline	71	U
111-44-4	Bis(2-chloroethyl) ether	2.5	U
118-74-1	Hexachlorobenzene	59	U
621-64-7	N-Nitroso-di-n-propylamine	14	U

000001234

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF36

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-07
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0919.D
 Extraction: (Type) SONC
 % Moisture: 26.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 7.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
121-14-2	2,4-Dinitrotoluene	12	U
606-20-2	2,6-Dinitrotoluene	12	U
106-47-8	4-Chloroaniline	77	U
111-44-4	Bis(2-chloroethyl) ether	2.7	U
118-74-1	Hexachlorobenzene	64	U
621-64-7	N-Nitroso-di-n-propylamine	15	U

000001239

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF37

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-08
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0958.D
 Extraction: (Type) SONC
 % Moisture: 26.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/07/2010
 GPC Cleanup: (Y/N) Y pH: 6.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
121-14-2	2,4-Dinitrotoluene	12	U
606-20-2	2,6-Dinitrotoluene	12	U
106-47-8	4-Chloroaniline	77	U
111-44-4	Bis(2-chloroethyl)ether	2.7	U
118-74-1	Hexachlorobenzene	64	U
621-64-7	N-Nitroso-di-n-propylamine	15	U

000001244

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF38

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-09
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0920.D
 Extraction: (Type) SONC
 % Moisture: 4.6 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 6.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
121-14-2	2,4-Dinitrotoluene	9.4	U
606-20-2	2,6-Dinitrotoluene	9.4	U
106-47-8	4-Chloroaniline	60	U
111-44-4	Bis(2-chloroethyl)ether	2.1	U
118-74-1	Hexachlorobenzene	49	U
621-64-7	N-Nitroso-di-n-propylamine	11	U

000001248

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF39

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-10
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0921.D
 Extraction: (Type) SONC
 % Moisture: 10.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 4.6 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
106-47-8	4-Chloroaniline	0.84	U
111-44-4	Bis(2-chloroethyl) ether	2.2	U
118-74-1	Hexachlorobenzene	52	U
621-64-7	N-Nitroso-di-n-propylamine	12	U

000001253

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF40

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-11
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0946.D
 Extraction: (Type) SONC
 % Moisture: 13.5 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/07/2010
 GPC Cleanup: (Y/N) Y pH: 4.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
106-47-8	4-Chloroaniline	66	U
111-44-4	Bis(2-chloroethyl) ether	2,3	U
118-74-1	Hexachlorobenzene	54	U
621-64-7	N-Nitroso-di-n-propylamine	13	U

000001259

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF41

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-12
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0957.D
 Extraction: (Type) SONC
 % Moisture: 10.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/07/2010
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
106-47-8	4-Chloroaniline	63	U
111-44-4	Bis(2-chloroethyl) ether	2.2	U
118-74-1	Hexachlorobenzene	52	U
621-64-7	N-Nitroso-di-n-propylamine	12	U

000001264

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF42

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-13
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0947.D
 Extraction: (Type) SONC
 % Moisture: 12.8 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/07/2010
 GPC Cleanup: (Y/N) Y pH: 4.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
121-14-2	2,4-Dinitrotoluene	10	U
506-20-2	2,6-Dinitrotoluene	10	U
106-47-8	4-Chloroaniline	65	U
111-44-4	Bis(2-chloroethyl) ether	2.3	U
118-74-1	Hexachlorobenzene	54	U
621-64-7	N-Nitroso-di-n-propylamine	42	

000001269

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF44

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-15
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0940.D
 Extraction: (Type) SONC
 % Moisture: 17.4 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
121-14-2	2,4-Dinitrotoluene	11	U
606-20-2	2,6-Dinitrotoluene	11	U
106-47-8	4-Chloroaniline	69	U
111-44-4	Bis(2-chloroethyl) ether	2.4	U
118-74-1	Hexachlorobenzene	57	U
621-64-7	N-Nitroso-di-n-propylamine	13	U

000001280

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF45

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-16
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0925.D
 Extraction: (Type) SONC
 % Moisture: 6.8 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
121-14-2	2,4-Dinitrotoluene	9.7	U
506-20-2	2,6-Dinitrotoluene	9.7	U
106-47-8	4-Chloroaniline	61	U
111-44-4	Bis(2-chloroethyl) ether	2.1	U
118-74-1	Hexachlorobenzene	50	U
621-64-7	N-Nitroso-di-n-propylamine	12	U

000001205

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF46

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-17
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0926.D
 Extraction: (Type) SONC
 % Moisture: 14.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	<u>Q</u>
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
105-47-8	4-Chloroaniline	66	U
111-44-4	Bis(2-chloroethyl) ether	2.3	U
118-74-1	Hexachlorobenzene	54	U
621-64-7	N-Nitroso-di-n-propylamine	13	U

000001200

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF47

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-18
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0927.D
 Extraction: (Type) SONC
 % Moisture: 12.0 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 4.5 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
106-47-8	4-Chloroaniline	65	U
111-44-4	Bis(2-chloroethyl) ether	2.3	U
118-74-1	Hexachlorobenzene	53	U
621-64-7	N-Nitroso-di-n-propylamine	13	U

000001293

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF48

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-19
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0931.D
 Extraction: (Type) SONC
 % Moisture: 17.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 4.8 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
121-14-2	2,4-Dinitrotoluene	11	U
606-20-2	2,6-Dinitrotoluene	11	U
106-47-8	4-Chloroaniline	69	U
111-44-4	Bis(2-chloroethyl) ether	2.4	U
118-74-1	Hexachlorobenzene	57	U
621-64-7	N-Nitroso-di-n-propylamine	13	U

000001298

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF43

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF30
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012266-14
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0939.D
 Extraction: (Type) SONC
 % Moisture: 8.8 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
 GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
121-14-2	2,4-Dinitrotoluene	9.8	U
606-20-2	2,6-Dinitrotoluene	9.8	U
106-47-8	4-Chloroaniline	62	U
111-44-4	Bis(2-chloroethyl) ether	2.2	U
118-74-1	Hexachlorobenzene	51	U
621-64-7	N-Nitroso-di-n-propylamine	12	U

000001275



ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104

Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: July 15, 2010

TO: Linda Costello, START-3 Project Manager, E & E, Seattle, Washington

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Data Summary Check,
Former Joseph Guy Community Center Site, Kwethluk, Alaska**

REF: TDD: 09-09-0002 PAN: 002233.0486.01BA

The data summary check of 19 soil samples collected from the Former Joseph Guy Community Center site located in Kwethluk, Alaska, has been completed. Total elements (ICP-MS and CVAA) analyses were performed by A4 Scientific, The Woodlands, Texas.

The samples were numbered:

MJCF30	MJCF31	MJCF32	MJCF33	MJCF34	MJCF35
MJCF36	MJCF37	MJCF38	MJCF39	MJCF40	MJCF41
MJCF42	MJCF43	MJCF44	MJCF45	MJCF46	MJCF47
MJCF48					

No discrepancies were noted. Sample results originally qualified as "J" by the laboratory and changed to "Q" by the primary reviewer were changed to "JQ" by the secondary reviewer to indicate that the results were estimated below the contract required detection limit.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 10

1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

July 13, 2010

Reply To: OEA-095

MEMORANDUM

SUBJECT: Data Transmittal for Former Joseph Guy Community Center,
TBA, Case# 40216, SDG: MJCF30, Inorganic Analysis

FROM: Donald Matheny, Chemist *DM*
Environmental Services Unit, OEA (OEA-095)

TO: Joanne LaBaw, Project Manager
Office of Environmental Cleanup (ECL-112)

CC: Renee Nordeen, Ecology & Environment

The following data are being transmitted for the above project. Nineteen (19) soil samples were analyzed for total elements by A4 Scientific, The Woodlands, TX. Sample numbers for this delivery group are:

MJCF30	MJCF31	MJCF32	MJCF33	MJCF34	MJCF35	MJCF36
MJCF37	MJCF38	MJCF39	MJCF40	MJCF41	MJCF42	MJCF43
MJCF44	MJCF45	MJCF46	MJCF47	MJCF48		

A cursory assessment of the data indicates the following:

The (D) qualifier indicates that a dilution was required by the lab.

The matrix spike recovery for manganese was 73%. Manganese values should be qualified as estimates with a low bias.

No data validation qualifiers were applied to the data

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF30

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF30
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012264-01
 Level: (low/med) LOW Date Received: 06/12/2010

% Solids 88.6

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5220			P
7440-36-0	Antimony	20.8			P
7440-38-2	Arsenic	9.9			P
7440-39-3	Barium	116			P
7440-41-7	Beryllium	0.56	U		P
7440-43-9	Cadmium	0.77			P
7440-70-2	Calcium	126000		D	P
7440-47-3	Chromium	31.6			P
7440-48-4	Cobalt	19.7			P
7440-50-8	Copper	405			P
7439-89-6	Iron	98600		D	P
7439-92-1	Lead	27.1			P
7439-95-4	Magnesium	2380			P
7439-96-5	Manganese	985	JL		P
7439-97-6	Mercury	0.052	JQ	ML	CV
7440-02-0	Nickel	22.7			P
7440-09-7	Potassium	505	JQ		P
7782-49-2	Selenium	3.7	JQ		P
7440-22-4	Silver	7.9			P
7440-23-5	Sodium	794			P
7440-28-0	Thallium	2.8	U		P
7440-62-2	Vanadium	10.8			P
7440-66-6	Zinc	1820			P

JM
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF31

Lab Name: A4 SCIENTIFIC, INC.Contract: EPW08063Lab Code: A4Case No.: 40216NRAS No.: 1953.0SDG No.: MJCF30Matrix: (Soil/Water) SOILLab Sample ID: 0012264-02Level: (low/med) LOWDate Received: 06/12/2010% Solids 88.6Concentration Units (ug/L or mg/kg dry weight): mg/Kg

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	6240			P
7440-36-0	Antimony	11.9			P
7440-38-2	Arsenic	11.2			P
7440-39-3	Barium	155			P
7440-41-7	Beryllium	0.56	U		P
7440-43-9	Cadmium	1.2			P
7440-70-2	Calcium	133000		D	P
7440-47-3	Chromium	24.1			P
7440-48-4	Cobalt	26.7			P
7440-50-8	Copper	292			P
7439-89-6	Iron	50800			P
7439-92-1	Lead	27.7			P
7439-95-4	Magnesium	3210			P
7439-96-5	Manganese	668	JV	N	P
7439-97-6	Mercury	0.075	JQ	NW	CV
7440-02-0	Nickel	19.3			P
7440-09-7	Potassium	859			P
7782-49-2	Selenium	2.0	JG		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	1460			P
7440-28-0	Thallium	2.8	U		P
7440-62-2	Vanadium	12.5			P
7440-66-6	Zinc	6310			P

DM
7-13-10Color Before: BROWNClarity Before: CLOUDYTexture: MEDIUMColor After: YELLOWClarity After: CLEAR

Artifacts: _____

Comments:

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF32

Lab Name: A4 SCIENTIFIC, INC.

Contract: EPW08063

Lab Code: A4

Case No.: 40216

NRAS No.: 1953.0

SDG No.: MJCF30

Matrix: (Soil/Water) SOIL

Lab Sample ID: 0012264-03

Level: (low/med) LOW

Date Received: 06/12/2010

‡ Solids 86.3

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9520			P
7440-36-0	Antimony	1.3	JG		P
7440-38-2	Arsenic	9.2			P
7440-39-3	Barium	100			P
7440-41-7	Beryllium	0.58	U		P
7440-43-9	Cadmium	0.30	JG		P
7440-70-2	Calcium	11900			P
7440-47-3	Chromium	19.8			P
7440-48-4	Cobalt	9.8			P
7440-50-8	Copper	25.8			P
7439-89-6	Iron	19400			P
7439-92-1	Lead	6.3			P
7439-95-4	Magnesium	5610			P
7439-96-5	Manganese	326	JL	✗	P
7439-97-6	Mercury	0.056	JG		CV
7440-02-0	Nickel	23.0			P
7440-09-7	Potassium	749			P
7782-49-2	Selenium	1.0	JG		P
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	259	JG		P
7440-28-0	Thallium	2.9	U		P
7440-62-2	Vanadium	28.2			P
7440-66-6	Zinc	611			P

DM
7-13-16

Color Before: BROWN

Clarity Before: CLOUDY

Texture: MEDIUM

Color After: YELLOW

Clarity After: CLEAR

Artifacts: _____

Comments:

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF33

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF30
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012264-04
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 83.5

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5200			P
7440-36-0	Antimony	15.2			P
7440-38-2	Arsenic	95.3			P
7440-39-3	Barium	150			P
7440-41-7	Beryllium	0.60	U		P
7440-43-9	Cadmium	0.96			P
7440-70-2	Calcium	182000		D	P
7440-47-3	Chromium	33.6			P
7440-48-4	Cobalt	26.1			P
7440-50-8	Copper	771			P
7439-89-6	Iron	69900		D	P
7439-92-1	Lead	19.0			P
7439-95-4	Magnesium	2450			P
7439-96-5	Manganese	617	JL	N/A	P
7439-97-6	Mercury	0.036	JQ		CV
7440-02-0	Nickel	19.5			P
7440-09-7	Potassium	721			P
7782-49-2	Selenium	2.3	JQ		P
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	2520			P
7440-28-0	Thallium	3.0	U		P
7440-62-2	Vanadium	9.7			P
7440-66-6	Zinc	2290			P

JL
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:



USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF34

Lab Name: A4 SCIENTIFIC, INC.Contract: EPW08063Lab Code: A4Case No.: 40216NRAS No.: 1953.0SDG No.: MJCF30Matrix: (Soil/Water) SOILLab Sample ID: 0012264-05Level: (low/med) LOWDate Received: 06/12/2010% Solids 70.3Concentration Units (ug/L or mg/kg dry weight): mg/Kg

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8450			P
7440-36-0	Antimony	255			P
7440-38-2	Arsenic	399			P
7440-39-3	Barium	183			P
7440-41-7	Beryllium	0.71	U		P
7440-43-9	Cadmium	2.3			P
7440-70-2	Calcium	200000		D	P
7440-47-3	Chromium	27.4			P
7440-48-4	Cobalt	25.8			P
7440-50-8	Copper	2280			P
7439-89-6	Iron	66900			P
7439-92-1	Lead	81.8			P
7439-95-4	Magnesium	1740			P
7439-96-5	Manganese	740	JL	JW	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	22.5			P
7440-09-7	Potassium	442	JA		P
7782-49-2	Selenium	2.5	JA		P
7440-22-4	Silver	1.4	U		P
7440-23-5	Sodium	967			P
7440-28-0	Thallium	3.6	U		P
7440-62-2	Vanadium	7.5			P
7440-66-6	Zinc	2690			P

JA
7-13-10Color Before: BROWNClarity Before: CLOUDYTexture: MEDIUMColor After: YELLOWClarity After: CLEAR

Artifacts: _____

Comments:

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF35

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF30
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012264-06
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 80.0

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2340			P
7440-36-0	Antimony	387			P
7440-38-2	Arsenic	55.7			P
7440-39-3	Barium	123			P
7440-41-7	Beryllium	0.63	U		P
7440-43-9	Cadmium	1.2			P
7440-70-2	Calcium	156000		D	P
7440-47-3	Chromium	44.3			P
7440-48-4	Cobalt	10.9			P
7440-50-8	Copper	32600		P	P
7439-89-6	Iron	94700		P	P
7439-92-1	Lead	66.6			P
7439-95-4	Magnesium	2310			P
7439-96-5	Manganese	525	JL	Jan	P
7439-97-6	Mercury	0.13	U		CV
7440-02-0	Nickel	394			P
7440-09-7	Potassium	448	JL		P
7782-49-2	Selenium	2.9	JL		P
7440-22-4	Silver	1.3	U		P
7440-23-5	Sodium	596	JL		P
7440-28-0	Thallium	3.1	U		P
7440-62-2	Vanadium	2.6	JL		P
7440-66-6	Zinc	1570			P

DM
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF36

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF30
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012264-07
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 73.3

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7560			P
7440-36-0	Antimony	19.2			P
7440-38-2	Arsenic	11.9			P
7440-39-3	Barium	158			P
7440-41-7	Beryllium	0.68	U		P
7440-43-9	Cadmium	0.57	JQ		P
7440-70-2	Calcium	180000		D	P
7440-47-3	Chromium	19.8			P
7440-48-4	Cobalt	23.7			P
7440-50-8	Copper	204			P
7439-89-6	Iron	26100			P
7439-92-1	Lead	47.4			P
7439-95-4	Magnesium	10600			P
7439-96-5	Manganese	466	JL	TH	P
7439-97-6	Mercury	0.14	U		CV
7440-02-0	Nickel	11.0			P
7440-09-7	Potassium	435	JQ		P
7782-49-2	Selenium	0.66	JQ		P
7440-22-4	Silver	1.4	U		P
7440-23-5	Sodium	1110			P
7440-28-0	Thallium	3.4	U		P
7440-62-2	Vanadium	8.7			P
7440-66-6	Zinc	1250			P

DM
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:



USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF37

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF30
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012264-08
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 73.8

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5780			P
7440-36-0	Antimony	8.3			P
7440-38-2	Arsenic	14.8			P
7440-39-3	Barium	150			P
7440-41-7	Beryllium	0.68	U		P
7440-43-9	Cadmium	0.57	JQ		P
7440-70-2	Calcium	138000		D	P
7440-47-3	Chromium	16.4			P
7440-48-4	Cobalt	19.7			P
7440-50-8	Copper	189			P
7439-89-6	Iron	26400			P
7439-92-1	Lead	10.8			P
7439-95-4	Magnesium	2970			P
7439-96-5	Manganese	454	JL	fm	P
7439-97-6	Mercury	0.93			CV
7440-02-0	Nickel	14.8			P
7440-09-7	Potassium	536	JQ		P
7782-49-2	Selenium	0.99	JQ		P
7440-22-4	Silver	1.4	U		P
7440-23-5	Sodium	473	JQ		P
7440-28-0	Thallium	3.4	U		P
7440-62-2	Vanadium	15.9			P
7440-66-6	Zinc	911			P

DM
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:



USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF38

Lab Name: A4 SCIENTIFIC, INC.

Contract: EPW08063

Lab Code: A4

Case No.: 40216

NRAS No.: 1953.0

SDG No.: MJCF30

Matrix: (Soil/Water) SOIL

Lab Sample ID: 0012264-09

Level: (low/med) LOW

Date Received: 06/12/2010

% Solids 95.4

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9440			P
7440-36-0	Antimony	3.8	U		P
7440-38-2	Arsenic	9.0			P
7440-39-3	Barium	112			P
7440-41-7	Beryllium	0.26	J		P
7440-43-9	Cadmium	0.30	J		P
7440-70-2	Calcium	2600			P
7440-47-3	Chromium	20.0			P
7440-48-4	Cobalt	9.6			P
7440-50-8	Copper	20.8			P
7439-89-6	Iron	19400			P
7439-92-1	Lead	5.3			P
7439-95-4	Magnesium	4290			P
7439-96-5	Manganese	358	JL	XNW	P
7439-97-6	Mercury	0.12			CV
7440-02-0	Nickel	24.4			P
7440-09-7	Potassium	667			P
7782-49-2	Selenium	1.4	JQ		P
7440-22-4	Silver	1.0	U		P
7440-23-5	Sodium	524	U		P
7440-28-0	Thallium	2.6	U		P
7440-62-2	Vanadium	29.5			P
7440-66-6	Zinc	74.7			P

DM
7-13-10

Color Before: BROWN

Clarity Before: CLOUDY

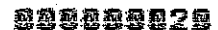
Texture: MEDIUM

Color After: YELLOW

Clarity After: CLEAR

Artifacts: _____

Comments:



USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF39

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF30
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012264-10
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 89.8

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9390			P
7440-36-0	Antimony	4.0	U		P
7440-38-2	Arsenic	8.5			P
7440-39-3	Barium	103			P
7440-41-7	Beryllium	0.56	U		P
7440-43-9	Cadmium	0.29	JQ		P
7440-70-2	Calcium	2580			P
7440-47-3	Chromium	19.9			P
7440-48-4	Cobalt	9.6			P
7440-50-8	Copper	18.5			P
7439-89-6	Iron	19400			P
7439-92-1	Lead	5.0			P
7439-95-4	Magnesium	4260			P
7439-96-5	Manganese	367	JL	MJE	P
7439-97-6	Mercury	0.11	JQ		CV
7440-02-0	Nickel	24.2			P
7440-09-7	Potassium	672			P
7782-49-2	Selenium	1.0	JQ		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	557	U		P
7440-28-0	Thallium	2.8	U		P
7440-62-2	Vanadium	29.6			P
7440-66-6	Zinc	66.3			P

BY
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF40

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF30
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012264-11
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 86.5

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9190			P
7440-36-0	Antimony	4.2	U		P
7440-38-2	Arsenic	8.0			P
7440-39-3	Barium	98.1			P
7440-41-7	Beryllium	0.58	U		P
7440-43-9	Cadmium	0.30	JQ		P
7440-70-2	Calcium	2340			P
7440-47-3	Chromium	20.4			P
7440-48-4	Cobalt	9.1			P
7440-50-8	Copper	19.9			P
7439-89-6	Iron	18900			P
7439-92-1	Lead	4.6			P
7439-95-4	Magnesium	4420			P
7439-96-5	Manganese	328	JL	JM	P
7439-97-6	Mercury	0.11	JQ		CV
7440-02-0	Nickel	23.6			P
7440-09-7	Potassium	709			P
7782-49-2	Selenium	1.1	JQ		P
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	578	U		P
7440-28-0	Thallium	2.9	U		P
7440-62-2	Vanadium	28.9			P
7440-66-6	Zinc	107			P

JM
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:



USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF41

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF30
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012264-12
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 89.8

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10200			P
7440-36-0	Antimony	4.0	U		P
7440-38-2	Arsenic	9.4			P
7440-39-3	Barium	114			P
7440-41-7	Beryllium	0.22	J		P
7440-43-9	Cadmium	0.32	J		P
7440-70-2	Calcium	2740			P
7440-47-3	Chromium	20.7			P
7440-48-4	Cobalt	10			P
7440-50-8	Copper	18.0			P
7439-89-6	Iron	20400			P
7439-92-1	Lead	7.1			P
7439-95-4	Magnesium	4350			P
7439-96-5	Manganese	377	JL	SMU	P
7439-97-6	Mercury	0.12			CV
7440-02-0	Nickel	25.5			P
7440-09-7	Potassium	678			P
7782-49-2	Selenium	1.2	JG		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	557	U		P
7440-28-0	Thallium	2.8	U		P
7440-62-2	Vanadium	30.7			P
7440-66-6	Zinc	64.0			P

DM
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF42

Lab Name: A4 SCIENTIFIC, INC.Contract: EPW08063Lab Code: A4Case No.: 40216NRAS No.: 1953.0SDG No.: MJCF30Matrix: (Soil/Water) SOILLab Sample ID: 0012264-13Level: (low/med) LOWDate Received: 06/12/2010* Solids 87.2Concentration Units (ug/L or mg/kg dry weight): mg/Kg

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9440			P
7440-36-0	Antimony	4.1	U		P
7440-38-2	Arsenic	8.3			P
7440-39-3	Barium	105			P
7440-41-7	Beryllium	0.21	JQ		P
7440-43-9	Cadmium	0.29	JQ		P
7440-70-2	Calcium	2700			P
7440-47-3	Chromium	20.4			P
7440-48-4	Cobalt	9.4			P
7440-50-8	Copper	20.4			P
7439-89-6	Iron	19400			P
7439-92-1	Lead	5.7			P
7439-95-4	Magnesium	4260			P
7439-96-5	Manganese	343	JL	AM	P
7439-97-6	Mercury	0.13			CV
7440-02-0	Nickel	24.1			P
7440-09-7	Potassium	665			P
7782-49-2	Selenium	1.2	JQ		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	573	U		P
7440-28-0	Thallium	2.9	U		P
7440-62-2	Vanadium	29.7			P
7440-66-6	Zinc	64.5			P

JL
7-13-10Color Before: BROWNClarity Before: CLOUDYTexture: MEDIUMColor After: YELLOWClarity After: CLEAR

Artifacts: _____

Comments:

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF43

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: AA Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF30
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012264-14
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 91.2

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9740			P
7440-36-0	Antimony	3.9	U		P
7440-38-2	Arsenic	8.8			P
7440-39-3	Barium	112			P
7440-41-7	Beryllium	0.21	JQ		P
7440-43-9	Cadmium	0.41	JQ		P
7440-70-2	Calcium	2400			P
7440-47-3	Chromium	20.6			P
7440-48-4	Cobalt	10.5			P
7440-50-8	Copper	20.3			P
7439-89-6	Iron	20400			P
7439-92-1	Lead	5.7			P
7439-95-4	Magnesium	4480			P
7439-96-5	Manganese	492	JL	mm	P
7439-97-6	Mercury	0.18			CV
7440-02-0	Nickel	27.2			P
7440-09-7	Potassium	720			P
7782-49-2	Selenium	1.3	JQ		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	548	U		P
7440-28-0	Thallium	2.7	U		P
7440-62-2	Vanadium	30.6			P
7440-66-6	Zinc	69.6			P

JH
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF44

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF30
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012264-15
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 82.6

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8620			P
7440-36-0	Antimony	4.4	U		P
7440-38-2	Arsenic	7.7			P
7440-39-3	Barium	91.6			P
7440-41-7	Beryllium	0.61	U		P
7440-43-9	Cadmium	0.28	JG		P
7440-70-2	Calcium	2510			P
7440-47-3	Chromium	18.5			P
7440-48-4	Cobalt	8.6			P
7440-50-8	Copper	21.2			P
7439-89-6	Iron	17900			P
7439-92-1	Lead	5.3			P
7439-95-4	Magnesium	4210			P
7439-96-5	Manganese	336	JL	Am	P
7439-97-6	Mercury	0.12			CV
7440-02-0	Nickel	22.7			P
7440-09-7	Potassium	779			P
7782-49-2	Selenium	1.2	JQ		P
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	605	U		P
7440-28-0	Thallium	3.0	U		P
7440-62-2	Vanadium	27.7			P
7440-66-6	Zinc	135			P

DM
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF45

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRS No.: 1953.0 SDG No.: MJCF30
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012264-16
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 93.2

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8900			P
7440-36-0	Antimony	3.9	U		P
7440-38-2	Arsenic	7.5			P
7440-39-3	Barium	98.4			P
7440-41-7	Beryllium	0.54	U		P
7440-43-9	Cadmium	0.26	J(1)		P
7440-70-2	Calcium	2330			P
7440-47-3	Chromium	18.8			P
7440-48-4	Cobalt	9.1			P
7440-50-8	Copper	16.9			P
7439-89-6	Iron	18400			P
7439-92-1	Lead	4.6			P
7439-95-4	Magnesium	4140			P
7439-96-5	Manganese	331	JL	Am	P
7439-97-6	Mercury	0.16			CV
7440-02-0	Nickel	23.1			P
7440-09-7	Potassium	624			P
7782-49-2	Selenium	1.3	J(1)		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	536	U		P
7440-28-0	Thallium	2.7	U		P
7440-62-2	Vanadium	28.1			P
7440-66-6	Zinc	64.3			P

DH
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF46

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF30
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012264-17
 Level: (low/med) LOW Date Received: 06/12/2010
 ‡ Solids 85.8

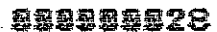
Concentration Units (ug/L or mg/kg dry weight): mg/Kg

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8950			P
7440-36-0	Antimony	4.2	U		P
7440-38-2	Arsenic	7.9			P
7440-39-3	Barium	102			P
7440-41-7	Beryllium	0.58	U		P
7440-43-9	Cadmium	0.28	JQ		P
7440-70-2	Calcium	2390			P
7440-47-3	Chromium	19.2			P
7440-48-4	Cobalt	9.3			P
7440-50-8	Copper	17.8			P
7439-89-6	Iron	18400			P
7439-92-1	Lead	4.9			P
7439-95-4	Magnesium	4150			P
7439-96-5	Manganese	332	JL	AMM	P
7439-97-6	Mercury	0.12			CV
7440-02-0	Nickel	23.4			P
7440-09-7	Potassium	647			P
7782-49-2	Selenium	1.2	JQ		P
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	583	U		P
7440-28-0	Thallium	2.9	U		P
7440-62-2	Vanadium	28.5			P
7440-66-6	Zinc	61.8			P

AM
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:



USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF47

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF30
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012264-18
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 88.0

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8980			P
7440-36-0	Antimony	4.1	U		P
7440-38-2	Arsenic	7.9			P
7440-39-3	Barium	100			P
7440-41-7	Beryllium	0.57	U		P
7440-43-9	Cadmium	0.29	JQ		P
7440-70-2	Calcium	2410			P
7440-47-3	Chromium	19.2			P
7440-48-4	Cobalt	9.2			P
7440-50-8	Copper	18.4			P
7439-89-6	Iron	18300			P
7439-92-1	Lead	4.9			P
7439-95-4	Magnesium	4180			P
7439-96-5	Manganese	329	JV	Am	P
7439-97-6	Mercury	0.11	JQ		CV
7440-02-0	Nickel	23.5			P
7440-09-7	Potassium	657			P
7782-49-2	Selenium	1.1	JQ		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	568	U		P
7440-28-0	Thallium	2.8	U		P
7440-62-2	Vanadium	28.1			P
7440-66-6	Zinc	76.8			P

DM
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:



USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF48

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF30
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012264-19
 Level: (low/med) LOW Date Received: 06/12/2010
 ‡ Solids 82.8

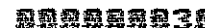
Concentration Units (ug/L or mg/kg dry weight): mg/Kg

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9820			P
7440-36-0	Antimony	1.2	JQ		P
7440-38-2	Arsenic	9.9			P
7440-39-3	Barium	120			P
7440-41-7	Beryllium	0.23	JQ		P
7440-43-9	Cadmium	0.28	JQ		P
7440-70-2	Calcium	2710			P
7440-47-3	Chromium	20.5			P
7440-48-4	Cobalt	9.7			P
7440-50-8	Copper	110			P
7439-89-6	Iron	20600			P
7439-92-1	Lead	6.0			P
7439-95-4	Magnesium	4530			P
7439-96-5	Manganese	396	TL	Am	P
7439-97-6	Mercury	0.15			CV
7440-02-0	Nickel	26.3			P
7440-09-7	Potassium	658			P
7782-49-2	Selenium	1.5	JQ		P
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	604	U		P
7440-28-0	Thallium	3.0	U		P
7440-62-2	Vanadium	30.0			P
7440-66-6	Zinc	73.4			P

RM
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:





ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104

Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: September 24, 2010

TO: Linda Costello, START-3 Project Manager, E & E, Seattle, Washington

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Data Summary Check,
Former Joseph Guy Community Center Site, Kwethluk, Alaska**

REF: TDD: 09-09-0002 PAN: 002233.0486.01BA

The data summary check of 7 soil samples collected from the Former Joseph Guy Community Center site located in Kwethluk, Alaska, has been completed. Semivolatile organic compound (SVOC) and SVOC-selective ion monitoring (SIM) analyses were performed by A4 Scientific, Inc., The Woodlands, Texas.

The samples were numbered: ~~JCF49~~ ~~JCF50~~ ~~JCF51~~ ~~JCF52~~ ~~JCF54~~ ~~JCF56~~ ~~JCF57~~

No discrepancies were noted. The secondary reviewer add the "Q" bias qualifier to "J"-qualified sample results to indicate that the results were estimated and less than the contract required quantitation limits.



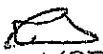
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Date: September 23, 2010

Reply to:
Attn of: OEA-095

MEMORANDUM

Subject: Data Validation Report for the Semivolatile Organic (SVOC/SIM) analyses of soil samples collected from the Former Joseph Guy Community Center Site
Case Number: 40216 SDG: JCF49

From: Raymond Wu, QA Chemist  9/23/10
Office of Environmental Assessment (OEA - 095), USEPA Region 10

To: Joanne Labaw, Task Monitor
Office of Environmental Clean-up (ECL - 112), USEPA Region 10

CC: Linda Costello, Start 3 Project Leader
Ecology & Environment, Inc.

The quality assurance (QA) review of the analytical data generated from the analysis of 7 soil samples collected from the above referenced site has been completed. These samples were analyzed for SVOC / SIM (under MA 1957.0) in accordance with the USEPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Multi-Media, Multi-Concentration Organic Analyses (SOM01.2) by A4 Scientific located in The Woodlands, Texas.

All sample analyses were evaluated following EPA's Stage 2B Data Validation Electronic/Manual Process (S2BVEM). The validations were conducted and appropriate qualifiers were applied according to the Quality Control Specifications outlined in the Quality Assurance Project Plan for Former Joseph Guy Community Center Site in Kwethluk, Alaska, dated May, 2010, the technical specifications of USEPA CLP SOW for Organic Data Review, the Contract Laboratory Program's National Functional Guidelines for Organic Data Review, the Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use (EPA-540-R08-005). Some of the data quality elements were qualified based on the professional judgment of the reviewer.

A summary of samples evaluated in this validation report and the pertinent dates for sample collection, sample receipt at the laboratory, extraction and analyses is listed in Sample Index Table found at the end of this report.

The conclusions presented herein are based on the information provided for the review.

I. DATA QUALIFICATIONS

Summary of Validation Qualifiers Applied:

After the manual and electronic data review, the following data points were qualified:

Associated Samples	Analysis / Analyte	Qualifier Detect/Non-detect	Reason for Qualifier
JCF49	SVOC / Indeno(1,2,3-cd)pyrene	J/UJ	ICAL
JCF50	SVOC / Hexachlorocyclopentadiene	J/UJ	CCV
	SVOC / 2,4-Dinitrophenol	J/UJ	"
	SVOC / Pentachlorophenol	J/UJ	"
	SVOC / indeno(1,2,3-cd)pyrene	J/UJ	ICAL
JCF51	SVOC / Hexachlorocyclopentadiene	J/UJ	CCV
	SVOC / 2,4-Dinitrophenol	J/UJ	"
	SVOC / Pentachlorophenol	J/UJ	"
	SVOC / indeno(1,2,3-cd)pyrene	J/UJ	ICAL
JCF52	SVOC / 2,4-Dinitrophenol	J/UJ	CCV
	SVOC / Indeno(1,2,3-cd)pyrene	J/UJ	ICAL
JCF54	SVOC / 2,4-Dinitrophenol	J/UJ	CCV
	SVOC / Indeno(1,2,3-cd)pyrene	J/UJ	ICAL
JCF56	SVOC / 2,4-Dinitrophenol	J/UJ	CCV
	SVOC / Indeno(1,2,3-cd)pyrene	J/UJ	ICAL
JCF57	SVOC / 4-Nitroaniline	J/UJ	CCV
	SVOC / Indeno(1,2,3-cd)pyrene	J/UJ	ICAL

Data Qualifiers

The following is a list of validation qualifiers applied to the sample result(s) when needed to indicate associated out-of-control QA/QC results.

Data Qualifiers	
U	The analyte was not detected at or above the reported result.
J	The analyte was positively identified. The associated numerical result is an estimate.
UJ	The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.
R	The data are unusable for all purposes.

	N	There is evidence the analyte is present in this sample.
	JN	There is evidence that the analyte is present. The associated numerical result is an estimate.

For site assessment and investigations, the following bias qualifiers are applied to the data in addition to the above data qualifiers when necessary to allow for data analysis and interpretation using Pre-Score software calculations for National Priority Listing Hazard Ranking Scoring (NPL-HRS).

Bias Qualifiers		
	L	Low bias.
	H	High bias.
	Q	The result is estimated because the concentration is below the Contract Required Quantitation Limits (CRQLs).
	K	Unknown Bias

Reasons for Validation Qualifiers

The reasons for applying a validation qualifier to a sample result are also listed in the validated electronic data deliverables (EDDs), under the column header "Reasons". Below is a list of reasons why a data point could be qualified during data validation.

Reasons for Validation Qualifiers:	
<CRQL	The value reported is <Contract Required Quantitation Limits (CRQLs)
%D	The percent difference (%D) of the concentrations calculated off the primary and secondary columns are >60% and were qualified estimated.
MULT	Multiple runs were conducted for the analyte. Use the other value reported for the same analyte. The value which is not to be used is qualified 'R'.
USE R1	Use the value(s) reported off the initial analytical run
USE DIL	The value reported is over the calibration range. Use the value reported off the dilution run.
USE SIM	The value reported off the SIM run
USE SIM DIL	The value reported is over the calibration range. Use the value reported off the SIM dilution run.
SURR/DMCs	The surrogate/deuterated monitoring compound (DMC) recoveries did not meet the specified control limits. Results are qualified estimated.
RRF	The response factor for the analyte did not meet the minimum acceptance criteria (0.01).
MS/MSD	The spiked recoveries and/or RPDs did not meet the specified control limits. Results are qualified estimated.
MB	Analyte was qualified as non-detect due to contamination in the associated blank. The value reported is <5x or <10x (if common lab contaminant) the value in the blank.

ND	The analyte was not detected in the sample, and is reported at the CRQL with the 'U' Qualifier.
COBLN	Initial identification erroneous. Peak due to co-elution with other detected target analytes.
ICAL	Initial Calibration criteria not met
CCV	Continuing calibration criteria not met
IS	Internal standard criteria not met
GPC	GPC Clean-up criteria not met.
CLN-UP	Silica gel, alumina or sulfur clean-up criteria not met
LCS	LCS/LCSD criteria not met
HT	Holding time criteria not met
STORE	Sample Storage and preservation specified not met
TEMP	Cooler recommended temperature exceeded at the verified time of sample receipt at the lab (VTSR)
M/Z	Mass/ion resolution ratio not met
DPB	Diphenyl ether interferences. False positive. Elevate reporting limits at level of detection
< CRQL	Positive hits under the contract required quantitation limit
R	Data is unusable
ISTD	Internal standard out of QC range

II. DATA REVIEW

The analytical data were evaluated following the recommended baseline checks used in the four stages of laboratory analytical data verification and validation for Superfund use listed as follows (EPA-540-R08-005, 2009):

Stage 1 - Data Validation				
	Verified		N/A	QC Procedure or Check
	YES	NO		
1	X			Documentation identifies the laboratory receiving and conducting analyses, and includes documentation for all samples submitted by the project or requester for analyses.
2	X			Requested analytical methods were performed and the analysis dates are present.
3	X			Requested target analyte results are reported along with the original laboratory data qualifiers and data qualifier definitions for each reported result
4	X			Requested target analyte result units are reported
5	X			Requested reporting limits for all samples are present and results at and below the requested (required) reporting limits are clearly identified (including sample detection limits if required).
6	X			Sampling dates (including times if needed), date and time of laboratory receipt of samples, and sample conditions upon receipt at the laboratory (including preservation, pH and temperature) are documented.

7	X			Sample results are evaluated by comparing sample conditions upon receipt at the laboratory (e.g., preservation checks) and sample characteristics (e.g., percent moisture) to the requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract.
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Stage 2A - Data Validation				
	Verified		N/A	QC Procedure or Check
	YES	NO		
8	X			Requested methods (handling, preparation, cleanup, and analytical) are performed.
9	X			Method dates (including dates, times and duration of analysis for radiation counting measurements and other methods, if needed) for handling (e.g., Toxicity Characteristic Leaching Procedure), preparation, cleanup and analysis are present, as appropriate.
10	X			Requested spike analytes or compounds (e.g., surrogate, DMCs, LCS spikes, post digestion spikes) have been added, as appropriate.
11	X			Sample holding times (from sampling date to preparation and preparation to analysis) are evaluated.
12	X			Frequency of QC samples is checked for appropriateness (e.g., one LCS per twenty samples in a preparation batch).
13	X			Sample results are evaluated by comparing holding times and sample-related QC data to the requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract
Stage 2A - Data Validation QC Data				
14	X			method blanks
15	X			surrogate recoveries/deuterated monitoring compounds (DMC) recoveries
16	X			laboratory control sample (LCS) recoveries
17	X			matrix spike and matrix spike duplicate recoveries
18			X	serial dilutions
19			X	post digestion spikes
20			X	standard reference materials
21			X	equipment blanks
22			X	trip blanks

Stage 2B - Data Validation				
Stage 2B validation builds on the validation conducted in Stage 2A. Stage 2B validation of the laboratory analytical data package consists of the Stage 2A validation plus the verification and validation checks for the compliance of instrument-related QC.				
	Verified		N/A	QC Procedure or Check
	YES	NO		
23	X			Initial calibration data (e.g., ICAL standards, ICV standards, ICBs) are provided for all requested analytes and linked to field samples reported. For each initial calibration, the calibration type used is present along with the initial calibration equation used including any weighting factor(s) applied and the associated correlation coefficients, as appropriate. Recalculations of the standard concentrations using the initial calibration curve are present, along with their associated percent recoveries, as appropriate (e.g., if required by the project, method, or contract). For the ICV standard, the associated percent recovery (or percent difference, as appropriate) is present.
24	X			Appropriate number and concentration of initial calibration standards are present.

25	X		Continuing calibration data (e.g. CCV standards and CCBs) are provided for all requested analytes and linked to field samples reported, as appropriate. For the CCV standard(s), the associated percent recoveries (or percent differences, as appropriate) are present.
26	X		Reported samples are bracketed by CCV standards and CCBs standards as appropriate.
27	X		Method specific instrument performance checks are present as appropriate (e.g., tunes for mass spectrometry methods, DDT/Endrin breakdown checks for pesticides and aroclors, instrument blanks and interference checks for ICP methods).
28	X		Frequency of instrument QC samples is checked for appropriateness (e.g., gas chromatography-mass spectroscopy [GC-MS] tunes have been run every 12 hours).

Stage 3 - Data Validation				
Stage 3 validation builds on the validation conducted in Stage 2B. Stage 3 validation of the laboratory analytical data package consists of the Stage 2B validation plus the recalculation of instrument and sample results from the laboratory instrument responses, and comparison of recalculated results to laboratory reported results.				
	Verified		N/A	QC Procedure or Check
	YES	NO		
29		X		Instrument response data (e.g., GC peak areas, ICP corrected intensities) are reported for requested analytes, surrogates, internal standards, and DMCs for all requested field samples, matrix spikes, matrix spike duplicates, LCS, and method blanks as well as calibration data and instrument QC checks (e.g., tunes, DDT/Endrin breakdowns, inter-element correction factors, and Florisil cartridge checks).
30		X		Reported target analyte instrument responses are associated with appropriate internal standard analyte(s) for each (or selected) analyte(s) (for methods using internal standard for calibration).
31		X		Fit and appropriateness of the initial calibration curve used or required (e.g., mean calibration factor, regression analysis [linear or non-linear, with or without weighting factors, with or without forcing]) is checked with recalculation of the initial calibration curve for each (or selected) analyte(s) from the instrument response.
32		X		Comparison of instrument response to the minimum response requirements for each (or selected) analyte(s).
33		X		Recalculation of each (or selected) opening and closing CCV (and CCB) response from the peak data reported for each (or selected) analyte(s) from the instrument response, as appropriate.
34		X		Compliance check of recalculated opening and/or closing CCV (and CCB) response to recalculated initial calibration response for each (or selected) analyte(s).

35	X	Recalculation of percent ratios for each (or selected) tune from the instrument response, as appropriate.
36	X	Compliance check of recalculated percent ratio for each (or selected) tune from the instrument response.
37	X	Recalculation of each (or selected) instrument performance check (e.g., DDT/Endrin breakdown for pesticide analysis, instrument blanks, interference checks) from the instrument response.
38	X	Recalculation and compliance check of retention time windows (for chromatographic methods) for each (or selected) analyte(s) from the laboratory reported retention times.
39	X	Recalculation of reported results for each reported (or selected) target analyte(s) from the instrument response.
40	X	Recalculation of each (or selected) reported spike recovery (surrogate recoveries, DMC recoveries, LCS recoveries, duplicate analyses, matrix spike and matrix spike duplicate recoveries, serial dilutions, post digestion spikes, standard reference materials etc.) from the instrument response.
41	X	Each (or selected) sample result(s) and spike recovery(ies) are evaluated by comparing the recalculated numbers to the laboratory reported numbers according to the requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract
<p>Note: Selection of analytes, spikes, and performance evaluation checks for the Stage 3 validation checks for a laboratory analytical data package being verified and validated generally will depend on many factors including (but not limited to) the type of verification and validation being performed (manual or electronic), requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract, the number of laboratories reporting the data, the number and type of analytical methods reported, the number of analytes reported in each method, and the number of detected analytes.</p>		

Stage 4 - Data Validation				
Stage 4 validation builds on the validation conducted in Stage 3. Stage 4 validation of the laboratory analytical data package consists of the Stage 3 validation plus the evaluation of instrument outputs.				
	Verified		N/A	QC Procedure or Check
	YES	NO		
42		X		All required instrument outputs (e.g., chromatograms, mass spectra, atomic emission spectra, instrument background corrections, and interference corrections) for evaluating sample and instrument performance are present.
43		X		Sample results are evaluated by checking each (or selected) instrument output (e.g., chromatograms, mass spectra, atomic emission spectra data, instrument background corrections, interference corrections) for correct identification and quantitation of analytes (e.g., peak integrations, use of appropriate internal standards for quantitation, elution order of analytes, and interferences).
44		X		Each (or selected) instrument's output(s) is evaluated for confirmation of non-detected or tentatively identified analytes.
<p>Note: Selection of instrument outputs for the Stage 4 validation checks for a laboratory analytical data package being verified and validated generally will depend on many factors including, but not limited to, the type of verification and validation being performed (electronic or manual), requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract, the number of laboratories reporting the data, the number and type of analytical methods reported, the number of analytes reported in each method, and the number of detected analytes.</p>				

- Attachments:
 Summary of Samples Analyzed (Sample Index)
 Summary of Electronic Data Review
 Validated Electronic Data Deliverables

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF49

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-01
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0659.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 9.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	190	U
108-95-2	Phenol	190	U
111-44-4	Bis(2-chloroethyl) ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	190	U
108-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	190	U
106-44-5	4-Methylphenol	190	U
621-64-7	N-Nitroso-di-n-propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	U
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	190	U
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	360	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	360	U
83-32-9	Acenaphthene	190	U

0000000036

SCM01.2 (8/2007)

9/22/10

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF49

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-01
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0659.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 9.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	360	U
100-02-7	4-Nitrophenol	360	U
132-64-9	Dibenzofuran	190	U
121-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethylphthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	360	U
534-52-1	4,6-Dinitro-2-methylphenol	360	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
118-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	360	U
85-01-8	Phenanthrene	190	U
120-12-7	Anthracene	190	U
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	190	U
206-44-0	Fluoranthene	190	U
129-00-0	Pyrene	190	U
85-68-7	Butylbenzylphthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	190	U
218-01-9	Chrysene	190	U
117-81-7	Bis(2-ethylhexyl)phthalate	190	U
117-84-0	Di-n-octylphthalate	190	U
205-99-2	Benzo (b) fluoranthene	190	U
207-08-9	Benzo (k) fluoranthene	190	U
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	UJK
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	190	U
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

¹Cannot be separated from Diphenylamine

000000037

SOM01.2 (8/2007)

9/22/10

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF49

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-01
 Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0659.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 9.7 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.99)	1.43	6500	JN
02		Unknown-02 (3.99)	1.56	620	JN
03	000814-78-8	3-Buten-2-one, 3-methyl-	1.61	390	JN
04		Unknown-03 (3.99)	2.28	200	JN
05		Unknown-04 (3.99)	2.50	170	J
06		Unknown-05 (3.99)	2.62	100	J
07		Unknown-06 (3.99)	3.59	130	J
08		Unknown-07 (3.99)	4.09	200	J
09	007342-38-3	Stannane, chlorotris(2-meth.	8.34	210	JN
10		Unknown-08 (9.19)	10.63	79	JN
11		Unknown-09 (12.39)	11.94	100	JN
12	000638-66-4	Octadecanal	13.91	120	JN
13		Unknown-10 (14.45)	15.40	78	JN
14		Unknown-11 (14.45)	15.44	80	J
15		Unknown-12 (14.45)	17.28	340	J
16	000559-74-0	Friedelan-3-one	19.04	500	JN
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	6500	JN

²EPA-designated Registry Number.

000000038

SOM1.2 (8/2007)

9/22/10

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF50

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-02
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0670.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 13.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
100-52-7	Benzaldehyde	200	U
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl)ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2'-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	UJK
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1'-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	380	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	380	U
83-32-9	Acenaphthene	200	U

000000075

SOM01.2 (8/2007)

9/22/10

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF50

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-02
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0670.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC'
 % Moisture: 13.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	380	UJK
100-02-7	4-Nitrophenol	380	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	380	U
534-52-1	4,6-Dinitro-2-methylphenol	380	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
118-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	380	UT
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo (a) anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	200	U
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo (b) fluoranthene	200	U
207-08-9	Benzo (k) fluoranthene	200	U
50-32-8	Benzo (a) pyrene	200	U
193-39-5	Indeno (1,2,3-cd) pyrene	200	UJK
53-70-3	Dibenzo (a,h) anthracene	200	U
191-24-2	Benzo (g,h,i) perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

¹Cannot be separated from Diphenylamine

0000000076

SOM01.2 (8/2007)

9/22/10

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF50

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-02
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0670.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 13.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	005076-19-7	Oxirane, trimethyl-	1.43	2600	JN
02		Unknown-01 (3.99)	1.61	86	JN
03		Unknown-02 (3.99)	2.28	130	J
04		Unknown-03 (3.99)	2.50	110	J
05		Unknown-04 (3.99)	2.62	84	J
06		Unknown-05 (3.99)	3.59	120	J
07		Unknown-06 (3.99)	3.86	130	J
08		Unknown-07 (3.99)	4.09	200	J
09		Unknown-08 (9.19)	10.64	78	J
10	000629-80-1	Hexadecanal	13.91	210	JN
11		Unknown-09 (14.45)	15.08	100	JN
12		Unknown-10 (14.45)	17.29	770	J
13		Unknown-11 (14.45)	17.76	170	J
14	000559-74-0	Friedelan-3-one	19.05	870	JN
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	6600	JN

²EPA-designated Registry Number.

000000077

SOM01.2 (8/2007)

9/22/10

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF51

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-03
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: G0671.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 10.3 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
100-52-7	Benzaldehyde	190	U
108-95-2	Phenol	190	U
111-44-4	Bis(2-chloroethyl) ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	190	U
108-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	190	U
106-44-5	4-Methylphenol	190	U
621-64-7	N-Nitroso-di-n-propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	U
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	190	U
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	360	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	360	U
83-32-9	Acenaphthene	190	U

000000113

SOM01.2 (8/2007)

9/22/10

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF51

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-03
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: G0671.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 10.3 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	360	UJ
100-02-7	4-Nitrophenol	360	U
132-64-9	Dibenzofuran	190	U
121-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethylphthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	360	U
534-52-1	4,6-Dinitro-2-methylphenol	360	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
118-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	360	UJ
85-01-8	Phenanthrene	190	U
120-12-7	Anthracene	190	U
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	190	U
206-44-0	Fluoranthene	190	U
129-00-0	Pyrene	190	U
85-68-7	Butylbenzylphthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	190	U
218-01-9	Chrysene	190	U
117-81-7	Bis(2-ethylhexyl)phthalate	190	U
117-84-0	Di-n-octylphthalate	190	U
205-99-2	Benzo (b) fluoranthene	190	U
207-08-9	Benzo (k) fluoranthene	190	U
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	UJ
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	190	U
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

¹Cannot be separated from Diphenylamine

000000114

SOM01.2 (8/2007)

9/22/10

1K - FORM I SV-TIC
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF51

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-03
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: G0671.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 10.3 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	005076-19-7	Oxirane, trimethyl-	1.43	3500	JN
02		Unknown-01 (3.99)	2.28	180	JN
03		Unknown-02 (3.99)	2.50	190	JN
04	000108-38-3	Benzene, 1,3-dimethyl-	3.04	280	JN
05		Unknown-03 (3.99)	3.59	180	JN
06		Unknown-04 (3.99)	4.09	180	JN
07	001461-22-9	Stannane, tributylchloro-	8.34	840	JN
08		Unknown-05 (9.19)	8.63	250	JN
09	003386-33-2	Octadecane, 1-chloro-	12.34	700	JN
10	000638-66-4	Octadecanal	12.92	230	JN
11		Unknown-06 (12.39)	13.29	150	JN
12	014811-95-1	1,19-Eicosadiene	13.91	740	JN
13	067860-04-2	Oxirane, heptadecyl-	15.09	290	JN
14		Unknown-07 (14.45)	15.53	290	JN
15	055103-80-5	Pregn-5-en-3-ol, 21-bromo-2.	17.29	1300	JN
16	000559-74-0	Friedelan-3-one	19.05	1300	JN
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	7200	JN

²EPA-designated Registry Number.

000000115

SOM01.2 (8/2007)

9/22/10

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF52

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-04
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0649.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 15.5 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
100-52-7	Benzaldehyde	200	U
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl) ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2'-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1'-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	390	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	390	U
83-32-9	Acenaphthene	200	U

000000153

SOM1.2 (8/2007)

9/22/10

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF52

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-04
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0649.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 15.5 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	390	U
100-02-7	4-Nitrophenol	390	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	390	U
534-52-1	4,6-Dinitro-2-methylphenol	390	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
118-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	390	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	77	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo (a) anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	56	U
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo (b) fluoranthene	200	U
207-08-9	Benzo (k) fluoranthene	200	U
50-32-8	Benzo (a) pyrene	200	U
193-39-5	Indeno (1,2,3-cd) pyrene	200	U
53-70-3	Dibenzo (a,h) anthracene	200	U
191-24-2	Benzo (g,h,i) perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

*Cannot be separated from Diphenylamine

000000154

SOM01.2 (8/2007)

9/22/10

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF52

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: _____ SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-04
 Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0649.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 15.5 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.99)	1.15	8100	JN
02		Unknown-02 (3.99)	1.43	3200	J
03		Unknown-03 (3.99)	2.28	97	J
04		Unknown-04 (3.99)	2.50	97	J
05		Unknown-05 (3.99)	2.62	96	J
06		Unknown-06 (3.99)	3.59	120	J
07		Unknown-07 (3.99)	3.86	140	J
08		Unknown-08 (3.99)	4.09	190	JL
09	007390-81-0	Oxirane, hexadecyl-	13.91	210	JN
10		Unknown-09 (14.45)	15.09	89	JN
11		Unknown-10 (14.45)	16.55	1500	J
12		Unknown-11 (14.45)	17.28	590	J
13		Unknown-12 (14.45)	19.06	480	JL
14					
15					
16					
17					
18					
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22					
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29					
30					
	E966796 ²	Total Alkanes	N/A	6400	JN

²EPA-designated Registry Number.

000000155

SOM01.2 (8/2007)

9/22/10

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF54

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-05
 Sample wt/vol: 30.5 (g/mL) g Lab File ID: G0650.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 15.9 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
100-52-7	Benzaldehyde	200	U
108-95-2	Phenol	200	U
111-44-4	Bis(2-chloroethyl) ether	200	U
95-57-8	2-Chlorophenol	200	U
95-48-7	2-Methylphenol	200	U
108-60-1	2,2'-Oxybis(1-chloropropane)	200	U
98-86-2	Acetophenone	200	U
106-44-5	4-Methylphenol	200	U
621-64-7	N-Nitroso-di-n-propylamine	200	U
67-72-1	Hexachloroethane	200	U
98-95-3	Nitrobenzene	200	U
78-59-1	Isophorone	200	U
88-75-5	2-Nitrophenol	200	U
105-67-9	2,4-Dimethylphenol	200	U
111-91-1	Bis(2-chloroethoxy)methane	200	U
120-83-2	2,4-Dichlorophenol	200	U
91-20-3	Naphthalene	200	U
106-47-8	4-Chloroaniline	200	U
87-68-3	Hexachlorobutadiene	200	U
105-60-2	Caprolactam	200	U
59-50-7	4-Chloro-3-methylphenol	200	U
91-57-6	2-Methylnaphthalene	200	U
77-47-4	Hexachlorocyclopentadiene	200	U
88-06-2	2,4,6-Trichlorophenol	200	U
95-95-4	2,4,5-Trichlorophenol	200	U
92-52-4	1,1'-Biphenyl	200	U
91-58-7	2-Chloronaphthalene	200	U
88-74-4	2-Nitroaniline	390	U
131-11-3	Dimethylphthalate	200	U
606-20-2	2,6-Dinitrotoluene	200	U
208-96-8	Acenaphthylene	200	U
99-09-2	3-Nitroaniline	390	U
83-32-9	Acenaphthene	200	U

000000191

SOM01.2 (8/2007)

9/22/10

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF54

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-05
 Sample wt/vol: 30.5 (g/mL) g Lab File ID: G0650.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 15.9 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	390	U ¹
100-02-7	4-Nitrophenol	390	U
132-64-9	Dibenzofuran	200	U
121-14-2	2,4-Dinitrotoluene	200	U
84-66-2	Diethylphthalate	200	U
86-73-7	Fluorene	200	U
7005-72-3	4-Chlorophenyl-phenylether	200	U
100-01-6	4-Nitroaniline	390	U
534-52-1	4,6-Dinitro-2-methylphenol	390	U
86-30-6	N-Nitrosodiphenylamine (1)	200	U
95-94-3	1,2,4,5-Tetrachlorobenzene	200	U
101-55-3	4-Bromophenyl-phenylether	200	U
118-74-1	Hexachlorobenzene	200	U
1912-24-9	Atrazine	200	U
87-86-5	Pentachlorophenol	390	U
85-01-8	Phenanthrene	200	U
120-12-7	Anthracene	200	U
86-74-8	Carbazole	200	U
84-74-2	Di-n-butylphthalate	200	U
206-44-0	Fluoranthene	200	U
129-00-0	Pyrene	200	U
85-68-7	Butylbenzylphthalate	200	U
91-94-1	3,3'-Dichlorobenzidine	200	U
56-55-3	Benzo (a) anthracene	200	U
218-01-9	Chrysene	200	U
117-81-7	Bis(2-ethylhexyl)phthalate	200	U
117-84-0	Di-n-octylphthalate	200	U
205-99-2	Benzo (b) fluoranthene	200	U
207-08-9	Benzo (k) fluoranthene	200	U
50-32-8	Benzo (a) pyrene	200	U
193-39-5	Indeno (1,2,3-cd) pyrene	200	U ¹
53-70-3	Dibenzo (a,h) anthracene	200	U
191-24-2	Benzo (g,h,i) perylene	200	U
58-90-2	2,3,4,6-Tetrachlorophenol	200	U

¹ Cannot be separated from Diphenylamine

000000192

SOM01.2 (8/2007)

9/22/10

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF54

Lab Name: A4 SCIENTIFIC, INC. Contract: EFW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-05
 Sample wt/vol: 30.5 (g/mL) g Lab File ID: G0650.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 15.9 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.99)	1.43	2100	JN
02	000106-42-3	p-Xylene	2.85	360	JN
03	000108-38-3	Benzene, 1,3-dimethyl-	3.04	150	JN
04		Unknown-02 (3.99)	3.59	81	JN
05		Unknown-03 (3.99)	3.86	87	J
06		Unknown-04 (3.99)	4.09	95	J
07	004860-03-1	Hexadecane, 1-chloro-	12.34	330	JN
08	014167-59-0	Tetratriacontane	13.21	460	JN
09	000638-66-4	Octadecanal	13.91	110	JN
10		Unknown-05 (14.45)	17.27	470	JN
11		Unknown-06 (14.45)	17.76	130	JN
12	000559-74-0	Friedelan-3-one	19.05	320	JN
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	3900	JN

²EPA-designated Registry Number.

000000193

SOM01.2 (8/2007)

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9/22/10

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF56

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-06
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: G0651.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 5.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
100-52-7	Benzaldehyde	180	U
108-95-2	Phenol	180	U
111-44-4	Bis(2-chloroethyl) ether	180	U
95-57-8	2-Chlorophenol	180	U
95-48-7	2-Methylphenol	180	U
108-60-1	2,2'-Oxybis(1-chloropropane)	180	U
98-86-2	Acetophenone	180	U
106-44-5	4-Methylphenol	180	U
621-64-7	N-Nitroso-di-n-propylamine	180	U
67-72-1	Hexachloroethane	180	U
98-95-3	Nitrobenzene	180	U
78-59-1	Isophorone	180	U
88-75-5	2-Nitrophenol	180	U
105-67-9	2,4-Dimethylphenol	180	U
111-91-1	Bis(2-chloroethoxy)methane	180	U
120-83-2	2,4-Dichlorophenol	180	U
91-20-3	Naphthalene	180	U
106-47-8	4-Chloroaniline	180	U
87-68-3	Hexachlorobutadiene	180	U
105-60-2	Caprolactam	180	U
59-50-7	4-Chloro-3-methylphenol	180	U
91-57-6	2-Methylnaphthalene	180	U
77-47-4	Hexachlorocyclopentadiene	180	U
88-06-2	2,4,6-Trichlorophenol	180	U
95-95-4	2,4,5-Trichlorophenol	180	U
92-52-4	1,1'-Biphenyl	180	U
91-58-7	2-Chloronaphthalene	180	U
88-74-4	2-Nitroaniline	340	U
131-11-3	Dimethylphthalate	180	U
606-20-2	2,6-Dinitrotoluene	180	U
208-96-8	Acenaphthylene	180	U
99-09-2	3-Nitroaniline	340	U
83-32-9	Acenaphthene	180	U

000000219

SOM01.2 (8/2007)

9/22/10

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF56

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-06
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: G0651.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 5.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
51-28-5	2,4-Dinitrophenol	340	UJ
100-02-7	4-Nitrophenol	340	U
132-64-9	Dibenzofuran	180	U
121-14-2	2,4-Dinitrotoluene	180	U
84-66-2	Diethylphthalate	180	U
86-73-7	Fluorene	180	U
7005-72-3	4-Chlorophenyl-phenylether	180	U
100-01-6	4-Nitroaniline	340	U
534-52-1	4,6-Dinitro-2-methylphenol	340	U
86-30-6	N-Nitrosodiphenylamine (1)	180	U
95-94-3	1,2,4,5-Tetrachlorobenzene	180	U
101-55-3	4-Bromophenyl-phenylether	180	U
118-74-1	Hexachlorobenzene	180	U
1912-24-9	Atrazine	180	U
87-86-5	Pentachlorophenol	340	U
85-01-8	Phenanthrene	180	U
120-12-7	Anthracene	180	U
86-74-8	Carbazole	180	U
84-74-2	Di-n-butylphthalate	180	U
206-44-0	Fluoranthene	180	U
129-00-0	Pyrene	180	U
85-68-7	Butylbenzylphthalate	180	U
91-94-1	3,3'-Dichlorobenzidine	180	U
56-55-3	Benzo (a) anthracene	180	U
218-01-9	Chrysene	180	U
117-81-7	Bis (2-ethylhexyl)phthalate	180	U
117-84-0	Di-n-octylphthalate	180	U
205-99-2	Benzo (b) fluoranthene	180	U
207-08-9	Benzo (k) fluoranthene	180	U
50-32-8	Benzo (a) pyrene	180	U
193-39-5	Indeno (1,2,3-cd) pyrene	180	UJK
53-70-3	Dibenzo (a,h) anthracene	180	U
191-24-2	Benzo (g,h,i) perylene	180	U
58-90-2	2,3,4,6-Tetrachlorophenol	180	U

¹Cannot be separated from Diphenylamine

000000220

SOM01.2 (8/2007)

9/22/10

1K - FORM I SV-TIC
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF56

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-06
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: G0651.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 5.2 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 06/27/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01	Unknown-01 (3.99)	1.43	4300	JN
02	Unknown-02 (3.99)	2.28	200	J
03	Unknown-03 (3.99)	2.50	160	J
04	Unknown-04 (3.99)	4.09	170	JL
05	003386-33-2 Octadecane, 1-chloro-	12.34	1100	JN
06	067860-04-2 Oxirane, heptadecyl-	12.92	160	JN
07	Unknown-05 (12.39)	13.30	180	JN
08	000638-66-4 Octadecanal	13.91	580	JN
09	Unknown-06 (14.45)	14.25	1300	JN
10	014811-95-1 1,19-Eicosadiene	15.09	390	JN
11	Unknown-07 (14.45)	15.41	150	JN
12	Unknown-08 (14.45)	15.61	300	JN
13	025246-27-9 1H-Cycloprop[e]azulene, dec.	17.29	1800	JN
14	Unknown-09 (14.45)	18.87	450	JN
15	Unknown-10 (14.45)	19.06	1900	JN
16				
17				
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19				
20				
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22				
23				
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25				
26				
27				
28				
29				
30				
E966796 ²	Total Alkanes	N/A	8200	JN

²EPA-designated Registry Number.

000000221

SOM01.2 (8/2007)

9/22/10

1D - FORM I SV-1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF57

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-07
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: G0796.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 11.6 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/kg)	ug/kg
100-52-7	Benzaldehyde	190	U
108-95-2	Phenol	190	U
111-44-4	Bis(2-chloroethyl)ether	190	U
95-57-8	2-Chlorophenol	190	U
95-48-7	2-Methylphenol	190	U
108-60-1	2,2'-Oxybis(1-chloropropane)	190	U
98-86-2	Acetophenone	190	U
106-44-5	4-Methylphenol	190	U
621-64-7	N-Nitroso-di-n-propylamine	190	U
67-72-1	Hexachloroethane	190	U
98-95-3	Nitrobenzene	190	U
78-59-1	Isophorone	190	U
88-75-5	2-Nitrophenol	190	U
105-67-9	2,4-Dimethylphenol	190	U
111-91-1	Bis(2-chloroethoxy)methane	190	U
120-83-2	2,4-Dichlorophenol	190	U
91-20-3	Naphthalene	190	U
106-47-8	4-Chloroaniline	190	U
87-68-3	Hexachlorobutadiene	190	U
105-60-2	Caprolactam	190	U
59-50-7	4-Chloro-3-methylphenol	190	U
91-57-6	2-Methylnaphthalene	190	U
77-47-4	Hexachlorocyclopentadiene	190	U
88-06-2	2,4,6-Trichlorophenol	190	U
95-95-4	2,4,5-Trichlorophenol	190	U
92-52-4	1,1'-Biphenyl	190	U
91-58-7	2-Chloronaphthalene	190	U
88-74-4	2-Nitroaniline	370	U
131-11-3	Dimethylphthalate	190	U
606-20-2	2,6-Dinitrotoluene	190	U
208-96-8	Acenaphthylene	190	U
99-09-2	3-Nitroaniline	370	U
83-32-9	Acenaphthene	190	U

000000259

SOM01.2 (8/2007)

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9/22/10

1E - FORM I SV-2
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF57

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-07
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: G0796.D
 Level: (LOW/MED) LOW Extraction: (Type) SONC
 % Moisture: 11.6 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
51-28-5	2,4-Dinitrophenol	370	U
100-02-7	4-Nitrophenol	370	U
132-64-9	Dibenzofuran	190	U
121-14-2	2,4-Dinitrotoluene	190	U
84-66-2	Diethylphthalate	190	U
86-73-7	Fluorene	190	U
7005-72-3	4-Chlorophenyl-phenylether	190	U
100-01-6	4-Nitroaniline	370	U ¹
534-52-1	4,6-Dinitro-2-methylphenol	370	U
86-30-6	N-Nitrosodiphenylamine (1)	190	U
95-94-3	1,2,4,5-Tetrachlorobenzene	190	U
101-55-3	4-Bromophenyl-phenylether	190	U
118-74-1	Hexachlorobenzene	190	U
1912-24-9	Atrazine	190	U
87-86-5	Pentachlorophenol	370	U
85-01-8	Phenanthrene	190	U
120-12-7	Anthracene	190	U
86-74-8	Carbazole	190	U
84-74-2	Di-n-butylphthalate	190	U
206-44-0	Fluoranthene	190	U
129-00-0	Pyrene	190	U
85-68-7	Butylbenzylphthalate	190	U
91-94-1	3,3'-Dichlorobenzidine	190	U
56-55-3	Benzo (a) anthracene	190	U
218-01-9	Chrysene	190	U
117-81-7	Bis(2-ethylhexyl)phthalate	190	U
117-84-0	Di-n-octylphthalate	190	U
205-99-2	Benzo (b) fluoranthene	190	U
207-08-9	Benzo (k) fluoranthene	190	U
50-32-8	Benzo (a) pyrene	190	U
193-39-5	Indeno (1,2,3-cd) pyrene	190	U ¹
53-70-3	Dibenzo (a,h) anthracene	190	U
191-24-2	Benzo (g,h,i) perylene	190	U
58-90-2	2,3,4,6-Tetrachlorophenol	190	U

¹Cannot be separated from Diphenylamine

000000260

SOM01.2 (8/2007)

9/22/10

1K - FORM I, SV-TIC
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JCF57

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
 Lab Code: A4 Case No.: 40216 Mod. Ref No.: SDG No.: JCF49
 Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-07
 Sample wt/vol: 30.3 (g/mL) g Lab File ID: G0796.D
 Level: (TRACE or LOW/MED) LOW Extraction: (Type): SONC
 % Moisture: 11.6 Decanted: (Y/N) N Date Received: 06/12/2010
 Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
 Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/02/2010
 GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown-01 (3.98)	1.13	2800	JN
02		Unknown-02 (3.98)	1.42	3200	J
03		Unknown-03 (3.98)	2.26	190	J
04		Unknown-04 (3.98)	2.48	200	JL
05	000108-67-8	Benzene, 1,3,5-trimethyl- (0	3.57	140	JN
06		Unknown-05 (3.98)	3.84	150	JN
07		Unknown-06 (3.98)	4.08	120	JN
08	001461-22-9	Stannane, tributylchloro-	8.32	150	JN
09	000638-66-4	Octadecanal	13.88	290	JN
10		Unknown-07 (14.42)	15.06	290	JN
11		Unknown-08 (14.42)	15.50	160	JN
12	000083-46-5	.beta.-Sitosterol	17.26	1600	JN
13	022611-26-3	D:C-Friedoolean-8-en-3-one	17.72	860	JN
14	255869-36-4	Propenoic acid, 3-(2,6-dime.	17.94	420	JN
15	001058-61-3	Stigmast-4-en-3-one	18.29	190	JN
16	000559-74-0	Friedelan-3-one	19.00	630	JN
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
	E966796 ²	Total Alkanes	N/A	8300	JN

²EPA-designated Registry Number.

000000261

SOM01.2 (8/2007)

9/22/10

REPORT


1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF49

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF49
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-01
Sample wt/vol: 30.2 (g/mL) g Lab File ID: G0941.D
Extraction: (Type) SONC
% Moisture: 9.7 Decanted: (Y/N) N Date Received: 06/12/2010
Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
121-14-2	2,4-Dinitrotoluene	9.9	U
606-20-2	2,6-Dinitrotoluene	9.9	U
106-47-8	4-Chloroaniline	63	U
111-44-4	Bis(2-chloroethyl)ether	2.2	U
118-74-1	Hexachlorobenzene	52	U
621-64-7	N-Nitroso-di-n-propylamine	12	U


9/22/10

000000536

REPORT

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF50

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036

Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF49

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-02

Sample wt/vol: 30.0 (g/mL) g Lab File ID: G0942.D

Extraction: (Type) SONC

* Moisture: 13.2 Decanted: (Y/N) N Date Received: 06/12/2010

Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010

Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010

GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
106-47-8	4-Chloroaniline	66	U
111-44-4	Bis(2-chloroethyl) ether	2.3	U
118-74-1	Hexachlorobenzene	54	U
621-64-7	N-Nitroso-di-n-propylamine	13	U

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9/22/10

00000541

REPORT


1F - FORM I SV-SIM SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF51

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF49
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-03
Sample wt/vol: 30.3 (g/mL) g Lab File ID: G0943.D
Extraction: (Type) SONC
% Moisture: 10.3 Decanted: (Y/N) N Date Received: 06/12/2010
Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
121-14-2	2,4-Dinitrotoluene	9.9	U
606-20-2	2,6-Dinitrotoluene	9.9	U
106-47-8	4-Chloroaniline	63	U
111-44-4	Bis(2-chloroethyl) ether	2.2	U
118-74-1	Hexachlorobenzene	52	U
621-64-7	N-Nitroso-di-n-propylamine	12	U


9/22/10

000000546

REPORT

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF52

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036

Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF49

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-04

Sample wt/vol: 30.1 (g/mL) g Lab File ID: G0944.D

Extraction: (Type) SONC

% Moisture: 15.5 Decanted: (Y/N) N Date Received: 06/12/2010

Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010

Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/07/2010

GPC Cleanup: (Y/N) Y pH: 5.1 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
121-14-2	2,4-Dinitrotoluene	11	U
606-20-2	2,6-Dinitrotoluene	11	U
106-47-8	4-Chloroaniline	67	U
111-44-4	Bis(2-chloroethyl) ether	2.4	U
118-74-1	Hexachlorobenzene	55	U
621-64-7	N-Nitroso-di-n-propylamine	13	U

9/22/10

000000551

REPORT


1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF54

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF49
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-05
Sample wt/vol: 30.5 (g/mL) g Lab File ID: G0945.D
Extraction: (Type) SONC
% Moisture: 15.9 Decanted: (Y/N) N Date Received: 06/12/2010
Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/07/2010
GPC Cleanup: (Y/N) Y pH: 4.9 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
121-14-2	2,4-Dinitrotoluene	11	U
606-20-2	2,6-Dinitrotoluene	11	U
106-47-8	4-Chloroaniline	67	U
111-44-4	Bis(2-chloroethyl) ether	2.3	U
118-74-1	Hexachlorobenzene	55	U
621-64-7	N-Nitroso-di-n-propylamine	13	U


9/22/10

000000558

REPORT

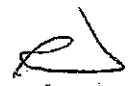
1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF56

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF49
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-06
Sample wt/vol: 30.3 (g/mL) g Lab File ID: G0923.D
Extraction: (Type) SONC
% Moisture: 5.2 Decanted: (Y/N) N Date Received: 06/12/2010
Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) <u>ug/kg</u>	Q
121-14-2	2,4-Dinitrotoluene	9.4	U
606-20-2	2,6-Dinitrotoluene	9.4	U
106-47-8	4-Chloroaniline	60	U
111-44-4	Bis(2-chloroethyl) ether	2.1	U
118-74-1	Hexachlorobenzene	49	U
621-64-7	N-Nitroso-di-n-propylamine	11	U


9/22/10
000000561

REPORT

1F - FORM I SV-SIM
SEMIVOLATILE SIM ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JCF57

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW05036
Lab Code: A4 Case No.: 40216 Mod. Ref No.: 1957.0 SDG No.: JCF49
Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: 0012267-07
Sample wt/vol: 30.3 (g/mL) g Lab File ID: G0922.D
Extraction: (Type) SONC
% Moisture: 11.6 Decanted: (Y/N) N Date Received: 06/12/2010
Concentrated Extract Volume: 500 (uL) Date Extracted: 06/16/2010
Injection Volume: 1.0 (uL) GPC Factor: 2.0 Date Analyzed: 07/06/2010
GPC Cleanup: (Y/N) Y pH: 5.0 Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)ug/kg	Q
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
106-47-8	4-Chloroaniline	64	U
111-44-4	Bis(2-chloroethyl)ether	2.2	U
118-74-1	Hexachlorobenzene	53	U
621-64-7	N-Nitroso-di-n-propylamine	12	U

RS
9/22/10

000000556



ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: July 15, 2010
TO: Linda Costello, START-3 Project Manager, E & E, Seattle, Washington
FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*
SUBJ: **Data Summary Check,
Former Joseph Guy Community Center Site, Kwethluk, Alaska**
REF: TDD: 09-09-0002 PAN: 002233.0486.01BA

The data summary check of 7 soil samples collected from the Former Joseph Guy Community Center site located in Kwethluk, Alaska, has been completed. Total elements (ICP-MS and CVAA) analyses were performed by the A4 Scientific, Inc., The Woodlands, Texas.

The samples were numbered:

MJCF49 MJCF50 MJCF51 MJCF52 MJCF54 MJCF56
MJCF57

No discrepancies were noted. Sample results originally qualified as "J" by the laboratory and changed to "Q" by the primary reviewer were changed to "JQ" by the secondary reviewer to indicate that the results were estimated below the contract required detection limit.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 10

1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

July 13, 2010

Reply To: OEA-095

MEMORANDUM

SUBJECT: Data Transmittal for Former Joseph Guy Community Center,
TBA, Case# 40216, SDG: MJCF49, Inorganic Analysis

FROM: Donald Matheny, Chemist *DM*
Environmental Services Unit, OEA (OEA-095)

TO: Joanne LaBaw, Project Manager
Office of Environmental Cleanup (ECL-112)

CC: Renee Nordeen, Ecology & Environment

The following data are being transmitted for the above project. Seven (7) soil samples were analyzed for total elements by A4 Scientific, The Woodlands, TX. Sample numbers for this delivery group are:

MJCF49 MJCF50 MJCF51 MJCF52 MJCF54 MJCF56 MJCF57

A cursory assessment of the data indicates the following:

The matrix spike recovery for manganese was 73%. Manganese values should be qualified as estimates with a low bias.

No data validation qualifiers were applied to the data

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF49

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF49
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012265-07
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 88.4

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10700			P
7440-36-0	Antimony	4.0	U		P
7440-38-2	Arsenic	9.4			P
7440-39-3	Barium	119			P
7440-41-7	Beryllium	0.21	JQ		P
7440-43-9	Cadmium	0.33	JQ		P
7440-70-2	Calcium	2710			P
7440-47-3	Chromium	21.8			P
7440-48-4	Cobalt	11.5			P
7440-50-8	Copper	18.9			P
7439-89-6	Iron	21400			P
7439-92-1	Lead	6.9			P
7439-95-4	Magnesium	4680			P
7439-96-5	Manganese	394	JL	AW	P
7439-97-6	Mercury	0.11	JQ		CV
7440-02-0	Nickel	26.7			P
7440-09-7	Potassium	757			P
7782-49-2	Selenium	1.6	JQ		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	560	U		P
7440-28-0	Thallium	2.8	U		P
7440-62-2	Vanadium	32.7			P
7440-66-6	Zinc	66.9			P

RM
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:



USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF50

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF49
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012265-01
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 90.3

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10500			P
7440-36-0	Antimony	3.9	U		P
7440-38-2	Arsenic	9.7			P
7440-39-3	Barium	126			P
7440-41-7	Beryllium	0.21	JQ		P
7440-43-9	Cadmium	0.37	JQ		P
7440-70-2	Calcium	2780			P
7440-47-3	Chromium	21.3			P
7440-48-4	Cobalt	10.3			P
7440-50-8	Copper	18.8			P
7439-89-6	Iron	20600			P
7439-92-1	Lead	7.1			P
7439-95-4	Magnesium	4430			P
7439-96-5	Manganese	412	JL	mm	P
7439-97-6	Mercury	0.16			CV
7440-D2-0	Nickel	26.1			P
7440-09-7	Potassium	732			P
7782-49-2	Selenium	1.1	JQ		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	543	U		P
7440-28-0	Thallium	2.7	U		P
7440-62-2	Vanadium	32.0			P
7440-66-6	Zinc	66.2			P

21
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:



USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF51

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF49
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012265-02
 Level: (low/med) LOW Date Received: 06/12/2010

% Solids 86.8

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11100			P
7440-36-0	Antimony	4.1	U		P
7440-38-2	Arsenic	10.2			P
7440-39-3	Barium	130			P
7440-41-7	Beryllium	0.23	JQ		P
7440-43-9	Cadmium	0.36	JQ		P
7440-70-2	Calcium	2750			P
7440-47-3	Chromium	22.2			P
7440-48-4	Cobalt	10.7			P
7440-50-8	Copper	19.5			P
7439-89-6	Iron	22000			P
7439-92-1	Lead	7.3			P
7439-95-4	Magnesium	4760			P
7439-96-5	Manganese	420	JL	Am	P
7439-97-6	Mercury	0.12			CV
7440-D2-0	Nickel	27.2			P
7440-09-7	Potassium	787			P
7782-49-2	Selenium	1.5	JQ		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	565	U		P
7440-28-0	Thallium	2.8	U		P
7440-62-2	Vanadium	33.6			P
7440-66-6	Zinc	68.8			P

JL
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:



USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF52

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF49
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012265-03
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 89.7

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9580			P
7440-36-0	Antimony	3.9	U		P
7440-38-2	Arsenic	8.3			P
7440-39-3	Barium	113			P
7440-41-7	Beryllium	0.54	U		P
7440-43-9	Cadmium	0.28	JQ		P
7440-70-2	Calcium	2410			P
7440-47-3	Chromium	19.4			P
7440-48-4	Cobalt	9.6			P
7440-50-8	Copper	16.3			P
7439-89-6	Iron	19100			P
7439-92-1	Lead	6.2			P
7439-95-4	Magnesium	4290			P
7439-96-5	Manganese	344	JL	Am	P
7439-97-6	Mercury	0.11	JQ		CV
7440-02-0	Nickel	23.8			P
7440-09-7	Potassium	766			P
7782-49-2	Selenium	1.3	JQ		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	541	U		P
7440-28-0	Thallium	2.7	U		P
7440-62-2	Vanadium	29.6			P
7440-66-6	Zinc	66.4			P

JL
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF54

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF49
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012265-04
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 84.5

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10400			P
7440-36-0	Antimony	4.2	U		P
7440-38-2	Arsenic	9.8			P
7440-39-3	Barium	120			P
7440-41-7	Beryllium	0.59	U		P
7440-43-9	Cadmium	0.31	JQ		P
7440-70-2	Calcium	2540			P
7440-47-3	Chromium	21.7			P
7440-48-4	Cobalt	10.1			P
7440-50-8	Copper	18.4			P
7439-89-6	Iron	20600			P
7439-92-1	Lead	6.8			P
7439-95-4	Magnesium	4490			P
7439-96-5	Manganese	384	JL	Amu	P
7439-97-6	Mercury	0.10	JQ		CV
7440-02-0	Nickel	25.2			P
7440-09-7	Potassium	750			P
7782-49-2	Selenium	1.1	JQ		P
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	586	U		P
7440-28-0	Thallium	2.9	U		P
7440-62-2	Vanadium	33.2			P
7440-66-6	Zinc	64.3			P

DM
7-13-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF56

Lab Name: A4 SCIENTIFIC, INC.Contract: EPW08063Lab Code: A4Case No.: 40216NRAS No.: 1953.0SDG No.: MJCF49Matrix: (Soil/Water) SOILLab Sample ID: 0012265-05Level: (low/med) LOWDate Received: 06/12/2010% Solids 84.1

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

mg/Kg

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	12300			P
7440-36-0	Antimony	4.2	U		P
7440-38-2	Arsenic	10.2			P
7440-39-3	Barium	143			P
7440-41-7	Beryllium	0.26	JQ		P
7440-43-9	Cadmium	0.35	JQ		P
7440-70-2	Calcium	3110			P
7440-47-3	Chromium	24.7			P
7440-48-4	Cobalt	11.4			P
7440-50-8	Copper	22.1			P
7439-89-6	Iron	23400			P
7439-92-1	Lead	8.1			P
7439-95-4	Magnesium	5290			P
7439-96-5	Manganese	388	JL	MW	P
7439-97-6	Mercury	0.13			CV
7440-02-0	Nickel	29.9			P
7440-09-7	Potassium	828			P
7782-49-2	Selenium	1.6	JQ		P
7440-22-4	Silver	1.2	U		P
7440-23-5	Sodium	589	U		P
7440-28-0	Thallium	2.9	U		P
7440-62-2	Vanadium	37.0			P
7440-66-6	Zinc	76.3			P

Color Before: BROWNClarity Before: CLOUDYTexture: MEDIUMColor After: YELLOWClarity After: CLEAR

Artifacts: _____

Comments:

USEPA - CLP

1A-IN
INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

MJCF57

Lab Name: A4 SCIENTIFIC, INC. Contract: EPW08063
 Lab Code: A4 Case No.: 40216 NRAS No.: 1953.0 SDG No.: MJCF49
 Matrix: (Soil/Water) SOIL Lab Sample ID: 0012265-06
 Level: (low/med) LOW Date Received: 06/12/2010
 % Solids 94.8

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

CAS NO.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9640			P
7440-36-0	Antimony	3.8	U		P
7440-38-2	Arsenic	8.5			P
7440-39-3	Barium	109			P
7440-41-7	Beryllium	0.19	JQ		P
7440-43-9	Cadmium	0.29	JQ		P
7440-70-2	Calcium	2460			P
7440-47-3	Chromium	19.6			P
7440-48-4	Cobalt	9.2			P
7440-50-8	Copper	16.5			P
7439-89-6	Iron	19000			P
7439-92-1	Lead	6.0			P
7439-95-4	Magnesium	4200			P
7439-96-5	Manganese	347	JL	Amw	P
7439-97-6	Mercury	0.10	JQ		CV
7440-02-0	Nickel	23.4			P
7440-09-7	Potassium	689			P
7782-49-2	Selenium	1.1	JQ		P
7440-22-4	Silver	1.1	U		P
7440-23-5	Sodium	527	U		P
7440-28-0	Thallium	2.6	U		P
7440-62-2	Vanadium	29.3			P
7440-66-6	Zinc	64.1			P

JM
7-15-10

Color Before: BROWN Clarity Before: CLOUDY Texture: MEDIUM
 Color After: YELLOW Clarity After: CLEAR Artifacts: _____

Comments:





ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: November 30, 2010

TO: Linda Costello, START-3 Project Manager, E & E, Seattle, Washington

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Data Summary Check,
Former Joseph Guy Community Center Site, Kwethluk, Alaska**

REF: TDD: 09-09-0002 PAN: 002233.0486.01BA

The data summary check of 20 samples collected from the Former Joseph Guy Community Center site located in Kwethluk, Alaska, has been completed. PCDD/PCDF analyses were performed by Axys Analytical Services, British Columbia, Canada.

The samples were numbered:

JCF30	JCF32	JCF34	JCF35	JCF36
JCF41	JCF42	JCF44	JCF45	JCF47
JCF58	JCF59	JCF60	JCF61	JCF62
JCF63	JCF64	JCF65	JCF66	JCF40

No discrepancies were noted. Extraneous sample results were removed by the secondary reviewer. 2,3,7,8-TCDF results were reported from the primary column due to interferences per the primary data reviewer. Samples JCF58 through JCF66 are labeled as Soil samples in the Matrix description on the Form I's; these samples are actually Wipe samples but are labeled as Soil due to software limitations.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

November 9, 2010

Reply to: OEA-095
Attn of: grepo-grove.gina@epa.gov

MEMORANDUM

Subject: Data Validation Report for the Polychlorinated Dibenzo-p-Dioxin and Polychlorinated Dibenzofuran (PCDD/PCDF) Analyses of Soil Samples Collected from Former Joseph Guy Community Center Targeted Brownfields Assessment
Case Number: 40216 SDGs: JCF30; JCF40

From: Ginna Grepo-Grove, R10 QA Manager
Office of Environmental Assessment, USEPA

To: Joanne Labaw, Project Manager
Office of Environmental Clean-up, USEPA

CC: Renee Nordeen, Project Manager, Ecology and Environment
Jennifer Crawford, Actg PO CLP/RSCC

The quality assurance (QA) review of the analytical data generated from the analysis of 20 soil samples collected from the above referenced site has been completed. These samples were analyzed for PCDD/PCDF in accordance with the Statement of Work for Multi-media, Multi-Concentration Dioxins and Furans Analysis, DLM2.0 and the Method 1613B, "Tetra through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High resolution Gas Chromatograph (HRGC)/High Resolution Mass Spectrometer (HRMS)", October 1994 by Axys Analytical Services located in British Columbia, Canada.

The following samples were evaluated in this validation report:

JCF30	JCF32	JCF34	JCF35	JCF36
JCF41	JCF42	JCF44	JCF45	JCF47
JCF58	JCF59	JCF60	JCF61	JCF62
JCF63	JCF64	JCF65	JCF66	JCF40

DATA QUALIFICATIONS

All sample analyses were evaluated following the EPA's Stage 4 Electronic/Manual Data Validation Process (S4VEM). The analyses were evaluated and analytical results validated using the technical acceptance criteria and Quality Control Specifications outlined in the Sampling Quality Assurance Plan (SQAP) for the Alkali Lake Disposal Site, the Statement of Work for Multi-media, Multi-Concentration Dioxins and Furans

Analysis, DLM2.0, Method 1613B, "Tetra through Octa-Chlorinated Dioxins and Furans by Isotope Dilution High resolution Gas Chromatograph (HRGC)/High Resolution Mass Spectrometer (HRMS)", October 1994, the Contract Laboratory Program's National Functional Guidelines for Chlorinated Dioxin/Furan Data Review, and the Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use (EPA-540-R08-005). Some of the data quality elements were qualified using the reviewer's professional judgment.

The conclusions presented herein are based on the information provided for the review.

Summary of Validation Qualifiers Applied:

Some of the PCDD/PCDF data points were qualified due to following reasons:

- The target compound was detected in both sample and the associated blank(s). Sample results <5x the value in the blank were qualified non-detects and results >5x were not qualified.
- Target compounds were detected at concentrations that were <Contract Required Quantitation Limits (CRQLs). Results were qualified estimated, JQ.
- Peak was detected >2.5 signal-to-noise ratio and within the established retention time windows. However, the mass-ion ratio criteria were not met. Result was qualified as non-detect with reporting limits elevated to the level of detection due to chromatographic interferences.
- One or more peaks that did not meet the mass-ion abundance criteria were included in the calculation of total homologues. The reported result for the total homologue was qualified estimated with a high bias due to interferences (JH).

Overall Data Assessment:

Samples were analyzed following the technical specifications of the analytical methods. The data, as qualified, are usable for all purposes.

Reasons for Validation Qualifiers (per EDD)

The reasons for applying a validation qualifier to a sample result is also listed in the validated electronic data deliverables (EDDs), under the column header "Reasons". Below is a list of reasons why a PCDD/PCDF data point may be qualified during data validation.

Reasons for Validation Qualifiers:	
<CRQL	The value reported is <Contract Required Quantitation Limits (CRQLs)
MB	Analyte was qualified as non-detect due to contamination in the associated blank. The value reported is <5x or <10x (if common lab contaminant) the value in the blank.
ND	The analyte was not detected in the sample, and is reported at the CRQL with the 'U' Qualifier.
COELN	Initial identification erroneous due to co-elution with other detected target analytes.
CAL	Calibration criteria not met
RESCHK	Instrument mass resolution and resolving power not met
IS	Internal Standard recovery no met
CCV	Continuing calibration criteria not met
RTs	Retention time criteria not met
OPR	On-going precision recovery check not met.
CLN-UP	Silica gel, alumina or sulfur clean-up criteria not met
LCS	LCS/LCSD criteria not met
HT	Holding time criteria not met
STORE	Sample Storage and preservation specified not met
TEMP	Cooler recommended temperature exceeded at the verified time of sample receipt at the lab (VTSR)
M/Z	Mass/ion resolution ratio not met
EMPC	Results reported are estimated maximum potential concentrations (EMPCs). Mass ion-ratios were not met due to interferences. Result is false positive and qualified as non-detect reported at the level of detection
DPE	Peak detected is due to Polychlorinated diphenyl ether interferences. Result is a false positive. Elevate reporting limits at level of detection. Qualified as a non-detect qualifier.

Data Qualifiers

The following is a list of validation and bias qualifiers applied to the sample result(s) when needed to indicate an associated out-of-control QA/QC results.

Data Qualifiers		
	U	The analyte was not detected at or above the reported result.
	J	The analyte was positively identified. The associated numerical result is an estimate.
	UJ	The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.
	R	The data are unusable for all purposes.
	N	There is evidence the analyte is present in this sample.
	JN	There is evidence that the analyte is present. The associated numerical result is an estimate.
Bias Qualifiers	L	Low bias.
	H	High bias.
	Q	The result is estimated because the concentration is below the Contract Required Quantitation Limits (CRQLs).
	K	Unknown Bias

II. DATA REVIEW CHECKLIST

The analytical data were evaluated following the recommended baseline checks used in the four stages of laboratory analytical data verification and validation for Superfund use listed as follows (EPA-540-R08-005, 2009):

Stage 1 – Data Validation					
	VERIFIED		QUAL		
	YES	NO	YES	NO	
1	✓				Documentation identifies the laboratory receiving and conducting analyses, and includes documentation for all samples submitted by the project or requester for analyses.
2	✓				Requested analytical methods were performed and the analysis dates are present.
3	✓				Requested target analyte results are reported along with the original laboratory data qualifiers and data qualifier definitions for each reported result
4	✓				Requested target analyte result units are reported
5	✓				Requested reporting limits for all samples are present and results at and below the requested (required) reporting limits are clearly identified (including sample detection limits if required).
6	✓				Sampling dates (including times if needed), date and time of laboratory receipt of samples, and sample conditions upon receipt at the laboratory (including preservation, pH and temperature) are documented.
7	✓				Sample results are evaluated by comparing sample conditions upon receipt at the laboratory (e.g., preservation checks) and sample characteristics (e.g., percent moisture) to the requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract.
Stage 2A – Data Validation					
	VERIFIED		QUAL		QC Procedure or Check
	YES	NO	YES	NO	
8	✓				Requested methods (handling, preparation, cleanup, and analytical) are performed.
9	✓				Method dates (including dates, times and duration of analysis for radiation counting measurements and other methods, if needed) for handling (e.g., Toxicity Characteristic Leaching Procedure), preparation, cleanup and analysis are present, as appropriate.
10	✓				Requested spike analytes or compounds (e.g., surrogate, DMCs, LCS spikes, post digestion spikes) have been added, as appropriate.
11	✓				Sample holding times (from sampling date to preparation and preparation to analysis) are evaluated.
12	✓				Frequency of QC samples is checked for appropriateness (e.g., one LCS per twenty samples in a preparation batch).
13	✓				Sample results are evaluated by comparing holding times and sample-related QC data to the requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract
Stage 2A – Data Validation QC Data					

14	✓			✓	method blanks
15	✓			✓	surrogate recoveries/deuterated monitoring compounds (DMC) recoveries/clean-up recoveries
16	✓			✓	laboratory control sample (LCS)/Laboratory control sample duplicate (LCSD) recoveries
17		✓			matrix spike and matrix spike duplicate recoveries
18		✓			serial dilutions
19		✓			post digestion spikes
20		✓			standard reference materials
21		✓			equipment blanks
22		✓			trip blanks

Stage 2B – Data Validation

Stage 2B validation builds on the validation conducted in Stage 2A. Stage 2B validation of the laboratory analytical data package consists of the Stage 2A validation plus the verification and validation checks for the compliance of instrument-related QC.

	VERIFIED		QUAL		Calibration Procedure or Check
	YES	NO	YES	NO	
23	✓				Initial calibration data (e.g., ICAL standards, ICV standards, ICBs) are provided for all requested analytes and linked to field samples reported. For each initial calibration, the calibration type used is present along with the initial calibration equation used including any weighting factor(s) applied and the associated correlation coefficients, as appropriate. Recalculations of the standard concentrations using the initial calibration curve are present, along with their associated percent recoveries, as appropriate (e.g., if required by the project, method, or contract). For the ICV standard, the associated percent recovery (or percent difference, as appropriate) is present.
24	✓				Appropriate number and concentration of initial calibration standards are present.
25	✓				Continuing calibration data (e.g. CCV standards and CCBs) are provided for all requested analytes and linked to field samples reported, as appropriate. For the CCV standard(s), the associated percent recoveries (or percent differences, as appropriate) are present.
26	✓				Reported samples are bracketed by CCV standards and CCBs standards as appropriate.
27			✓		Method specific instrument performance checks are present as appropriate (e.g., tunes for mass spectrometry methods, DDT/Endrin breakdown checks for pesticides and aroclors, instrument blanks and interference checks for ICP methods).
28	✓				Frequency of instrument QC samples is checked for appropriateness (e.g., gas chromatography-mass spectroscopy [GC-MS] tunes/mass resolutions, window defining mix, %valley have been run every 12 hours).

Stage 3 – Data Validation

Stage 3 validation builds on the validation conducted in Stage 2B. Stage 3 validation of the laboratory analytical data package consists of the Stage 2B validation plus the recalculation of instrument and sample results from the laboratory instrument responses, and comparison of recalculated results to laboratory reported results.

	VERIFIED		QUAL		QC Procedure or Check
	YES	NO	YES	NO	
29	✓			✓	Instrument response data (e.g., GC peak areas, ICP corrected intensities) are reported for requested analytes, surrogates, internal standards, and DMCs for all requested field samples, matrix spikes, matrix spike duplicates, LCS, and method blanks as well as calibration data and instrument QC checks (e.g., tunes, RT windows, resolutions, resolving power, and Florisil, alumina column checks).
30	✓			✓	Reported target analyte instrument responses are associated with appropriate internal standard analyte(s) for each (or selected) analyte(s) (for methods using internal standard for calibration).
31	✓			✓	Fit and appropriateness of the initial calibration curve used or required (e.g., mean calibration factor, regression analysis [linear or non-linear, with or without weighting factors, with or without forcing]) is checked with recalculation of the initial calibration curve for each (or selected) analyte(s) from the instrument response.
32	CCVs			✓	Comparison of instrument response to the minimum response requirements for each (or selected) analyte(s).
33	20%			✓	Recalculation of each (or selected) opening and closing CCV (and CCB) response from the peak data reported for each (or selected) analyte(s) from the instrument response, as appropriate.
34	20%			✓	Compliance check of recalculated opening and/or closing CCV (and CCB) response to recalculated initial calibration response for each (or selected) analyte(s).
35	Samples			✓	Recalculation of percent ratios for each (or selected) detected compound from the instrument response, as appropriate.
36	Samples				Compliance check of recalculated percent ratio for each (or selected) detected target compound from the instrument response.
37	NA				Recalculation of each (or selected) instrument performance check (e.g., DDT/Endrin breakdown for pesticide analysis, instrument blanks, interference checks) from the instrument response.
38	Samples CCVs			✓	Recalculation and compliance check of retention time windows (for chromatographic methods) for each (or selected) analyte(s) from the laboratory reported retention times.
39	Samples			✓	Recalculation of reported results for each reported (or selected) target analyte(s) from the instrument response.
40	25%			✓	Recalculation of each (or selected) reported spike recovery (surrogate recoveries, DMC recoveries, LCS recoveries, duplicate analyses, matrix spike and matrix spike duplicate recoveries, serial dilutions, post digestion spikes, standard reference materials etc.) from the instrument response.
41	25%			✓	Each (or selected) sample result(s) and spike recovery(ies) are evaluated by comparing the recalculated numbers to the laboratory reported numbers according to the requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract

Note: Selection of analytes, spikes, and performance evaluation checks for the Stage 3 validation checks for a laboratory analytical data package being verified and validated generally will depend on many factors including (but not limited to) the type of verification and validation being performed (manual or electronic), requirements and guidelines present in national or regional data validation documents, analytical method(s) or contract, the number of laboratories reporting the data, the number and type of analytical methods reported, the number of analytes reported in each method, and the number of detected analytes.

Stage 4 – Data Validation

Stage 4 validation builds on the validation conducted in Stage 3. Stage 4 validation of the laboratory analytical data package consists of the Stage 3 validation plus the evaluation of instrument outputs.

	VERIFIED		QUAL		QC Procedure or Check
	YES	NO	YES	NO	
42	Samples			✓	All required instrument outputs (e.g., chromatograms, mass spectra, atomic emission spectra, instrument background corrections, and interference corrections) for evaluating sample and instrument performance are present.
43	✓		✓		Sample results are evaluated by checking each (or selected) instrument output (e.g., chromatograms, mass spectra, atomic emission spectra data, instrument background corrections, interference corrections) for correct identification and quantitation of analytes (e.g., peak integrations, use of appropriate internal standards for quantitation, elution order of analytes, and interferences).
44	Samples		✓		Each (or selected) instrument's output(s) is evaluated for confirmation of non-detected or tentatively identified analytes.

LDEA - FORM I-HR CDD-1
 CDD/PCDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF30

LAB NAME: AXYS ANALYTICAL SERVICES CONTRACT: EP10W001069
 LAB CODE: AXYS CASE NO.: 40216 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL LAB SAMPLE ID: LA4893-1 L1
 SAMPLE wt/vol: 10.5 (g/ml): G LAB FILE ID: DXOM_099B S: 14
 WATER SAMPLE PREP: (SEPF/SPE) DATE RECEIVED: 06/22/2010
 CONCENTRATED EXTRACT VOLUME: 20 (uL) DATE EXTRACTED: 06/25/2010
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: 9.47 DATE ANALYZED: 08/04/2010
 GC COLUMN: DB5 ID: 0.25 (mm) DILUTION FACTOR: 1.0
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.52	0.73	2.33	B	
2,3,7,8-TCDF	304/306	25.33	0.72	116	B	
1,2,3,7,8-PeCDF	340/342	33.65	1.33	12.7	B	
1,2,3,7,8-PeCDD	354/356	36.22	0.57	5.89	B	
2,3,4,7,8-PeCDF	340/342	35.40	1.50	30.4	B	
1,2,3,4,7,8-HxCDF	374/376	40.77	1.20	15.3	B	
1,2,3,6,7,8-HxCDF	374/376	40.95	1.20	18.4	B	
1,2,3,4,7,8-HxCDD	390/392	42.17	1.32	5.80	B	
1,2,3,6,7,8-HxCDD	390/392	42.32	1.17	9.47	B	
1,2,3,7,8,9-HxCDD	390/392	42.67	1.31	14.6	B	
2,3,4,6,7,8-HxCDF	374/376	41.88	1.25	35.0	B	
1,2,3,7,8,9-HxCDF	374/376	42.92	0.75 #		B	EMPC = 1.20
1,2,3,4,6,7,8-HpCDF	408/410	45.37	1.00	75.1	B	
1,2,3,4,6,7,8-HpCDD	424/426	46.73	1.00	92.7	B	
1,2,3,4,7,8,9-HpCDF	408/410	47.15	0.94	6.94	B	
OCDD	458/460	50.28	0.85	631	B	
OCDF	442/444	50.38	0.83	76.9	B	

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.50	0.74	0.65 - 0.89	69.2	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.20	0.61	0.52 - 0.70	97.5	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.15	1.19	1.05 - 1.43	72.3	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.28	1.23	1.05 - 1.43	71.4	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.72	1.04	0.88 - 1.20	72.8	23 - 140
13C-OCDD	470/472	50.28	0.88	0.76 - 1.02	60.0	17 - 157
13C-2,3,7,8-TCDF	316/318	25.27	0.77	0.65 - 0.89	73.9	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.62	1.51	1.32 - 1.78	80.8	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.38	1.48	1.32 - 1.78	87.0	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.75	0.48	0.43 - 0.59	74.7	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.93	0.49	0.43 - 0.59	71.6	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.90	0.49	0.43 - 0.59	64.6	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.87	0.51	0.43 - 0.59	76.5	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.35	0.43	0.37 - 0.51	70.1	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.13	0.43	0.37 - 0.51	66.6	26 - 138
37Cl-2,3,7,8-TCDD	328/NA	26.52	NA	NA	74.2	25 - 197

Column to be used to flag values outside QC limits.



LDPE - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF30

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 10.5 (g/ml): G
 WATER SAMPLE PREP: (SRPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: 9.47
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

CONTRACT: EP10W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-1 L1
 LAB FILE ID: DX0M_099B S: 14
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 08/04/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	2.33	x 1 =	2.33E+00
2,3,7,8-TCDF	116	x 0.1 =	1.16E+01
1,2,3,7,8-PECDF	12.7	x 0.05 =	3.81E-01
1,2,3,7,8-PECDD	5.89	x 1 =	5.89E+00
2,3,4,7,8-PECDF	30.4	x 0.3 =	9.12E+00
1,2,3,4,7,8-HxCDF	16.3	x 0.1 =	1.63E+00
1,2,3,6,7,8-HxCDF	18.4	x 0.1 =	1.84E+00
1,2,3,4,7,8-HxCDD	5.80	x 0.1 =	5.80E-01
1,2,3,6,7,8-HxCDD	9.47	x 0.1 =	9.47E-01
1,2,3,7,8,9-HxCDD	14.6	x 0.1 =	1.46E+00
2,3,4,6,7,8-HxCDF	35.0	x 0.1 =	3.50E+00
1,2,3,7,8,9-HxCDF	0	x 0.1 =	0.00E+00
1,2,3,4,6,7,8-HPCDF	75.1	x 0.01 =	7.51E-01
1,2,3,4,6,7,8-HPCDD	92.7	x 0.01 =	9.27E-01
1,2,3,4,7,8,9-HPCDF	6.94	x 0.01 =	6.94E-02
OCDD	631	x 0.0003 =	1.89E-01
OCDF	76.9	x 0.0003 =	2.31E-02
		Total =	41.2

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

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 Report Filename: 1613_DIOXINS_D020-TEQ_L14893-1_TEQ_S1176788.html; Workgroup: WQ23139; Design ID: 1413 | QA/QC Approval: Matthew Ou.



LDPC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF30

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-1 L

SAMPLE wt/vol: 10.5

(g/ml): G

LAB FILE ID: DB03_097 S: 8

WATER SAMPLE PREP: (SEPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 2.0 (uL)

% SOLIDS/LIPIDS: 9.47

DATE ANALYZED: 07/29/2010

GC COLUMN: DB225

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDF	304/306	18.83	0.79	14.3	EP	
LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	18.82	0.79	0.65 - 0.89	57.6	24 - 169
37Cl-2,3,7,8-TCDD	328/NA	17.37	NA	NA	69.8	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1C.xsl; Report Filename: 1613_DIOXINS_DB20DB225_L14893-1_Form1A_DB03_09788_SJ1176293.htm; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Matthew Ou.

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LDPA - FORM I-HR CDD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF32

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TC NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-2 L1

SAMPLE wt/vol: 10.4 (g/ml): G

LAB FILE ID: DX0M_099B S: 5

WATER SAMPLE PREP: (SEPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: 10.6

DATE ANALYZED: 08/03/2010

GC COLUMN: DB5

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

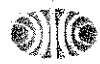
CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.52	0.26 #		EMPC B-TW	0.119 U
2,3,7,8-PCDF	304/306	25.30	0.71	3.30	BW	JQ
1,2,3,7,8-PeCDF	340/342	33.63	1.18 #		EMPC B-TW	0.579 U
1,2,3,7,8-PeCDD	354/356	36.20	0.76 #		EMPC B-TW	0.269 U
2,3,4,7,8-PeCDF	340/342	35.42	1.64	0.893	JQ	
1,2,3,4,7,8-HxCDF	374/376	40.77	1.13	0.763	JQ	
1,2,3,6,7,8-HxCDF	374/376	40.95	1.19	0.920	JQ	
1,2,3,4,7,8-HxCDD	390/392	42.15	1.16	0.376	BW JQ	
1,2,3,6,7,8-HxCDD	390/392	42.30	0.91 #		EMPC B-TW	0.771 U
1,2,3,7,8,9-HxCDD	390/392	42.72	1.04 #		EMPC B-TW	0.714 U
2,3,4,6,7,8-HxCDF	374/376	41.88	1.29	0.756	BW JQ	
1,2,3,7,8,9-HxCDF	374/376	42.92	1.66 #		EMPC B-TW	0.165 U
1,2,3,4,6,7,8-HpCDF	408/410	45.35	1.00	5.06	JQ	
1,2,3,4,6,7,8-HpCDD	424/426	46.73	0.93	14.0	BW JQ	
1,2,3,4,7,8,9-HpCDF	408/410	47.13	1.00	0.689	BW JQ	
OCDD	458/460	50.28	0.87	1.25	JQ	
OCDF	442/444	50.37	0.89	14.4	JQ	

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	REC #	REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.50	0.78	0.65 - 0.89	80.4	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.18	0.83	0.52 - 0.70	121	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.13	1.24	1.05 - 1.43	89.6	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.28	1.23	1.05 - 1.43	85.6	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.72	1.03	0.88 - 1.20	96.0	23 - 140
13C-OCDD	470/472	50.27	0.86	0.76 - 1.02	88.2	17 - 157
13C-2,3,7,8-TCDF	316/318	25.27	0.75	0.65 - 0.89	84.8	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.62	1.50	1.32 - 1.78	104	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.38	1.53	1.32 - 1.78	104	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.75	0.48	0.43 - 0.59	85.8	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.92	0.49	0.43 - 0.59	86.8	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.90	0.50	0.43 - 0.59	84.7	25 - 147
13C-2,3,4,6,7,8-HpCDF	384/386	41.87	0.50	0.43 - 0.59	90.4	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.33	0.43	0.37 - 0.51	91.7	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.12	0.41	0.37 - 0.51	91.9	26 - 138
37Cl-2,3,7,8-TCDD	328/NA	26.52	NA	NA	81.4	35 - 197

Column to be used to flag values outside QC limits.



LDPB - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF32

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EFL0W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-2 L1

SAMPLE wt/vol: 10.4

(g/ml); G

LAB FILE ID: DX0M_099B S: 5

WATER-SAMPLE PREP: (SEPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 1.0 (uL)

SOLIDS/LIPIDS: 10.6

DATE ANALYZED: 08/03/2010

GC COLUMN: DB5

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0	x 1 =	0.00E+00
2,3,7,8-TCDF	3.30	x 0.1 =	3.30E-01
1,2,3,7,8-PECDF	0	x 0.03 =	0.00E+00
1,2,3,7,8-PECDD	0	x 1 =	0.00E+00
2,3,4,7,8-PECDF	0.893	x 0.3 =	2.68E-01
1,2,3,4,7,8-HXCDF	0.763	x 0.1 =	7.63E-02
1,2,3,6,7,8-HXCDF	0.920	x 0.1 =	9.20E-02
1,2,3,4,7,8-HXCDD	0.376	x 0.1 =	3.76E-02
1,2,3,6,7,8-HXCDD	0	x 0.1 =	0.00E+00
1,2,3,7,8,9-HXCDD	0	x 0.2 =	0.00E+00
2,3,4,6,7,8-HXCDF	0.756	x 0.1 =	7.56E-02
1,2,3,7,8,9-HXCDF	0	x 0.1 =	0.00E+00
1,2,3,4,6,7,8-HPCDF	5.06	x 0.01 =	5.06E-02
1,2,3,4,6,7,8-HPCDD	14.0	x 0.01 =	1.40E-01
1,2,3,4,7,8,9-HPCDF	0.689	x 0.01 =	6.89E-03
OCDD	125	x 0.0003 =	3.75E-02
OCDF	14.4	x 0.0003 =	4.32E-03
		Total =	1.12

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

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LDFC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF32

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-2 L

SAMPLE wt/vol: 10.4

(g/ml): G

LAB FILE ID: EB03_096A 8: 14

WATER SAMPLE PREF: (SEPF/SPE)

DATE RECEIVED: 05/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 2.0 (uL)

% SOLIDS/LIPIDS: 10.6

DATE ANALYZED: 07/28/2010

GC COLUMN: DB225

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDF	304/306	18.87	0.82	0.691	EJ	
LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	18.83	0.79	0.65 - 0.89	74.0	24 - 169
37Cl-2,3,7,8-TCDD	328/NA	17.3E	NA	NA	81.0	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1C.xsl; Report Filename: 1613_DIOXINS_D020DB225_L14893-2_Form1A_EB03_096AS14_SJ1176252.html; Workgroup: WGS3139; Design ID: 1413] QA/QC Approval: Matthew Ou



LDFA - FORM I-HR ODD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF34

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 10.6 (g/ml): G
 WATER SAMPLE PREP: (SEPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: 26.4
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

CONTRACT: BP10W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-3 L1
 LAB FILE ID: DXOM_099B S: 9
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 08/03/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/BDL
2,3,7,8-TCDD	320/322	26.52	0.92 #		EMPC-BV	1.35 U
2,3,7,8-TCDF	304/306	25.33	0.74	66.9	B	
1,2,3,7,8-PeCDF	340/342	33.65	1.48	9.49	BV	
1,2,3,7,8-PeCDD	354/356	36.23	0.60	4.27	Q	
2,3,4,7,8-PeCDF	340/342	35.43	1.37	18.7	B	
1,2,3,4,7,8-HxCDF	374/376	40.77	1.20	19.3	B	
1,2,3,6,7,8-HxCDF	374/376	40.95	1.21	20.6	BV	
1,2,3,4,7,8-HxCDD	390/392	42.17	1.09	4.83	Q	
1,2,3,6,7,8-HxCDD	390/392	42.30	1.15	8.20	B	
1,2,3,7,8,9-HxCDD	390/392	42.58	1.13	14.1	B	
2,3,4,6,7,8-HxCDF	374/376	41.90	1.14	31.6	BV	
1,2,3,7,8,9-HxCDF	374/376	42.92	1.14	1.38	Q	
1,2,3,4,6,7,8-HpCDF	408/410	45.37	1.00	114	B	
1,2,3,4,6,7,8-HpCDD	424/426	46.73	0.97	64.8	B	
1,2,3,4,7,8,9-HpCDF	408/410	47.15	1.01	12.5	B	
OCDD	458/460	50.30	0.87	304	B	
GCDF	442/444	50.38	0.85	70.6	B	

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	322/334	26.50	0.76	0.65 - 0.89	67.5	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.20	0.62	0.52 - 0.70	99.9	35 - 161
13C-1,2,3,4,7,8-HxCDD	402/404	42.15	1.23	1.05 - 1.43	75.2	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.28	1.21	1.05 - 1.43	71.8	28 - 136
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.72	1.01	0.88 - 1.20	79.9	23 - 140
13C-OCDD	470/472	50.26	0.86	0.76 - 1.02	72.9	17 - 157
13C-2,3,7,8-TCDF	316/318	25.28	0.75	0.65 - 0.89	74.6	24 - 162
13C-1,2,3,7,8-PeCDF	352/354	33.63	1.52	1.32 - 1.78	79.7	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.38	1.49	1.32 - 1.78	83.7	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.75	0.49	0.43 - 0.59	77.2	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.93	0.49	0.43 - 0.59	74.1	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.90	0.49	0.43 - 0.59	79.7	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.87	0.50	0.43 - 0.59	75.5	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.35	0.43	0.37 - 0.51	80.3	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.13	0.44	0.37 - 0.51	79.0	26 - 138
37Cl-2,3,7,8-TCDD	328/NA	26.53	NA	NA	69.2	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 25-Aug-2010 09:48:15; Application: XMLTransformer-1.10.25; CLP-App: CLP-13 DLMForm1A.xsl; Report Filename: 1613_DIOXINS_DO20DB5_L14893-3_Form1A_DXOM_099B89_S11176632.html; Workgroup: WC33199; Design ID: 1413] QA/QC Approval: Matthew Ou



LDPE - FORM I-HR CDD-2
 CDD/CDP TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF34

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 10.6 (g/ml): G
 WATER SAMPLE PREP: (SEPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: 26.4
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

CONTRACT: EP10W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-3 Li
 LAB FILE ID: DXOM_099B S: 9
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 06/03/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0	x 1 =	0.00E+00
2,3,7,8-TCDF	66.9	x 0.1 =	6.69E+00
1,2,3,7,8-PECDF	9.49	x 0.03 =	2.85E-01
1,2,3,7,8-PECDD	4.27	x 1 =	4.27E+00
2,3,4,7,8-PECDF	18.7	x 0.3 =	5.61E+00
1,2,3,4,7,8-HXCDF	19.3	x 0.1 =	1.93E+00
1,2,3,6,7,8-HXCDF	20.6	x 0.1 =	2.06E+00
1,2,3,4,7,8-HXCDD	4.53	x 0.1 =	4.53E-01
1,2,3,6,7,8-HXCDD	8.20	x 0.1 =	8.20E-01
1,2,3,7,8,9-HXCDD	14.1	x 0.1 =	1.41E+00
2,3,4,6,7,8-HXCDF	31.6	x 0.1 =	3.16E+00
1,2,3,7,8,9-HXCDF	1.38	x 0.1 =	1.38E-01
1,2,3,4,6,7,8-HPCDF	114	x 0.01 =	1.14E+00
1,2,3,4,6,7,8-HPCDD	64.8	x 0.01 =	6.48E-01
1,2,3,4,7,8,9-HPCDF	12.5	x 0.01 =	1.25E-01
OCDD	304	x 0.0003 =	9.12E-02
OCDF	70.6	x 0.0003 =	2.12E-02
		Total =	28.9

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

For: Axys Internal Use Only [Created: 24-Aug-2010 18:38:28; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1B.xsl; Report Filename: 1613_DIOXINS_D020-TEQ_L14893-3_TEQ_S1176632.html; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Matthew Ou



1DFC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF34

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EPL0W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: BP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-3 L

SAMPLE wt/vol: 10.6

(g/ml): G

LAB FILE ID: DB03_097 S: 6

WATER SAMPLE PREP: (SEPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 2.0 (uL)

* SOLIDS/LIPIDS: 26.4

DATE ANALYZED: 07/28/2010

GC COLUMN: DB225

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDF	304/306	18.88	0.73	6.84	5	

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	18.87	0.80	0.65 - 0.89	61.8	24 - 169
37Cl-2,3,7,8-TCDF	328/NA	17.40	NA	NA	65.8	35 - 197

Column to be used to flag values outside QC limits.

For: Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1C.xsl; Report Filename: 1613_DIOXINS_D020DB225_L14893-3_Form1A_DB03_09786_S11176291.html; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Matthew Ou



1DFA - FORM I-HR CDD-1
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE NO.

JCF35

LAB NAME: AXYS ANALYTICAL SERVICES
LAB CODE: AXYS CASE NO.: 40216
MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
SAMPLE wt/vol: 10.0 (g/ml): G
WATER SAMPLE PREP: (SEPF/SPE)
CONCENTRATED EXTRACT VOLUME: 30 (uL)
INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: 17.6
GC COLUMN: DB5 ID: 0.25 (mm)
CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

CONTRACT: EF10W001069
TO NO.: EP-CALL-0602 SDG NO.: JCF30
LAB SAMPLE ID: L14893-4 Li
LAB FILE ID: DXOM_099B S: 15
DATE RECEIVED: 06/22/2010
DATE EXTRACTED: 06/25/2010
DATE ANALYZED: 08/04/2010
DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.53	0.82	1.84	E	
2,3,7,8-TCDF	304/306	25.33	0.74	63.9	E	
1,2,3,7,8-PeCDF	340/342	33.63	1.42	15.9	E	
1,2,3,7,8-PeCDB	354/356	36.22	0.55	5.82	E	
2,3,4,7,8-PeCDF	340/342	35.42	1.50	23.6	E	
1,2,3,4,7,8-HxCDF	374/376	40.77	1.17	25.1	E	
1,2,3,6,7,8-HxCDF	374/376	40.95	1.18	23.6	E/W	
1,2,3,4,7,8-HxCDD	390/392	42.17	1.11	5.11	E/W Q	
1,2,3,6,7,8-HxCDD	390/392	42.30	1.16	8.07	E	
1,2,3,7,8,9-HxCDD	390/392	42.70	1.23	13.2	E	
2,3,4,6,7,8-HxCDF	374/376	41.88	1.14	22.5	E/W	
1,2,3,7,8,9-HxCDF	374/376	42.92	1.26	2.06	E/W Q	
1,2,3,4,6,7,8-HpCDF	408/410	45.35	0.98	90.3	E	
1,2,3,4,6,7,8-HpCDD	424/426	46.73	1.01	58.5	E	
1,2,3,4,7,8,9-HpCDF	408/410	47.13	0.93	9.60	E	
OCDD	458/460	50.28	0.86	308	E	
OCDF	442/444	50.38	0.82	50.0	E/W	

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.48	0.80	0.65 - 0.89	78.7	25 - 164
13C-1,2,3,7,8-PeCDB	366/368	36.18	0.62	0.52 - 0.70	110	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.13	1.28	1.05 - 1.43	81.8	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.28	1.21	1.05 - 1.43	78.4	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.72	1.03	0.88 - 1.20	93.8	23 - 140
13C-OCDD	470/472	50.27	0.89	0.76 - 1.02	76.3	17 - 157
13C-2,3,7,8-TCDF	316/318	25.27	0.78	0.65 - 0.89	82.2	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.62	1.52	1.32 - 1.78	93.5	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.37	1.50	1.32 - 1.78	94.0	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.75	0.50	0.43 - 0.59	82.0	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.92	0.50	0.43 - 0.59	83.1	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.90	0.50	0.43 - 0.59	84.1	39 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.87	0.50	0.43 - 0.59	87.8	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.33	0.44	0.37 - 0.51	84.6	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.12	0.42	0.37 - 0.51	84.0	26 - 138
37Cl-2,3,7,8-TCDD	328/NA	26.52	NA	NA	78.8	35 - 197

Column to be used to flag values outside QC limits.



LDPE - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.
 JCF35

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 10.0 (g/ml): G
 WATER SAMPLE PREP: (BPPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: 17.6
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

CONTRACT: EP10W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-4 L1
 LAB FILE ID: DX0M_099B S: 15
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 08/04/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	1.84	x 1 =	1.84E+00
2,3,7,8-TCDF	83.9	x 0.1 =	8.39E+00
1,2,3,7,8-PECDF	16.9	x 0.03 =	4.77E-01
1,2,3,7,8-PECDD	5.82	x 1 =	5.82E+00
2,3,4,7,8-PECDF	23.6	x 0.3 =	7.08E+00
1,2,3,4,7,8-HXCDF	25.1	x 0.1 =	2.51E+00
1,2,3,6,7,8-HXCDF	23.6	x 0.1 =	2.36E+00
1,2,3,4,7,8-HXCDD	5.11	x 0.1 =	5.11E-01
1,2,3,6,7,8-HXCDD	8.07	x 0.1 =	8.07E-01
1,2,3,7,8,9-HXCDD	13.2	x 0.1 =	1.32E+00
2,3,4,6,7,8-HXCDF	22.5	x 0.1 =	2.25E+00
1,2,3,7,8,9-HXCDF	2.06	x 0.1 =	2.06E-01
1,2,3,4,6,7,8-HPCDF	90.3	x 0.01 =	9.03E-01
1,2,3,4,6,7,8-HPCDD	58.8	x 0.01 =	5.88E-01
1,2,3,4,7,8,9-HPCDF	9.60	x 0.01 =	9.60E-02
OCDD	308	x 0.0003 =	9.24E-02
OCDF	50.0	x 0.0003 =	1.50E-02
		Total =	35.3

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

For Axys Internal Use Only [Created: 24-Aug-2010 13:30:28; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1B.xsl;
 Report Filename: 1613_DIOXINS_D020-TEQ_L14893-4_TEQ_831176789.html; Workgroup: WC33139; Design ID: 1413] QA/QC Approval: Matthew Ou.



1DFC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF35

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-4 L

SAMPLE wt/vol: 10.0

(g/ml): G

LAB FILE ID: DB03_097 S: 9

WATER SAMPLE PREP: (SRFF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 2.0 (uL)

% SOLIDS/LIPIDS: 17.6

DATE ANALYZED: 07/29/2010

GC COLUMN: DB225

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDF	304/306	18.85	0.78	12.0	<i>Am</i>	

LABELED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	18.82	0.78	0.69 - 0.89	69.1	24 - 169
37Cl-2,3,7,8-TCDD	328/NA	17.35	NA	NA	74.5	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTransformer 1.10.25; CLP-App: CLP-13 DLMForm1C.xsl; Report Filename: 1613_DIOXINS_D020DB225_L14893-4_Form1A_DB03_097S9_S11176294.html; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Matthew Ou.

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1DFA - FORM I-HR CDD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF36

LAB NAME: AXYS ANALYTICAL SERVICES CONTRACT: EP10W001069
 LAB CODE: AXYS CASE NO.: 40216 PROJECT NO.: EP-CALL-0002 SDG NO.: JCF30
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL LAS SAMPLE ID: L14893-5 L1
 SAMPLE wt/vol: 10.2 (g/ml): G LAB FILE ID: DXOM_099B S: 6
 WATER SAMPLE PREP: (SEPF/SP2) DATE RECEIVED: 06/22/2010
 CONCENTRATED EXTRACT VOLUME: 20 (uL) DATE EXTRACTED: 06/25/2010
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: 25.6 DATE ANALYZED: 06/03/2010
 GC COLUMN: DB5 ID: 0.25 (mm) DILUTION FACTOR: 1.0
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.52	0.60 #			2.25 U
2,3,7,8-TCDF	304/306	25.33	0.72	61.1		
1,2,3,7,8-PeCDF	340/342	33.65	1.45	6.33		
1,2,3,7,8-PeCDD	354/356	36.25	0.63	4.60		
2,3,4,7,8-PeCDF	340/342	35.45	1.56	8.57		
1,2,3,4,7,8-HxCDF	374/376	40.70	1.27	7.70		
1,2,3,6,7,8-HxCDF	374/376	40.95	1.12	6.63		
1,2,3,4,7,8-HxCDD	390/392	42.17	1.46 #			2.37 U
1,2,3,6,7,8-HxCDD	390/392	42.32	1.24	4.65		
1,2,3,7,8,9-HxCDD	390/392	42.68	1.20	7.58		
2,3,4,6,7,8-HxCDF	374/376	41.90	1.05	6.09		
1,2,3,7,8,9-HxCDF	374/376	42.93	1.09	1.06		
1,2,3,4,6,7,8-HpCDF	408/410	45.37	0.94	15.7		
1,2,3,4,6,7,8-HpCDD	424/426	46.73	1.03	49.2		
1,2,3,4,7,8,9-HpCDF	408/410	47.15	0.78 #			3.64 U
OCDD	458/460	50.30	0.85	309		
OCDF	442/444	50.38	0.78	2.72		

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.50	0.74	0.65 - 0.89	21.3 #	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.20	0.61	0.52 - 0.70	43.3	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.15	1.22	1.05 - 1.43	32.3	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.30	1.27	1.05 - 1.43	31.2	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.72	1.04	0.88 - 1.20	33.1	23 - 140
13C-OCDD	470/472	50.28	0.85	0.76 - 1.02	24.3	17 - 157
13C-2,3,7,8-TCDF	316/318	25.28	0.78	0.65 - 0.89	23.7 #	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.63	1.49	1.32 - 1.78	27.0	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.38	1.49	1.32 - 1.78	31.9	21 - 278
13C-1,2,3,4,7,8-HxCDF	384/386	40.75	0.49	0.43 - 0.59	29.1	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.93	0.50	0.43 - 0.59	28.8	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.90	0.50	0.43 - 0.59	22.3 #	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.87	0.46	0.43 - 0.59	31.0	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.35	0.44	0.37 - 0.51	27.0 #	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.13	0.43	0.37 - 0.51	14.2 #	26 - 138
37Cl-2,3,7,8-TCDD	328/NA	26.53	NA	NA	72.8	35 - 197

Column to be used to flag values outside QC limits.



LDPB - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF36

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF36

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-5 L1

SAMPLE wt/vol: 10.2

(g/ml): G

LAB FILE ID: DX0M_099B S: 6

WATER SAMPLE PREF: (SRPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 1.0 (uL)

% SOLIDS/LIPIDS: 25.6

DATE ANALYZED: 08/03/2010

GC COLUMN: DB5

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,2,7,8-TCDD	0	x 1 =	0.00E+00
2,3,7,8-TCDF	61.1	x 0.1 =	6.11E+00
1,2,3,7,8-PECDF	6.33	x 0.03 =	1.90E+01
1,2,3,7,8-PECDD	4.60	x 1 =	4.60E+00
2,3,4,7,8-PECDF	8.57	x 0.3 =	2.57E+00
1,2,3,4,7,8-HXCDF	7.70	x 0.1 =	7.70E-01
1,2,3,6,7,8-HXCDF	6.62	x 0.1 =	6.62E-01
1,2,3,4,7,8-HXCDD	0	x 0.2 =	0.00E+00
1,2,3,6,7,8-HXCDD	4.66	x 0.1 =	4.66E-01
1,2,3,7,8,9-HXCDD	7.58	x 0.1 =	7.58E-01
2,3,4,6,7,8-HXCDF	6.09	x 0.1 =	6.09E-01
1,2,3,7,8,9-HXCDF	1.06	x 0.1 =	1.06E-01
1,2,3,4,6,7,8-HPCDF	15.7	x 0.01 =	1.57E-01
1,2,3,4,6,7,8-HPCDD	49.2	x 0.01 =	4.92E-01
1,2,3,4,7,8,9-HPCDF	0	x 0.01 =	0.00E+00
OCDD	309	x 0.0003 =	9.27E-02
OCDF	2.72	x 0.0003 =	8.16E-04
		Total =	17.6

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

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 Report Filename: 1613_DIOXINS_D020-TEQ_L14893-5_TEQ_SJ1176629.html; Workgroup: WG33139; Design ID: 1413 | QA/QC Approval: Matthew Ou



1DFC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF36

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14693-5 L

SAMPLE wt/vol: 10.2

(g/mL): G

LAB FILE ID: DB03_096A S: 15

WATER SAMPLE PREP: (SEPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 2.0 (uL)

% SOLIDS/LIPIDS: 25.6

DATE ANALYZED: 07/28/2010

GC COLUMN: DB225

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDF	304/306	18.85	0.81	10.1	EMPC	

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	18.83	0.79	0.65 - 0.89	18.9 #	24 - 169
37Cl-2,3,7,8-TCDD	328/NA	17.40	NA	NA	65.0	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only | XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTransformer | 1.10.25; CLP-App: CLP-1.3 DLMForm(C.xsl);
 Report Filename: 1613_DIOXINS_DB225_L14693-5_Form1A_DB03_096AS15_SJ1176255.html; Workgroup: WG31789; Design ID: 1413 | QA/QC Approval: Matthew Ou

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1DFA - FORM I-HR CDD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

HPA SAMPLE NO.

JCF40 RE

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 10.8 (g/ml): G
 WATER SAMPLE PREP: (SEPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: 12.9
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

CONTRACT: EP10W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-6 R (A)
 LAB FILE ID: DXOM_090C S: 51
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/28/2010
 DATE ANALYZED: 07/16/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.53	0.67	0.061	J Q	
2,3,7,8-TCDF	304/306	25.33	0.86	0.294	J Q	U
1,2,3,7,8-PeCDF	340/342	33.65	1.44	0.055	J Q	
1,2,3,7,8-PeCDD	354/356	36.22	0.67	0.058	J Q	
2,3,4,7,8-PeCDF	340/342	35.43	1.70	0.107	J Q	U
1,2,3,4,7,8-HxCDF	374/376				J Q	0.0464 U
1,2,3,6,7,8-HxCDF	374/376	40.97	1.59 #		J Q	0.073 U
1,2,3,4,7,8-HxCDD	390/392				J Q	0.0464 U
1,2,3,6,7,8-HxCDD	390/392	42.32	1.53 #		J Q	0.102 U
1,2,3,7,8,9-HxCDF	390/392	42.72	1.22	0.115	J Q	
2,3,4,6,7,8-HxCDF	374/376	41.87	1.08	0.057	J Q	
1,2,3,7,8,9-HxCDF	374/376				J Q	0.0464 U
1,2,3,4,6,7,8-HpCDF	408/410	45.37	1.10	1.09	J Q	
1,2,3,4,6,7,8-HpCDD	424/426	46.73	1.13	2.97	J Q	
1,2,3,4,7,8,9-HpCDF	408/410	47.15	1.05	0.123	J Q	U
OCDD	458/460	50.30	0.86	35.3	J Q	
OCDF	442/444	50.38	0.92	6.10	J Q	

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with * lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.52	0.76	0.65 - 0.89	71.6	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.20	0.62	0.52 - 0.70	73.9	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.15	1.22	1.05 - 1.43	83.3	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.28	1.21	1.05 - 1.43	80.3	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.72	1.06	0.88 - 1.20	86.1	23 - 140
13C-OCDD	470/472	50.28	0.89	0.76 - 1.02	75.4	17 - 157
13C-2,3,7,8-TCDF	316/318	25.28	0.76	0.65 - 0.89	71.8	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.63	1.52	1.32 - 1.78	66.5	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.38	1.53	1.32 - 1.78	65.1	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.75	0.51	0.43 - 0.59	74.8	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.93	0.50	0.43 - 0.59	76.2	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.90	0.51	0.43 - 0.59	78.7	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.87	0.52	0.43 - 0.59	76.3	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.35	0.44	0.37 - 0.51	80.4	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.13	0.44	0.37 - 0.51	80.2	26 - 138
13C1-2,3,7,8-TCDD	328/NA	26.55	NA	NA	68.1	35 - 197

Column to be used to flag values outside QC limits.



1DFB - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF40 RE

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-6 R (A)

SAMPLE wt/vol: 10.8

(g/ml): G

LAB FILE ID: DXOM_090C S: 51

WATER SAMPLE PREP: (SRPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/28/2010

INJECTION VOLUME: 1.0 (uL)

% SOLIDS/LIPIDS: 12.9

DATE ANALYZED: 07/16/2010

GC COLUMN: DB5

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0.061	x 1 =	6.10E-02
2,3,7,8-TCDF	0.294 <i>0</i>	x 0.1 =	2.94E-02 <i>0</i>
1,2,2,7,8-PECDF	0.655	x 0.03 =	1.65E-03
1,2,3,7,8-PECDD	0.058	x 1 =	5.80E-02
2,3,4,7,8-PECDF	0.107 <i>0</i>	x 0.3 =	3.21E-02 <i>0</i>
1,2,3,4,7,8-HXCDF	0	x 0.1 =	0.00E+00
1,2,3,6,7,8-HXCDF	0	x 0.1 =	0.00E+00
1,2,3,4,7,8-HXCDD	0	x 0.1 =	0.00E+00
1,2,3,6,7,8-HXCDD	0	x 0.1 =	0.00E+00
1,2,3,7,8,9-HXCDD	0.115	x 0.1 =	1.15E-02
2,3,4,6,7,8-HXCDF	0.057	x 0.1 =	5.70E-03
1,2,3,7,8,9-HXCDF	0	x 0.1 =	0.00E+00
1,2,3,4,6,7,8-HPCDF	1.09	x 0.01 =	1.09E-02
1,2,3,4,6,7,8-HPCDD	2.97	x 0.01 =	2.97E-02
1,2,3,4,7,8,9-HPCDF	0.123 <i>0</i>	x 0.01 =	1.23E-03 <i>0</i>
OCDD	35.3	x 0.0003 =	1.06E-02
OCDF	6.10	x 0.0003 =	1.83E-03
		Total =	0.254 <i>0.191</i>

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

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 Report Filename: 1613_DIOXINS_D020-TEQ_L14893-6_TEQ_SJ1171450.html; Workgroup: WG33180; Design ID: 1413 | QA/QC Approval: Shelley Facchin.

0.191



1DFC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF40 RE

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 10.8 (g/ml): G
 WATER SAMPLE PREP: (SEPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 2.0 (uL) % SOLIDS/LIPIDS: 12.9
 GC COLUMN: DB225 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

CONTRACT: EP10W001069
 TO NO.: EF-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-6 R (A)
 LAB FILE ID: DB03_086 S: 8
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/28/2010
 DATE ANALYZED: 07/13/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDF	304/306	17.72	0.84	0.141	J	

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	17.70	0.80	0.65 - 0.89	68.1	24 - 169
37Cl-2,3,7,8-TCDD	328/NA	16.47	NA	NA	69.9	35 - 197

Column to be used to flag values outside QC limits.

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1DFA - FORM I-HR CDD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF40 (Duplicate)

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 10.9 (g/ml): G
 WATER SAMPLE PREP: (SEPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: 13.0
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

CONTRACT: EP10W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: WG33180-103 (DUP L14893-6)
 LAB FILE ID: DXOM_090C S: 52
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/28/2010
 DATE ANALYZED: 07/16/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.53	0.62 #		J	0.050
2,3,7,8-TCDF	304/306	25.30	0.78	0.325	J	
1,2,3,7,8-PeCDF	340/342	33.65	2.37 #		J	0.061
1,2,3,7,8-PeCDD	354/356				U	0.0460
2,3,4,7,8-PeCDF	340/342	35.43	1.32	0.112	J	
1,2,3,4,7,8-HxCDF	374/376	40.78	1.32	0.082	J	
1,2,3,6,7,8-HxCDF	374/376	40.93	1.38	0.067	J	
1,2,3,4,7,8-HxCDD	390/392	42.15	1.17	0.063	J	
1,2,3,6,7,8-HxCDE	390/392	42.28	1.15	0.093	J	
1,2,3,7,8,9-HxCDD	390/392	42.68	1.29	0.119	J	
2,3,4,6,7,8-HxCDF	374/376	41.88	1.16	0.056	J	
1,2,3,7,8,9-HxCDF	374/376				U	0.0460
1,2,3,4,6,7,8-HpCDF	408/410	45.35	1.00	1.21	J	
1,2,3,4,6,7,8-HpCDD	424/426	46.72	1.03	3.51	J	
1,2,3,4,7,8,9-HpCDF	408/410	47.13	1.08	0.129	J	
OCDD	458/460	50.28	0.87	52.6	J	
OCDF	442/444	50.37	0.88	9.91	J	

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.50	0.79	0.65 - 0.89	72.0	25 - 164
13C-1,2,3,7,8-PeCDD	356/368	36.18	0.63	0.52 - 0.70	75.7	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.13	1.25	1.05 - 1.43	78.6	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.27	1.19	1.05 - 1.43	79.9	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.70	1.05	0.88 - 1.20	86.6	23 - 140
13C-OCDD	470/472	50.27	0.87	0.76 - 1.02	73.7	17 - 157
13C-2,3,7,8-TCDF	316/318	25.27	0.79	0.65 - 0.89	70.6	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.62	1.46	1.32 - 1.78	66.9	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.37	1.54	1.32 - 1.78	66.6	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.73	0.50	0.43 - 0.59	75.5	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.92	0.51	0.43 - 0.59	77.1	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.88	0.51	0.43 - 0.59	82.1	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.85	0.51	0.43 - 0.59	77.3	26 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.33	0.45	0.37 - 0.51	83.2	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.12	0.44	0.37 - 0.51	82.9	26 - 138
37Cl-2,3,7,8-TCDD	328/NA	26.53	NA	NA	72.1	35 - 197

Column to be used to flag values outside QC limits.



1DFB - FORM 1-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF40 (Duplicate)

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

FO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: WG33180-103 (DUP L14893-6)

SAMPLE wt/vol: 10.9

(g/ml): G

LAB FILE ID: DXOM_090C S: 52

WATER SAMPLE PREP: (SEFF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/28/2010

INJECTION VOLUME: 1.0 (uL)

% SOLIDS/LIPIDS: 13.0

DATE ANALYZED: 07/16/2010

GC COLUMN: DB5

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0	x 1 =	0.00E+00
2,3,7,8-TCDF	0.325	x 0.1 =	3.25E-02
1,2,3,7,8-PECDF	0	x 0.03 =	0.00E+00
1,2,3,7,8-PECDD	0	x 1 =	0.00E+00
2,3,4,7,8-PECDF	0.112	x 0.3 =	3.36E-02
1,2,2,4,7,8-HXCDF	0.082	x 0.1 =	8.20E-03
1,2,3,6,7,8-HXCDF	0.067	x 0.1 =	6.70E-03
1,2,3,4,7,8-HXCDD	0.063	x 0.1 =	6.30E-03
1,2,3,6,7,8-HXCDD	0.093	x 0.1 =	9.30E-03
1,2,3,7,8,9-HXCDD	0.119	x 0.1 =	1.19E-02
2,3,4,6,7,8-HXCDF	0.056	x 0.1 =	5.60E-03
1,2,3,7,8,9-HXCDF	0	x 0.1 =	0.00E+00
1,2,3,4,6,7,8-HPCDF	1.21	x 0.01 =	1.21E-02
2,2,2,4,6,7,8-HPCDD	3.51	x 0.01 =	3.51E-02
1,2,3,4,7,8,9-HPCDF	0.129	x 0.01 =	1.29E-03
OCDD	52.6	x 0.0003 =	1.58E-02
OCDF	9.91	x 0.0003 =	2.97E-03
		Total =	0.161

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

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mw



LDFC - FORM I-ER CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF40 (Duplicate)

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TC NO.: EP-CALL-0002 SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: WG33180-103 (DUP L14893-6)

SAMPLE wt/vol: 10.9 (g/ml): G

LAB FILE ID: DB03_086 S: 9

WATER SAMPLE PREP: (SEPT/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/28/2010

INJECTION VOLUME: 2.0 (uL) % SOLIDS/LIPIDS: 13.0

DATE ANALYZED: 07/13/2010

GC COLUMN: DB225

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDF	304/306	17.70	0.68	0.134	J	

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	17.70	0.79	0.65 - 0.89	67.6	24 - 169
37Cl-2,3,7,8-TCDD	328/NA	16.47	NA	NA	76.7	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 17-Aug-2010 15:01:02; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1C.xsl; Report Filename: 1613_DIOXINS_D020DB225_WG33180-103_Form1A_DB03_086S9_SJ1171462.html; Workgroup: WG33180; Design ID: 1413] QA/QC Approval: Shelley Pacchin.

MW



IDPA - FORM I-HR CDD-1
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE NO.

JCF41

LAB NAME: AXYS ANALYTICAL SERVICES CONTRACT: EP10W001069
LAB CODE: AXYS CASE NO.: 40216 TO NO.: EP-CALL-0002 SDG NO.: JCF30
MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL LAB SAMPLE ID: L14893-7 L
SAMPLE wt/vol: 10.4 (g/ml): G LAB FILE ID: DX0M_098 S: 13
WATER SAMPLE PREP: (SEPF/SPE) DATE RECEIVED: 06/22/2010
CONCENTRATED EXTRACT VOLUME: 20 (uL) DATE EXTRACTED: 06/25/2010
INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: 9.75 DATE ANALYZED: 07/31/2010
GC COLUMN: DB5 ID: 0.25 (mm) DILUTION FACTOR: 1.0
CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/BDL
2,3,7,8-TCDD	320/322	26.52	0.40 #		EMPC 2.1	0.092 U
2,3,7,8-TCDF	304/306	25.32	0.65	0.509	2.1	
1,2,3,7,8-PeCDF	340/342	33.68	1.37	0.115	2.1	
1,2,3,7,8-PeCDD	354/356	36.23	0.72 #		EMPC 2.1	0.084 U
2,3,4,7,8-PeCDF	340/342	35.43	1.14 #		EMPC 2.1	0.255 U
1,2,3,4,7,8-HxCDF	374/376	40.78	1.31	0.086	2.1	
1,2,3,6,7,8-HxCDF	374/376	40.97	1.66 #		EMPC 2.1	0.087 U
1,2,3,4,7,8-HxCDD	390/392	42.18	1.10	0.088	2.1	
1,2,3,6,7,8-HxCDD	390/392	42.32	0.98 #		EMPC 2.1	0.129 U
1,2,3,7,8,9-HxCDD	390/392	42.72	1.33	0.118	2.1	
2,3,4,6,7,8-HxCDF	374/376	41.92	1.16	0.083	2.1	
1,2,3,7,8,9-HxCDF	374/376	42.92	1.75 #		EMPC 2.1	0.076 U
1,2,3,4,6,7,8-HpCDF	408/410	45.37	1.20 #		EMPC 2.1	0.472 U
1,2,3,4,6,7,8-HpCDD	424/426	46.73	0.95	1.37	2.1	
1,2,3,4,7,8,9-HpCDF	408/410	47.15	2.12 #		EMPC 2.1	0.068 U
OCDD	458/460	50.30	0.86	14.3	2.1	
OCDF	442/444	50.38	0.81	1.51	2.1	

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.52	0.77	0.65 - 0.89	67.9	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.22	0.61	0.52 - 0.70	92.0	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.15	1.25	1.05 - 1.43	90.1	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.28	1.22	1.05 - 1.43	89.5	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.72	1.03	0.88 - 1.20	97.3	23 - 140
13C-OCDD	470/472	50.28	0.88	0.76 - 1.02	87.3	17 - 157
13C-2,3,7,8-TCDF	316/318	25.26	0.76	0.65 - 0.89	65.2	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.63	1.54	1.22 - 1.78	73.1	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.46	1.52	1.22 - 1.78	70.3	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.77	0.49	0.43 - 0.59	83.8	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.93	0.49	0.43 - 0.59	87.9	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.90	0.49	0.43 - 0.59	83.5	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.87	0.49	0.43 - 0.59	86.0	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.35	0.43	0.37 - 0.51	87.2	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.23	0.43	0.37 - 0.51	82.7	26 - 138
13C1-2,3,7,8-TCDD	328/NA	26.55	NA	NA	67.1	35 - 197

Column to be used to flag values outside QC limits.



LDPE - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF41

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EPL0W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-7 L

SAMPLE wt/vol: 10.4

(g/mL): G

LAB FILE ID: DX0M_098 S: 13

WATER SAMPLE PREP: (SEPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 1.0 (uL)

% SOLIDS/LIPIDS: 9.75

DATE ANALYZED: 07/31/2010

GC COLUMN: DB5

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDF	0	x 1 =	0.00E+00
2,3,7,8-TCDF	0.509	x 5.1 =	5.09E-02
1,2,3,7,8-PBCDF	0.116	x 0.03 =	3.48E-03
1,2,3,7,8-PBCDD	0	x 1 =	0.00E+00
2,3,4,7,8-PBCDF	0	x 0.3 =	0.00E+00
1,2,3,4,7,8-HXCDF	0.086	x 0.1 =	8.60E-03
1,2,3,6,7,8-HXCDF	0	x 0.1 =	0.00E+00
1,2,3,4,7,8-HXCDD	0.088	x 0.1 =	8.80E-03
1,2,3,6,7,8-HXCDD	0	x 0.1 =	0.00E+00
1,2,3,7,8,9-HXCDD	0.118	x 0.1 =	1.18E-02
2,3,4,6,7,8-HXCDF	0.083	x 0.1 =	8.30E-03
1,2,3,7,8,9-HXCDF	0	x 0.1 =	0.00E+00
1,2,3,4,6,7,8-HPCDF	0	x 0.01 =	0.00E+00
1,2,3,4,6,7,8-HPCDD	1.37	x 0.01 =	1.37E-02
1,2,3,4,7,8,9-HPCDF	0	x 0.01 =	0.00E+00
OCDF	14.3	x 0.0003 =	4.29E-03
OCDF	1.51	x 0.0003 =	4.53E-04
		Total =	0.110

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

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1DFC - FORM I-HR CDD-3
 CDD/CFD SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF41

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-7 L1

SAMPLE wt/vol: 30.4 (g/ml): G

LAB FILE ID: DB03_096A S: 7

WATER SAMPLE PREP: (SEPF/SPK)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 2.0 (uL) SOLIDS/LIPIDS: 9.75

DATE ANALYZED: 07/28/2010

GC COLUMN: DB225

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION		EMPC/EDL
2,3,7,8-TCDF	304/306	18.88	0.86	0.378	<i>0.378</i>	

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	18.87	0.81	0.65 - 0.89	60.2	24 - 169
37Cl-2,3,7,8-TCDD	328/NA	17.42	NA	NA	69.2	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTypeformer-1.10.25; CLP-App: CLP-1.3 DLMForm1C.xsl; Report Filename: 1613_DIOXINS_DB020DB225_L14893-7_Form1A_DB03_096AS7_SJ1176245.html; Workgroup: WGI3139; Design ID: 1413]QA/QC Approval: Matthew Ou.

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LDFA - FORM I-HR CDD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF42

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EPI10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-8 1

SAMPLE wt/vol: 10.3 (g/ml): G

LAB FILE ID: DXOM_091B S: 4

WATER SAMPLE PREP: (SEPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: 10.1

DATE ANALYZED: 07/19/2010

GC COLUMN: DB5

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322				U	0.0483
2,3,7,8-TCDF	304/306	25.27	0.77	0.507	EMPC 0.5	
1,2,3,7,8-PeCDF	340/342	33.63	1.05 #		EMPC 0.5	0.086 U
1,2,3,7,8-PeCDD	354/356	36.18	0.61	0.074	EMPC 0.5	
2,3,4,7,8-PeCDF	340/342	35.38	2.01 #		EMPC 0.5	0.218 U
1,2,3,4,7,8-HxCDF	374/376	40.75	1.20	0.086	EMPC 0.5	
1,2,3,6,7,8-HxCDF	374/376	40.93	1.01 #		EMPC 0.5	0.068 U
1,2,3,4,7,8-HxCDD	390/392	42.13	1.38	0.168	EMPC 0.5	
1,2,3,6,7,8-HxCDD	390/392	42.28	1.13	0.400	EMPC 0.5	
1,2,3,7,8,9-HxCDD	390/392	42.68	0.84 #		EMPC 0.5	0.328 U
2,3,4,6,7,8-HxCDF	374/376	41.85	1.59 #		EMPC 0.5	0.073 U
1,2,3,7,8,9-HxCDF	374/376				U	0.0483
1,2,3,4,6,7,8-HpCDF	408/410	45.35	1.04	2.07	EMPC 0.5	
1,2,3,4,6,7,8-HpCDD	424/426	46.72	1.05	11.9	EMPC 0.5	
1,2,3,4,7,8,9-HpCDF	408/410	47.13	0.91	0.227	EMPC 0.5	
OCDD	458/460	50.28	0.87	97.5	EMPC 0.5	
OCDF	442/444	50.38	0.85	11.4	EMPC 0.5	

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	322/324	26.47	0.77	0.65 - 0.89	87.4	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.17	0.62	0.52 - 0.70	85.3	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.13	1.19	1.05 - 1.43	87.3	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.27	1.22	1.05 - 1.43	92.7	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.70	1.03	0.88 - 1.20	104	23 - 140
13C-OCDD	470/472	50.28	0.90	0.76 - 1.02	115	17 - 157
13C-2,3,7,8-TCDF	316/318	25.23	0.77	0.65 - 0.89	81.6	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.58	1.56	1.32 - 1.78	75.9	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.35	1.53	1.32 - 1.78	78.5	21 - 176
13C-1,2,3,4,7,8-HxCDF	384/386	40.73	0.51	0.43 - 0.59	83.6	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.90	0.51	0.43 - 0.59	88.0	26 - 122
13C-1,2,3,7,8,9-HxCDF	384/386	42.88	0.49	0.43 - 0.59	88.4	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.85	0.51	0.43 - 0.59	85.5	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.33	0.44	0.37 - 0.51	102	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.12	0.43	0.37 - 0.51	112	26 - 138
13C1-2,3,7,8-TCDD	328/NA	26.50	NA	NA	85.7	35 - 197

Column to be used to flag values outside QC limits.



1DFB - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF42

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-8 1

SAMPLE wt/vol: 10.3

(g/ml): G

LAB FILE ID: DXOM_091B 8: 4

WATER SAMPLE PREP: (SEPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 1.0 (uL)

% SOLIDS/LIPIDS: 10.1

DATE ANALYZED: 07/19/2010

GC COLUMN: DB5

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0	x 1 =	0.00E+00
2,3,7,8-TCDF	0.507	x 0.1 =	5.07E-02
1,2,3,7,8-PECDF	0	x 0.03 =	0.00E+00
1,2,3,7,8-PECDD	0.074	x 1 =	7.40E-02
2,3,4,7,8-PBCDF	0	x 0.3 =	0.00E+00
1,2,3,4,7,8-HxCDF	0.086	x 0.1 =	8.60E-03
1,2,3,6,7,8-HxCDF	0	x 0.1 =	0.00E+00
1,2,3,4,7,8-HxCDD	0.168	x 0.1 =	1.68E-02
1,2,3,6,7,8-HxCDD	0.400	x 0.1 =	4.00E-02
1,2,3,7,8,9-HxCDD	0	x 0.1 =	0.00E+00
2,3,4,6,7,8-HxCDF	0	x 0.1 =	0.00E+00
1,2,3,7,8,9-HxCDF	0	x 0.1 =	0.00E+00
1,2,3,4,6,7,8-HPCDF	2.07	x 0.01 =	2.07E-02
1,2,3,4,6,7,8-HECDD	11.9	x 0.01 =	1.19E-01
1,2,3,4,7,8,9-HPCDF	0.227	x 0.01 =	2.27E-03
OCDD	97.5	x 0.0003 =	2.93E-02
OCDF	11.4	x 0.0003 =	3.42E-03
		Total =	0.365

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

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1DFC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF42

LAB NAME: AXYS ANALYTICAL SERVICES CONTRACT: EPI0W001069
 LAB CODE: AXYS CASE NO.: 40216 TO NO.: HP-CALL-0002 SDG NO.: JCF30
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL LAB SAMPLE ID: L14893-8
 SAMPLE wt/vol: 10.3 (g/ml); g LAB FILE ID: DB03_083 S: 14
 WATER SAMPLE PREP: (SEPF/SPE) DATE RECEIVED: 06/22/2010
 CONCENTRATED EXTRACT VOLUME: 20 (uL) DATE EXTRACTED: 06/25/2010
 INJECTION VOLUME: 2.0 (uL) % SOLIDS/LIPIDS: 10.1 DATE ANALYZED: 07/09/2010
 GC COLUMN: DB225 ID: 0.25 (mm) DILUTION FACTOR: 1.0
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PRAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDF	304/306	17.68	0.95 #			0.997

LABELLED COMPOUNDS	SELECTED IONS	PRAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	17.67	0.79	0.65 - 0.89	80.2	24 - 169
17C1-2,3,7,8-TCDD	328/NA	16.45	NA	NA	71.7	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1.Cxsl;
 Report Filename: 1613_DIOXINS_D020DB225_L14893-8_Form1A_DB03_083S14_S11171064.html; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Matthew Cu.

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1DPA - FORM I-HR CDD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF44

LAB NAME: AXYS ANALYTICAL SERVICES CONTRACT: EPI10W01069
 LAB CODE: AXYS CASE NO.: 40216 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL LAB SAMPLE ID: L14893-9 L
 SAMPLE wt/vol: 10.1 (g/ml): G LAB FILE ID: DXOM_098 S: 15
 WATER SAMPLE PREP: (SEPF/SPE) DATE RECEIVED: 06/22/2010
 CONCENTRATED EXTRACT VOLUME: 20 (uL) DATE EXTRACTED: 06/25/2010
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: 15.9 DATE ANALYZED: 07/31/2010
 GC COLUMN: DB5 ID: 0.25 (mm) DILUTION FACTOR: 1.0
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.55	0.47 #			0.097 U
2,3,7,8-TCDF	304/306	25.33	0.68	0.809		
1,2,3,7,8-PeCDF	340/342	33.68	1.35	0.184		
1,2,3,7,8-PeCDD	354/356	36.23	0.62	0.660		
2,3,4,7,8-PeCDF	346/342	35.43	1.42	0.543		U
1,2,3,4,7,8-HxCDF	374/376	40.80	1.11	1.18		
1,2,3,6,7,8-HxCDF	374/376	40.97	1.16	0.687		
1,2,3,4,7,8-HxCDD	390/392	42.16	1.15	1.84		
1,2,3,6,7,8-HxCDD	390/392	42.32	1.14	4.66		
1,2,3,7,8,9-HxCDD	390/392	42.73	1.15	4.09		
2,3,4,6,7,8-HxCDF	374/376	41.90	1.11	0.533		
1,2,3,7,8,9-HxCDF	374/376					0.0493
1,2,3,4,6,7,8-HpCDF	408/410	45.37	0.96	21.2		
1,2,3,4,6,7,8-HpCDD	426/426	46.75	0.96	127		
1,2,3,4,7,8,9-HpCDF	408/410	47.15	0.88	2.36		
OCDD	456/460	50.32	0.86	1030		
OCDF	442/444	50.42	0.84	101		

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
12C-2,3,7,8-TCDD	322/324	26.55	0.76	0.65 - 0.89	85.1	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.22	0.62	0.52 - 0.70	107	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.17	1.23	1.05 - 1.43	94.0	32 - 141
13C-1,2,3,6,7,8-HxCDF	402/404	42.30	1.23	1.05 - 1.43	88.3	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.73	1.02	0.88 - 1.20	97.4	23 - 140
13C-OCDD	470/472	50.32	0.86	0.76 - 1.02	97.6	17 - 157
13C-2,3,7,8-TCDF	316/318	25.30	0.76	0.65 - 0.89	84.9	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.65	1.52	1.32 - 1.70	84.5	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.42	1.51	1.32 - 1.70	85.2	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.77	0.45	0.42 - 0.59	90.4	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.95	0.49	0.43 - 0.59	88.5	26 - 129
13C-1,2,3,7,8,9-HxCDF	384/386	42.92	0.45	0.43 - 0.59	92.2	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.88	0.49	0.43 - 0.59	88.7	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.35	0.43	0.37 - 0.51	89.3	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.13	0.42	0.37 - 0.51	93.5	26 - 138
37Cl-2,3,7,8-TCDD	328/NA	26.55	NA	NA	84.1	35 - 197

Column to be used to flag values outside QC limits.

For Axy's Internal Use Only | XSL Template: Form1A.xsl; Created: 25-Aug-2010 09:48:15; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1A.xsl; Report Filename: 1613_DIOXINS_DO20DB5_L14893-9_Form1A_DXOM_098S15_S31176033.html; Workgroup: WG33139; Design ID: 1413 | QA/QC Approval: Matthew Ou.



1DFE - FORM I-HR CDD-2
 CDD/CCDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF44

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-9 L

SAMPLE wt/vol: 10.1

(g/ml): G

LAB FILE ID: DX0M_098 S: 15

WATER SAMPLE PREP: (SPPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 1.0 (uL)

% SOLIDS/LIPIDS: 15.9

DATE ANALYZED: 07/31/2010

GC COLUMN: DB5

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0	x 1 =	0.00E+00
2,3,7,8-TCDF	0.809	x 0.1 =	8.09E-02
1,2,3,7,8-PECDF	0.184	x 0.03 =	5.52E-03
1,2,3,7,8-PECDD	0.660	x 1 =	6.60E-01
2,3,4,7,8-PECDF	0.54 <i>no</i>	x 0.3 =	1.62E-01 <i>no</i>
1,2,3,4,7,8-HxCDF	1.16	x 0.1 =	1.16E-01
1,2,3,6,7,8-HxCDF	0.687	x 0.1 =	6.87E-02
1,2,3,4,7,8-HxCDD	1.84	x 0.1 =	1.84E-01
1,2,3,6,7,8-HxCDD	4.66	x 0.1 =	4.66E-01
1,2,3,7,8,9-HxCDD	4.09	x 0.1 =	4.09E-01
2,3,4,6,7,8-HxCDF	0.633	x 0.1 =	5.33E-02
1,2,3,7,8,9-HxCDF	0	x 0.1 =	0.00E+00
1,2,3,4,6,7,8-HPCDF	21.2	x 0.01 =	2.12E-01
1,2,3,4,6,7,8-HPCDD	127	x 0.01 =	1.27E+00
1,2,3,4,7,8,9-HPCDF	2.36	x 0.01 =	2.36E-02
OCDD	1030	x 0.0003 =	3.09E-01
OCDF	101	x 0.0003 =	3.03E-02
		Total =	<i>3.89</i>

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

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3.89



LDPC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.
 JCF44

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/VOL: 10.1 (g/ml) G
 WATER SAMPLE PREP: (SEPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 2.0 (uL) % SOLIDS/LIPIDS: 15.9
 GC COLUMN: DB225 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

CONTRACT: EP10W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-9 Li
 LAB FILE ID: DB03_096A S: 10
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 07/28/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/BDL
2,3,7,8-TCDF	306/306	18.88	0.66	0.386	J	

LABELED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	18.88	0.80	0.65 - 0.89	73.1	24 - 169
37Cl-2,3,7,8-TCDF	328/NA	17.42	NA	NA	77.2	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 16:24:08; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1C.xsl; Report Filename: 1613_DIOXINS_D020DB225_L14893-9_Form1A_DB03_096AS10_SJ1176248.html; Workgroup: WG33139; Design ID: N413] QA/QC Approval: Matthew Ou

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LDPA - FORM I-HR-CDD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF45

LAB NAME: AXYS ANALYTICAL SERVICES CONTRACT: EP10W001069
 LAB CODE: AXYS CASE NO.: 40216 ANALYST: JCF30 TO NO.: EP-CAL5-0002 SDG NO.: JCF30
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL LAB SAMPLE ID: L14893-10 Li
 SAMPLE wt/vol: 10.8 (g/ml): G LAB FILE ID: DXOM_108A S: 34
 WATER SAMPLE PREP: (SEPF/SPE) DATE RECEIVED: 06/22/2010
 CONCENTRATED EXTRACT VOLUME: 20 (uL) DATE EXTRACTED: 06/25/2010
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: 6.16 DATE ANALYZED: 08/17/2010
 GC COLUMN: DB5 ID: 0.25 (mm) DILUTION FACTOR: 1.0
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322				U	0.0959
2,3,7,8-TCDF	304/306	25.35	0.72	0.559	U	
1,2,3,7,8-PeCDF	340/342	33.70	0.80 #		EMPC U	0.115 U
1,2,3,7,8-PeCDD	354/356				U	0.0564
2,3,4,7,8-PeCDF	340/342	35.50	0.73 #		EMPC U	0.113 U
1,2,3,4,7,8-HxCDF	374/376	40.80	2.88 #		EMPC U	0.110 U
1,2,3,6,7,8-HxCDF	374/376	40.98	1.32	0.131	U	
1,2,3,4,7,8-HxCDD	390/392	42.23	0.78 #		EMPC B U	0.117 U
1,2,3,6,7,8-HxCDD	390/392	42.33	0.66 #		EMPC B U	0.175
1,2,3,7,8,9-HxCDD	390/392	42.75	1.54 #		EMPC B U	0.289
2,3,4,6,7,8-HxCDF	374/376	41.93	1.73 #		EMPC B U	0.102
1,2,3,7,8,9-HxCDF	374/376				U	0.0465
1,2,3,4,6,7,8-HpCDF	408/410	45.38	0.92	1.78	U	
1,2,3,4,6,7,8-HpCDD	424/426	46.75	1.09	5.38	U	
1,2,3,4,7,8,9-HpCDF	408/410	47.17	1.53 #		EMPC B U	0.180 U
OCDD	458/460	50.30	0.86	47.9	U	
OCDF	442/444	50.38	0.83	7.87	U	

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	322/324	26.53	0.72	0.65 - 0.89	84.1	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.23	0.61	0.52 - 0.70	140	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.18	1.23	1.05 - 1.43	92.3	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.32	1.15	1.05 - 1.43	97.8	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.75	1.05	0.88 - 1.20	102	23 - 140
13C-OCDD	470/472	50.28	0.86	0.76 - 1.02	94.6	17 - 157
13C-2,3,7,8-TCDF	316/318	25.32	0.74	0.65 - 0.89	86.1	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.67	1.52	1.32 - 1.78	94.4	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.45	1.51	1.32 - 1.78	93.6	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.78	0.48	0.43 - 0.59	85.7	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.97	0.50	0.43 - 0.59	87.1	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.93	0.46	0.43 - 0.59	92.5	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.90	0.49	0.43 - 0.59	90.6	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.37	0.42	0.37 - 0.51	91.7	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.15	0.41	0.37 - 0.51	96.2	26 - 138
37Cl-2,3,7,8-TCDD	328/NA	26.57	NA	NA	84.4	35 - 197

Column to be used to flag values outside QC limits.



IDFB - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCP45

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP16W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-10 L1

SAMPLE wt/vol: 10.8

(g/ml): 0

LAB FILE ID: DX0M_108A S: 34

WATER SAMPLE PREF: (SEPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 1.0 (uL)

% SOLIDS/LIPIOS: 6.16

DATE ANALYZED: 08/17/2010

GC COLUMN: DB5

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0	x 1 =	0.00E+00
2,3,7,8-TCDF	0.559	x 0.1 =	5.59E-02
1,2,3,7,8-PECDF	0	x 0.03 =	0.00E+00
1,2,3,7,8-PECDD	0	x 1 =	0.00E+00
2,3,4,7,8-PECDF	0	x 0.3 =	0.00E+00
1,2,3,4,7,8-HXCDF	0	x 0.1 =	0.00E+00
1,2,3,6,7,8-HXCDF	0.131	x 0.1 =	1.31E-02
1,2,3,4,7,8-HXCDD	0	x 0.1 =	0.00E+00
1,2,3,6,7,8-HXCDD	0	x 0.1 =	0.00E+00
1,2,3,7,8,9-HXCDD	0	x 0.1 =	0.00E+00
2,3,4,6,7,8-HXCDF	0	x 0.1 =	0.00E+00
1,2,3,7,8,9-HXCDF	0	x 0.1 =	0.00E+00
1,2,3,4,6,7,8-HPCDF	1.78	x 0.01 =	1.78E-02
1,2,3,4,6,7,8-HPCDD	5.38	x 0.01 =	5.38E-02
1,2,3,4,7,8,9-HPCDF	0	x 0.01 =	0.00E+00
OCDD	47.9	x 0.0003 =	1.44E-02
OCDF	7.87	x 0.0003 =	2.35E-03
		Total =	0.157

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM



1DFC - FORM I-BR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF45

LAB NAME: AXYS ANALYTICAL SERVICES CONTRACT: EP10W001069
 LAB CODE: AXYS CASE NO.: 40216 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL LAB SAMPLE ID: L14893-10 L1
 SAMPLE wt/vol: 10.8 (g/ml): G LAB FILE ID: DB03_096A S: 11
 WATER SAMPLE PREP: (SEPF/SPE) DATE RECEIVED: 06/22/2010
 CONCENTRATED EXTRACT VOLUME: 20 (uL) DATE EXTRACTED: 06/25/2010
 INJECTION VOLUME: 2.0 (uL) % SOLIDS/LIPIDS: 6.15 DATE ANALYZED: 07/28/2010
 GC COLUMN: DB225 ID: 0.25 (mm) DILUTION FACTOR: 1.0
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDF	304/306	18.95	0.89	0.356	1.5	

LABELED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%RBC #	%RBC LIMITS
13C-2,3,7,8-TCDF	316/318	18.92	0.80	0.65 - 0.89	70.2	24 - 169
37Cl-2,3,7,8-TCDD	326/NA	17.45	NA	NA	87.3	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only | XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMPForm1C.xsl;
 Report Filename: 1613_DIOXINS_DB20DB225_L14893-10_Form1A_DB03_096AS11_SJ1176249.html; Workgroup: WG33139; Design ID: 1413 | QA/QC Approval: Matthew Ou

mu



1DPA - FORM I-HR CDD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF47

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-11 L1

SAMPLE wt/vol: 10.5

(g/ml): G

LAB FILE ID: DX0M_099B S: 7

WATER SAMPLE PREP: (SEPP/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 1.0 (uL)

% SOLIDS/LIPIDS: 11.4

DATE ANALYZED: 08/03/2010

GC COLUMN: DB5

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	326/322	26.58	0.52 #		EMPC 0.056	0.056 U
2,3,7,8-TCDF	304/296	25.33	0.67	1.51	EMPC 1.51	
1,2,3,7,8-PeCDF	340/342	33.55	3.58 #		EMPC 0.179	0.179 U
1,2,3,7,8-PeCDD	354/356	36.22	0.69	0.155	EMPC 0.155	
2,3,4,7,8-PeCDF	340/342	35.45	2.53 #		EMPC 0.422	0.422 U
1,2,3,4,7,8-HxCDF	374/376	40.80	1.27	0.260	EMPC 0.260	
1,2,3,6,7,8-HxCDF	374/376	40.97	1.71 #		EMPC 0.231	0.231 U
1,2,3,4,7,8-HxCDD	390/392	42.20	1.31	0.293	EMPC 0.293	
1,2,3,6,7,8-HxCDD	390/392	42.33	1.45	0.960	EMPC 0.960	
1,2,3,7,8,9-HxCDD	390/392	42.93	1.12	0.625	EMPC 0.625	
2,3,4,6,7,8-HxCDF	374/376	41.90	1.12	0.211	EMPC 0.211	
1,2,3,7,8,9-HxCDF	374/376	42.93	1.87 #		EMPC 0.050	0.050 U
1,2,3,4,6,7,8-HpCDF	408/410	45.38	0.94	3.24	EMPC 3.24	
1,2,3,4,6,7,8-HpCDD	424/426	46.75	0.97	15.5	EMPC 15.5	
1,2,3,4,7,8,9-HpCDF	408/410	47.17	0.78 #		EMPC 0.282	0.282 U
OCDD	458/460	50.32	0.87	151	EMPC 151	
OCDF	442/444	50.42	0.87	15.7	EMPC 15.7	

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.52	0.86	0.65 - 0.89	74.7	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.22	0.62	0.52 - 0.70	123	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.17	1.25	1.05 - 1.43	85.5	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.30	1.20	1.05 - 1.43	84.6	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.73	1.01	0.88 - 1.20	101	23 - 140
13C-OCDD	470/472	50.30	0.89	0.76 - 1.02	84.2	17 - 157
13C-2,3,7,8-TCDF	316/318	25.28	0.77	0.65 - 0.89	78.8	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.63	1.51	1.32 - 1.78	85.6	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.42	1.50	1.32 - 1.78	90.7	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.77	0.49	0.43 - 0.59	81.1	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.95	0.48	0.43 - 0.59	81.9	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.92	0.49	0.43 - 0.59	91.2	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.88	0.49	0.43 - 0.59	84.6	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.37	0.43	0.37 - 0.51	86.0	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.15	0.43	0.37 - 0.51	96.3	26 - 138
137Cl-2,3,7,8-TCDD	328/NA	26.55	NA	NA	77.4	35 - 197

Column to be used to flag values outside QC limits.



LDFE - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF47

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-11 L1

SAMPLE wt/vol: 10.5

(g/mL): G

LAB FILE ID: DX0M_099B S: 7

WATER SAMPLE PREP: (SEPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 1.0 (uL)

* SOLIDS/LIPIDS: 11.4

DATE ANALYZED: 08/02/2010

GC COLUMN: DB5

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0	x 1 =	0.00E+00
2,3,7,8-TCDF	1.51	x 0.1 =	1.51E-01
1,2,3,7,8-PECDF	0	x 0.03 =	0.00E+00
1,2,3,7,8-PECDD	0.155	x 1 =	1.55E-01
2,3,4,7,8-PECDF	0	x 0.3 =	0.00E+00
1,2,3,4,7,8-HXCDF	0.260	x 0.1 =	2.60E-02
1,2,3,6,7,8-HXCDF	0	x 0.1 =	0.00E+00
1,2,3,4,7,8-HXCDD	0.283	x 0.1 =	2.83E-02
1,2,3,6,7,8-HXCDD	0.560	x 0.1 =	5.60E-02
1,2,3,7,8,9-HXCDD	0.625	x 0.1 =	6.25E-02
2,3,4,6,7,8-HXCDF	0.211	x 0.1 =	2.11E-02
1,2,3,7,8,9-HXCDF	0	x 0.1 =	0.00E+00
1,2,3,4,6,7,8-HPCDF	3.24	x 0.01 =	3.24E-02
1,2,3,4,6,7,8-HPCDD	15.5	x 0.01 =	1.55E-01
1,2,3,4,7,8,9-HPCDF	0	x 0.01 =	0.00E+00
OCDD	151	x 0.0003 =	4.53E-02
OCDF	15.7	x 0.0003 =	4.71E-03
		Total =	0.738

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

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 Report Filename: 1613_DIOXINS_D020-TEQ_L14893-11_TEQ_SJ1176630.html; Workgroup: WG33139; Design ID: 1413 | QA/QC Approval: Matthew Ou

0.710



1DFC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EEA SAMPLE NO.

JCF47

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-11 L

SAMPLE WT/vol: 10.5

(g/mL): G

LAB FILE ID: DE03_096A 8: 16

WATER SAMPLE PREP: (SEFF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 2.0 (uL)

% SOLIDS/LIPIDS: 11.4

DATE ANALYZED: 07/28/2010

GC COLUMN: DB225

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/kg

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/BDL
2,3,7,8-TCDF	304/306	18.86	0.67	0.428	✓	
LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
18C-2,3,7,8-TCDF	316/316	18.87	0.82	0.65 - 0.89	56.6	24 - 169
37Cl-2,3,7,8-TCDD	328/NA	17.42	NA	NA	74.0	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1.A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1C.xsl; Report Filename: I613_DIOXINS_D020DB225_L14893-11_Form1A_DE03_096AS16_SJ1175254.html; Workgroup: WG33139; Design ID: I413] QA/QC Approval: Matthew Ou.



10FA - FORM I-HR_CDD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF58

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml)
 WATER SAMPLE PREP: (SEFF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS:
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: EP10W001069
 TO NO.: HP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-12 Li
 LAB FILE ID: DX0M_099B S: 8
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 08/03/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.58	0.60 #		EMPC	0.004 U
2,3,7,8-TCDF	304/306	25.35	0.72	0.112	EW	
1,2,3,7,8-PeCDF	340/342	33.87	1.23 #		EMPC	0.021 U
1,2,3,7,8-PeCDD	354/356	36.35	0.63	0.004	E J	
2,3,4,7,8-PeCDF	340/342	35.58	1.61	0.036	E J	U
1,2,3,4,7,8-HxCDF	374/376	40.83	1.08	0.019	E J	
1,2,3,6,7,8-HxCDF	374/376	41.00	1.20	0.020	E J	
1,2,3,4,7,8-HxCDD	390/392	42.25	1.38	0.003	E J	
1,2,3,6,7,8-HxCDD	390/392	42.38	1.09	0.006	E J	
1,2,3,7,8,9-HxCDD	390/392	42.83	1.25	0.009	E J	
2,3,4,6,7,8-HxCDF	374/376	42.00	1.25	0.015	E J	
1,2,3,7,8,9-HxCDF	374/376	43.03	1.37	0.004	E J	
1,2,3,4,6,7,8-HpCDF	408/410	45.50	0.93	0.052	E J	
1,2,3,4,6,7,8-HpCDD	424/426	46.80	1.02	0.080	E J	
1,2,3,4,7,8,9-HpCDF	408/410	47.20	0.94	0.010	E J	
OCDD	458/460	50.32	0.84	0.659	E J	
OCDF	442/444	50.42	0.74 #		EMPC	0.066 U

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.57	0.78	0.55 - 0.89	78.9	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.35	0.63	0.52 - 0.70	116	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.22	1.24	1.05 - 1.43	83.8	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.35	1.20	1.05 - 1.43	76.9	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/436	45.78	1.02	0.88 - 1.20	68.5	23 - 140
13C-OCDD	470/472	50.30	0.88	0.76 - 1.02	52.1	17 - 157
13C-2,3,7,8-TCDF	316/318	25.32	0.76	0.65 - 0.89	83.9	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.83	1.51	1.32 - 1.78	108	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.55	1.55	1.32 - 1.78	78.9	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.80	0.49	0.43 - 0.59	66.7	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.98	0.50	0.43 - 0.59	67.0	26 - 153
13C-1,2,3,7,8,9-HxCDF	384/386	43.05	0.49	0.43 - 0.59	75.8	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.97	0.49	0.43 - 0.59	74.1	26 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.46	0.44	0.37 - 0.51	69.2	26 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.18	0.44	0.37 - 0.51	62.3	26 - 138
37Cl-2,3,7,8-TCDD	328/NA	26.58	NA	NA	93.6	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 25-Aug-2010 09:48:15; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1A.xsl; Report Filename: 1613_DIOXINS_D020DB5_L14893-12_Form1A_DX0M_099B98_SJ1176631.html; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Brian Watson.



LDPB - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF58

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml):
 WATER SAMPLE PREP: (SEPP/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS:
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: EP10W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-12 L1
 LAB FILE ID: DX0M_099B S: 8
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 08/03/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0	x 1 =	0.00E+00
2,3,7,8-TCDF	0.112	x 0.1 =	1.12E-02
1,2,3,7,8-PCDF	0	x 0.03 =	0.00E+00
1,2,3,7,8-PCDD	0.004	x 1 =	4.00E-03
2,3,4,7,8-PCDF	0.036	x 0.3 =	1.08E-02
1,2,3,4,7,8-HxCDF	0.019	x 0.1 =	1.90E-03
1,2,3,6,7,8-HxCDF	0.020	x 0.1 =	2.00E-03
1,2,3,4,7,8-HxCDE	0.003	x 0.1 =	3.00E-04
1,2,3,6,7,8-HxCDD	0.006	x 0.1 =	6.00E-04
1,2,3,7,8,9-HxCDD	0.009	x 0.1 =	9.00E-04
2,3,4,6,7,8-HxCDF	0.015	x 0.1 =	1.50E-03
1,2,3,7,8,9-HxCDF	0.004	x 0.1 =	4.00E-04
1,2,3,4,6,7,8-HpCDF	0.052	x 0.01 =	5.20E-04
1,2,3,4,6,7,8-HpCDD	0.080	x 0.01 =	8.00E-04
1,2,3,4,7,8,9-HeCDF	0.010	x 0.01 =	1.00E-04
OCDF	0.659	x 0.0003 =	1.98E-04
OCDF	0	x 0.0003 =	0.00E+00
		Total =	0.0052 JAW

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

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0.084



1DFC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF58

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40215
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/mL)
 WATER SAMPLE PREP: (SEPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 2.0 (uL) % SOLIDS/LIPIDS:
 GC COLUMN: DB225 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: BFL0W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-12 L
 LAB FILE ID: DB03_097 S: 5
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 07/28/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	RMPC/BDL
2,3,7,8-TCDF	304/306	18.97	0.75	0.024	<i>Flag</i>	
LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	18.95	0.75	0.65 - 0.89	74.4	24 - 169
37Cl-2,3,7,8-TCDD	328/NA	17.46	NA	NA	96.3	35 - 197

* Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLM(Form)C.xsl;
 Report Filename: 1613_DIOXINS_D020DB225_L14893-12_Form1A_DB03_097S3_S1176296.html; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Brian Watson.

MM



1DFA - FORM I-HR CDD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF69

LAB NAME: AXYS ANALYTICAL SERVICES CONTRACT: EP10W001069
 LAB CODE: AXYS CASE NO.: 40216 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL LAB SAMPLE ID: L14893-13 L1
 SAMPLE wt/vol: 1 (g/ml): LAB FILE ID: DX0M_099B S: 17
 WATER SAMPLE PREP: (SEPF/SPE) DATE RECEIVED: 06/22/2010
 CONCENTRATED EXTRACT VOLUME: 20 (uL) DATE EXTRACTED: 06/25/2010
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: DATE ANALYZED: 08/04/2010
 GC COLUMN: DB5 ID: 0.25 (mm) DILUTION FACTOR: 1.0
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.53	0.75	0.043		
2,3,7,8-TCDF	304/306	25.32	0.71	0.441		
1,2,3,7,8-PeCDF	340/342	33.65	1.50	0.086		
1,2,3,7,8-PeCDD	354/356	36.22	0.60	0.091		
2,3,4,7,8-PeCDF	340/342	35.40	1.33	0.138		U
1,2,3,4,7,8-HxCDF	374/376	40.77	1.13	0.094		
1,2,3,6,7,8-HxCDF	374/376	40.95	1.16	0.092		
1,2,3,4,7,8-HxCDD	390/392	42.15	1.17	0.044		U
1,2,3,6,7,8-HxCDD	390/392	42.30	1.12	0.049		
1,2,3,7,8,9-HxCDD	390/392	42.68	1.23	0.117		
2,3,4,6,7,8-HxCDF	374/376	41.88	1.15	0.097		
1,2,3,7,8,9-HxCDF	374/376	42.92	1.16	0.008		
1,2,3,4,6,7,8-HpCDF	408/410	45.35	0.93	0.214		
1,2,3,4,6,7,8-HpCDD	424/426	46.73	1.01	0.219		
1,2,3,4,7,8,9-HpCDF	408/410	47.15	1.04	0.023		
OCDF	458/460	50.28	0.87	0.589		
OCDF	442/444	50.38	0.84	0.106		

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.50	0.77	0.65 - 0.89	74.5	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.18	0.62	0.52 - 0.70	124	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.13	1.23	1.05 - 1.43	91.4	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.28	1.23	1.05 - 1.43	83.4	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.72	1.03	0.88 - 1.20	88.6	29 - 140
13C-OCDD	470/472	50.27	0.89	0.76 - 1.02	78.8	17 - 157
13C-2,3,7,8-TCDF	316/318	25.27	0.77	0.65 - 0.89	80.2	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.62	1.56	1.32 - 1.78	88.8	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.37	1.55	1.32 - 1.78	91.8	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.75	0.48	0.43 - 0.59	84.7	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.92	0.50	0.43 - 0.59	84.0	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.90	0.50	0.43 - 0.59	87.5	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.87	0.51	0.43 - 0.59	87.4	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.33	0.43	0.37 - 0.51	84.0	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.12	0.43	0.37 - 0.51	85.6	26 - 138
13C1-2,3,7,8-TCDD	328/NA	26.52	NA	NA	85.3	35 - 197

Column to be used to flag values outside QC limits.



1DFB - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF59

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml)
 WATER SAMPLE PREP: (SEFF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS:
 GC COLUMN: DBS ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: EPL0W001069
 TO NO.: EP-CALL-0602 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-13 L1
 LAB FILE ID: DX0M_099B S: 17
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 08/04/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0.043	x 1 =	4.30E-02
2,3,7,8-TCDF	0.441	x 0.1 =	4.41E-02
1,2,3,7,8-PECDF	0.086	x 0.03 =	2.58E-03
1,2,3,7,8-PECDD	0.091	x 1 =	9.10E-02
2,3,4,7,8-PECDF	0.138	x 0.3 =	4.14E-02
1,2,3,4,7,8-HXCDF	0.096	x 0.1 =	9.60E-03
1,2,3,6,7,8-HXCDF	0.092	x 0.1 =	9.20E-03
1,2,3,4,7,8-HXCDD	0.046	x 0.1 =	4.60E-03
1,2,3,6,7,8-HXCDD	0.049	x 0.1 =	4.90E-03
1,2,3,7,8,9-HXCDD	0.117	x 0.1 =	1.17E-02
2,3,4,6,7,8-HXCDF	0.097	x 0.1 =	9.70E-03
1,2,3,7,8,9-HXCDF	0.008	x 0.1 =	8.00E-04
1,2,3,4,6,7,8-HPCDF	0.214	x 0.01 =	2.14E-03
1,2,3,4,6,7,8-HPCDD	0.219	x 0.01 =	2.19E-03
1,2,3,4,7,8,9-HPCDF	0.033	x 0.01 =	3.30E-04
OCDD	0.559	x 0.0003 =	1.77E-04
OCDF	0.106	x 0.0003 =	3.18E-05
		Total =	0.227

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

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 Report Filename: 1613_DIOXINS_D020-TEQ_L14893-13_TEQ_SJ1176791.html; Workgroup: WG33139; Design ID: 1413 | QA/QC Approval: Brian Watson

0.231



LDPC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF59

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml)
 WATER SAMPLE PREP: (SEPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 2.0 (uL) % SOLIDS/LIPIDS:
 GC COLUMN: DB225 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: EP10W001069
 TO NO.: HP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-13 L
 LAB FILE ID: DB05_057 S: 11
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 07/29/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/BDL
2,3,7,8-TCDF	304/308	18.82	0.75	0.078	<i>BLK</i>	

LABELLED COMPOUNDE	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	18.76	0.75	0.65 - 0.85	69.0	24 - 169
37Cl-2,3,7,8-TCDD	328/NA	17.35	NA	NA	93.6	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 16:24:08; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1C.xsl;
 Report Filename: 1613_DIOXINS_DG20DB225_L14893-13_Form1A_DB05_097S11_SJ1176296.html; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Brian Watson.

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1DFA - FORM I-HR CDD-1
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE NO.

JCF60

LAB NAME: AXYS ANALYTICAL SERVICES
LAB CODE: AXYS CASE NO.: 140216
MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
SAMPLE wt/vol: 1 (g/ml)
WATER SAMPLE PREP: (SEPF/SPE)
CONCENTRATED EXTRACT VOLUME: 20 (uL)
INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS:
GC COLUMN: DB5 ID: 0.25 (mm)
CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: EPLW001069
WTO NO.: EP-CALL-0002 SDG NO.: JCF30
LAB SAMPLE ID: L14893-14 L1
LAB FILE ID: DX0M_099B S1 19
DATE RECEIVED: 06/22/2010
DATE EXTRACTED: 06/25/2010
DATE ANALYZED: 08/04/2010
DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.53	0.70	0.022		
2,3,7,8-TCDF	304/306	25.32	0.76	0.783		
1,2,3,7,8-PeCDF	340/342	33.65	1.44	0.126		
1,2,3,7,8-PeCDD	354/356	36.22	0.58	0.024		
2,3,4,7,8-PeCDF	340/342	35.42	1.47	0.253		U
1,2,3,4,7,8-HxCDF	374/376	40.78	1.17	0.129		
1,2,3,6,7,8-HxCDF	374/376	40.95	1.20	0.147		
1,2,3,4,7,8-HxCDD	390/392	42.17	1.09	0.914		U
1,2,3,6,7,8-HxCDD	390/392	42.30	0.73 #			0.029 U
1,2,3,7,8,9-HxCDD	390/392	42.76	1.14	0.038		
2,3,4,6,7,8-HxCDF	374/376	41.88	1.13	0.132		
1,2,3,7,8,9-HxCDF	374/376	42.93	1.18	0.045		
1,2,3,4,6,7,8-HpCDF	408/410	45.37	0.98	0.355		
1,2,3,4,6,7,8-HpCDD	424/426	46.73	1.02	0.404		
1,2,3,4,7,8,9-HpCDF	408/410	47.15	1.07	0.129		
OCDD	458/460	50.30	0.86	3.15		
OCDF	442/444	50.38	0.81	0.593		

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.50	0.82	0.65 - 0.89	90.0	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.20	0.63	0.52 - 0.70	134	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.15	1.25	1.05 - 1.43	92.4	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.28	1.26	1.05 - 1.43	86.4	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.72	1.01	0.88 - 1.20	98.5	23 - 140
13C-OCDD	470/472	50.28	0.87	0.76 - 1.02	93.3	17 - 157
13C-2,3,7,8-TCDF	316/318	25.27	0.77	0.55 - 0.89	97.4	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.62	1.53	1.32 - 1.78	105	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.38	1.54	1.32 - 1.78	105	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.75	0.50	0.43 - 0.59	93.6	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.93	0.50	0.43 - 0.59	89.8	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.90	0.51	0.43 - 0.59	104	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.87	0.50	0.43 - 0.59	93.0	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.33	0.42	0.37 - 0.51	103	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.13	0.44	0.37 - 0.51	103	26 - 138
13C1-2,3,7,8-TCDD	328/NA	26.53	NA	NA	80.5	35 - 197

Column to be used to flag values outside QC limits.



1DFB - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF60

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CAL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-14 L1

SAMPLE WT/VOL: 1

(g/mL)

LAB FILE ID: DX0M_099B S: 19

WATER SAMPLE PREP: (SBPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 1.0 (uL)

% SOLIDS/LIPIDS:

DATE ANALYZED: 08/04/2010

GC COLUMN: DB5

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0.022	x 1 =	2.20E-02
2,3,7,8-TCDF	0.783	x 0.1 =	7.83E-02
1,2,3,7,8-PECDF	0.126	x 0.03 =	3.78E-03
1,2,3,7,8-PECDD	0.024	x 1 =	2.40E-02
2,3,4,7,8-PECDF	0.253 0.129	x 0.3 =	7.59E-02 3.87E-02
1,2,3,4,7,8-HXCDF	0.129	x 0.1 =	1.29E-02
1,2,3,6,7,8-HXCDF	0.147	x 0.1 =	1.47E-02
1,2,3,4,7,8-HXCDD	0.014 0	x 0.1 =	1.40E-03 0.00E+00
1,2,3,6,7,8-HXCDD	0	x 0.1 =	0.00E+00
1,2,3,7,8,9-HXCDD	0.038	x 0.1 =	3.80E-03
2,3,4,6,7,8-HXCDF	0.132	x 0.1 =	1.32E-02
1,2,3,7,8,9-HXCDF	0.045	x 0.1 =	4.50E-03
1,2,3,4,6,7,8-HPCDF	0.356	x 0.01 =	3.56E-03
1,2,3,4,6,7,8-HPCDD	0.404	x 0.01 =	4.04E-03
1,2,3,4,7,8,9-HPCDF	0.129	x 0.01 =	1.29E-03
OCDD	3.15	x 0.0003 =	9.45E-04
OCDF	0.593	x 0.0003 =	1.78E-04
		Total =	0.261 0.187

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

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LDFC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF60

LAE NAME: AXYS ANALYTICAL SERVICES
 LAE CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASR/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml):
 WATER SAMPLE PREP: (SEPP/SRE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 2.0 (uL) % SOLIDS/LIPIDS:
 GC COLUMN: DB225 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: EFL0W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-14 L
 LAB FILE ID: DB03_097 S: 13
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 07/29/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDF	304/306	18.82	0.79	0.138	<i>mw</i>	

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	18.80	0.77	0.65 - 0.89	80.4	24 - 169
37Cl-2,3,7,8-TCDD	328/NA	17.37	NA	NA	83.7	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Forin1A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1C.xsl; Report Filename: 1613_DIOXINS_D020DB225_L14893-14_Form1A_DB03_097S13_S31176298.html; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Brian Watson.

mw



1DFA - FORM I-HR CDD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF61

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml):
 WATER SAMPLE PREP: (SEPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SCLIDS/LIPIDS:
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: EP10W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-15 L1
 LAB FILE ID: DX0M_099B S: 4
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 08/03/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322				U	0.0005
2,3,7,8-TCDF	304/306	25.33	0.76	0.016	EW	
1,2,3,7,8-PeCDF	340/342	33.68	1.25 #		EMPC E J	0.004 U
1,2,3,7,8-PeCDD	354/356	36.22	0.62	0.003	E J	
2,3,4,7,8-PeCDF	340/342	35.43	1.11 #		EMPC E J	0.005 U
1,2,3,4,7,8-HxCDF	374/376	40.77	1.02 #		EMPC E J	0.007 U
1,2,3,6,7,8-HxCDF	374/376	40.95	1.04 #		EMPC E J	0.006 U
1,2,3,4,7,8-HxCDD	390/392	42.17	1.13	0.003	E J	U
1,2,3,6,7,8-HxCDD	390/392	42.32	0.88 #		EMPC E J	0.005 U
1,2,3,7,8,9-HxCDD	390/392	42.73	1.31	0.008	E J	
2,3,4,6,7,8-HxCDF	374/376	41.90	1.05	0.007	E J	
1,2,3,7,8,9-HxCDF	374/376	42.92	1.39	0.001	E J	
1,2,3,4,6,7,8-HpCDF	408/410	45.37	1.01	0.037	E J	
1,2,3,4,6,7,8-HpCDD	424/426	46.75	1.00	0.077	EW	
1,2,3,4,7,8,9-HpCDF	408/410	47.15	1.23 #		EMPC E J	0.005 U
OCDD	458/460	50.30	0.85	0.573	EW	
OCDF	442/444	50.38	0.84	0.068	E J	

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.52	0.77	0.65 - 0.89	85.8	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.20	0.62	0.52 - 0.70	135	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.15	1.22	1.05 - 1.43	91.5	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.30	1.22	1.05 - 1.43	93.0	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.73	1.04	0.88 - 1.20	101	23 - 140
13C-OCDD	470/472	50.28	0.88	0.76 - 1.02	68.9	17 - 157
13C-2,3,7,8-TCDF	316/318	25.28	0.77	0.65 - 0.89	90.6	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.63	1.48	1.32 - 1.78	104	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.38	1.51	1.32 - 1.78	107	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.77	0.96	0.43 - 0.59	89.8	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.93	0.98	0.43 - 0.59	88.9	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.92	0.47	0.43 - 0.59	86.8	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.87	0.50	0.43 - 0.59	91.4	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.35	0.41	0.37 - 0.51	95.3	26 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.13	0.43	0.37 - 0.51	94.3	26 - 138
13C1-2,3,7,8-TCDD	328/NA	26.53	NA	NA	90.7	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 25-Aug-2010 09:48:15; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1A.xsl; Report Filename: 1613_DIOXINS_D020DB5_L14893-15_Form1A_DX0M_099B84_S11176627.html; Workgroup: W093199; Design ID: 1413] QA/QC Approval: Brian Watson.



IDFB - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF61

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SCIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml)
 WATER SAMPLE PREP: (SEFF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS:
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (ug/L or ng/kg): ng/sample

CONTRACT: EP10W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-15 L1
 LAB FILE ID: DXOM_099B S: 4
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 08/03/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0	x 1 =	0.00E+00
2,3,7,8-TCDF	0.016	x 0.1 =	1.60E-03
1,2,3,7,8-PECDF	0	x 0.03 =	0.00E+00
1,2,3,7,8-PECDD	0.003	x 1 =	3.00E-03
2,3,4,7,8-PECDF	0	x 0.3 =	0.00E+00
1,2,3,4,7,8-HxCDF	0	x 0.1 =	0.00E+00
1,2,3,6,7,8-HxCDF	0	x 0.1 =	0.00E+00
1,2,3,4,7,8-HxCDB	0.003 <i>m=0</i>	x 0.1 =	0.00E+00 <i>m=0</i>
1,2,3,6,7,8-HxCDB	0	x 0.1 =	0.00E+00
1,2,3,7,8,9-HxCDD	0.008	x 0.1 =	8.00E-04
2,3,4,6,7,8-HxCDF	0.007	x 0.1 =	7.00E-04
1,2,3,7,8,9-HxCDF	0.001	x 0.1 =	1.00E-04
1,2,2,4,6,7,8-HeCDF	0.037	x 0.01 =	3.70E-04
1,2,3,4,6,7,8-HeCDD	0.077	x 0.01 =	7.70E-04
1,2,3,4,7,8,9-HeCDF	0	x 0.01 =	0.00E+00
OCDD	0.573	x 0.0003 =	1.72E-04
OCDF	0.068	x 0.0003 =	2.04E-05
		Total =	0.00753 <i>ML</i>

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

For Axys Internal Use Only [Created: 24-Aug-2010 18:30:28; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1B.xsl;
 Report Filename: 1613_DIOXINS_D020-TEQ_L14893-15_TEQ_8J1176627.html; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Brian Watson.

0.00753



1DFC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF61

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml):
 WATER SAMPLE PREP: (SEPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 2.0 (uL) % SOLIDS/LIPIDS:
 GC COLUMN: DB225 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: EPI0W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-15 L1
 LAB FILE ID: DB03_096A 9; 13
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 07/26/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDF	304/306	18.88	0.81	0.003	✓ J	

LABELED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	18.87	0.79	0.65 - 0.89	73.9	24 - 169
27Cl-2,3,7,8-TCDF	328/NA	17.38	NA	NA	81.5	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTransformer-1.10.2; CLF-App: CLF-1.3 DLMForm1C.xsl;
 Report Filename: 1613_DIOXINS_D020DB225_L14893-15_Form1A_DB03_096A513_S11176231.html; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Brian Watson.



LDFA - FORM I-HR CDD-1
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE NO.
JCF62

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W061069

LAB CODE: AXYS CASE NO.: 40216

TO NO.: EP-CALL-0002 SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-16 L1

SAMPLE wt/vol: 1 (g/ml)

LAB FILE ID: DX0M_099B S: 18

WATER SAMPLE PREP: (SBPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS:

DATE ANALYZED: 08/04/2010

GC COLUMN: DB5 ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.53	0.85	0.014	B	
2,3,7,8-TCDF	304/306	25.33	0.73	0.520	B	
1,2,3,7,8-PeCDF	340/342	33.65	1.36	0.167	B	
1,2,3,7,8-PeCDD	354/356	36.23	0.54	0.032	B	
2,3,4,7,8-PeCDF	340/342	35.43	1.57	0.262	B	U
1,2,3,4,7,8-HxCDF	374/376	40.78	1.38	0.238	B	
1,2,3,6,7,8-HxCDF	374/376	40.97	1.19	0.231	B	
1,2,3,4,7,8-HxCDD	390/392	42.15	1.22	0.025	B	U
1,2,3,6,7,8-HxCDD	390/392	42.32	0.96 #		B	EMPC 0.041 U
1,2,3,7,8,9-HxCDD	390/392	42.72	1.21	0.076	B	
2,3,4,6,7,8-HxCDF	374/376	41.90	1.13	0.274	B	
1,2,3,7,8,9-HxCDF	374/376	42.93	1.25	0.057	B	
1,2,3,4,6,7,8-HpCDF	408/410	45.36	0.97	0.606	B	
1,2,3,4,6,7,8-HpCDD	424/426	46.75	1.03	0.345	B	
1,2,3,4,7,8,9-HpCDF	408/410	47.15	0.99	0.283	B	
OCDD	458/460	50.32	0.87	2.24	B	
OCDF	442/444	50.40	0.86	0.917	B	

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.50	0.79	0.65 - 0.89	73.5	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.20	0.61	0.52 - 0.70	119	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.15	1.27	1.05 - 1.43	83.4	32 - 141
13C-1,2,3,6,7,8-HxCDF	402/404	42.30	1.23	1.05 - 1.43	80.8	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.73	1.04	0.88 - 1.20	103	23 - 140
13C-OCDD	470/472	50.30	0.88	0.76 - 1.02	80.3	17 - 157
13C-2,3,7,8-TCDF	316/318	25.28	0.77	0.65 - 0.89	78.3	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.63	1.50	1.32 - 1.78	85.6	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.40	1.49	1.32 - 1.78	84.6	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.77	0.48	0.43 - 0.59	82.2	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.93	0.51	0.43 - 0.59	81.0	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.92	0.49	0.43 - 0.59	89.6	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.87	0.47	0.43 - 0.59	87.6	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.37	0.42	0.37 - 0.51	93.2	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.13	0.43	0.37 - 0.51	98.2	26 - 138
37Cl-2,3,7,8-TCDD	328/NA	26.53	NA	NA	83.8	25 - 197

Column to be used to flag values outside QC limits.



LDDB - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF62

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10W001069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-16 L1

SAMPLE wt/vol: 1 (g/ml)

LAB FILE ID: DXDM_099B S: 18

WATER SAMPLE PREP: (SEPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS:

DATE ANALYZED: 08/04/2010

GC COLUMN: DB5

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDF	0.014	x 1 =	1.40E-02
2,3,7,8-TCDF	0.520	x 0.1 =	5.20E-02
1,2,3,7,8-PECDF	0.107	x 0.03 =	3.21E-03
1,2,3,7,8-PECDD	0.032	x 1 =	3.20E-02
2,3,4,7,8-PECDF	0.262 <i>0</i>	x 0.3 =	7.86E-02 <i>0</i>
1,2,3,4,7,8-HXCDF	0.238	x 0.1 =	2.38E-02
1,2,3,6,7,8-HXCDF	0.231	x 0.1 =	2.31E-02
1,2,3,4,7,8-HXCDD	0.005 <i>0</i>	x 0.1 =	5.00E-03 <i>0</i>
1,2,3,6,7,8-HXCDD	0	x 0.1 =	0.00E+00
1,2,3,7,8,9-HXCDD	0.076	x 0.1 =	7.60E-03
2,3,4,6,7,8-HXCDF	0.274	x 0.1 =	2.74E-02
1,2,3,7,8,9-HXCDF	0.057	x 0.1 =	5.70E-03
1,2,3,4,6,7,8-HPCDF	0.806	x 0.01 =	8.06E-03
1,2,3,4,6,7,8-HPCDD	0.345	x 0.01 =	3.45E-03
1,2,3,4,7,8,9-HPCDF	0.283	x 0.01 =	2.83E-03
OCDD	2.24	x 0.0003 =	6.72E-04
OCDF	0.517	x 0.0003 =	2.95E-04
		Total =	0.285 <i>0.204</i>

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

For Axys Internal Use Only [Created: 24-Aug-2010 18:30:28; Application: XMLTransformer-1.10.25; CLP-App: CLP-13 DLMFormI.B.xsl; Report Filename: 1615_DIOXINS_D020-TEQ_L14893-16_TEQ_SJ1176792.html; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Bryan Watson

0.204



LDFC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.
JCF62

LAB NAME: AXYS ANALYTICAL SERVICES CONTRACT: BF10W001069
 LAB CODE: AXYS CASE NO.: 40216 TO NO.: EP-CALL-0002 SDG NO.: JCF90
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL LAB SAMPLE ID: L14893-16 L
 SAMPLE wt/vol: 1 (g/mL): LAB FILE ID: DB03_097 S: 12
 WATER SAMPLE PREP: (SEPF/SPE) DATE RECEIVED: 06/22/2010
 CONCENTRATED EXTRACT VOLUME: 20 (uL) DATE EXTRACTED: 06/25/2010
 INJECTION VOLUME: 2.0 (uL) % SOLIDS/LIPIDS: DATE ANALYZED: 07/29/2010
 GC COLUMN: DB225 ID: 0.25 (mm) DILUTION FACTOR: 1.0
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDF	304/306	16.83	0.78	0.093	FWA	

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	16.82	0.81	0.65 - 0.85	70.1	24 - 169
17Cl-2,3,7,8-TCDD	328/NA	17.38	NA	NA	86.9	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1C.xsl; Report Filename: 1613_DIOXINS_D020DB225_L14893-16_Form1A_DB03_097S12_SJ1176297.html; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Brian Watson.



1DFA - FORM I-HR CDD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF63

LAB NAME: AXIS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml):
 WATER SAMPLE PREP: (SEPT/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS:
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: EP10W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-17 Li
 LAB FILE ID: DX0M_099B 8: 20
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 08/04/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.52	0.75	0.030		
2,3,7,8-TCDF	304/306	25.32	0.75	1.55		
1,2,3,7,8-PeCDF	340/342	33.65	1.36	0.288		
1,2,3,7,8-PeCDD	354/356	36.22	0.56	0.051		
2,3,4,7,8-PeCDF	340/342	35.42	1.46	0.631		
1,2,3,4,7,8-HxCDF	374/376	40.77	1.15	0.356		
1,2,3,6,7,8-HxCDF	374/376	40.95	1.18	0.377		
1,2,3,4,7,8-HxCDD	390/392	42.17	1.24	0.026		
1,2,3,6,7,8-HxCDD	390/392	42.30	0.83 #			0.041 U
1,2,3,7,8,9-HxCDD	390/392	42.75	1.29	0.069		
2,3,4,6,7,8-HxCDF	374/376	41.88	1.21	0.350		
1,2,3,7,8,9-HxCDF	374/376	42.92	1.22	0.091		
1,2,3,4,6,7,8-HpCDF	408/410	45.35	0.98	0.660		
1,2,3,4,6,7,8-HpCDD	424/426	46.73	1.00	0.404		
1,2,3,4,7,8,9-HpCDF	408/410	47.15	0.97	0.321		
OCDD	458/460	50.28	0.86	3.63		
OCDF	442/444	50.38	0.88	0.999		

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.48	0.79	0.65 - 0.89	77.1	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.20	0.53	0.52 - 0.70	130	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.15	1.21	1.05 - 1.43	77.2	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.28	1.27	1.05 - 1.43	63.1	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.72	1.02	0.88 - 1.20	90.3	23 - 140
13C-OCDD	470/472	50.27	0.86	0.76 - 1.02	80.5	17 - 157
13C-2,3,7,8-TCDF	316/318	25.27	0.77	0.65 - 0.89	81.7	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.62	1.53	1.32 - 1.78	95.7	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.38	1.49	1.32 - 1.78	95.2	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.75	0.50	0.43 - 0.59	75.7	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.92	0.50	0.43 - 0.59	79.3	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.90	0.47	0.43 - 0.59	74.0	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.87	0.50	0.43 - 0.59	80.3	28 - 136
13C-2,2,3,4,6,7,8-HpCDF	418/420	45.33	0.43	0.37 - 0.51	88.4	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.13	0.41	0.37 - 0.51	89.6	26 - 138
13C1-2,3,7,8-TCDD	328/NA	26.52	NA	NA	94.7	35 - 197

Column to be used to flag values outside QC limits.



LDPB - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

SEA SAMPLE NO.

JCF63

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml):
 WATER SAMPLE PREP: (SEPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS:
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: EP10W001069
 TO NO.: EP-CALL-0002 BDG NO.: JCF30
 LAB SAMPLE ID: L14893-17 L1
 LAB FILE ID: DX0M_099B_S: 20
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 08/04/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0.030	x 1 =	3.00E-02
2,3,7,8-TCDF	1.55	x 0.1 =	1.55E-01
1,2,3,7,8-PECDF	0.285	x 0.03 =	8.54E-03
1,2,3,7,8-PECDD	0.051	x 1 =	5.10E-02
2,3,4,7,8-PECDF	0.52 0	x 0.3 =	1.56E-01 NO
1,2,3,4,7,8-HxCDF	0.356	x 0.1 =	3.56E-02
1,2,3,6,7,8-HxCDF	0.377	x 0.2 =	3.77E-02
1,2,3,4,7,8-HxCDD	0.005 0	x 0.1 =	2.60E-03 NO
1,2,3,6,7,8-HxCDD	0	x 0.1 =	0.00E+00
1,2,2,7,8,9-HxCDD	0.069	x 0.1 =	6.90E-03
2,3,4,6,7,8-HxCDF	0.350	x 0.1 =	3.50E-02
1,2,3,7,8,9-HxCDF	0.091	x 0.1 =	9.10E-03
1,2,3,4,6,7,8-HpCDF	0.660	x 0.01 =	6.60E-03
1,2,3,4,6,7,8-HpCDD	0.404	x 0.01 =	4.04E-03
1,2,3,4,7,8,9-HpCDF	0.321	x 0.01 =	3.21E-03
OCDD	3.63	x 0.0003 =	1.09E-03
OCDF	0.999	x 0.0003 =	3.00E-04
		Total =	0.54E 0.386

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM



LDPC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF63

LAB NAME: AXYS ANALYTICAL SERVICES

CONTRACT: EP10WCG1069

LAB CODE: AXYS

CASE NO.: 40216

TO NO.: EP-CALL-0002

SDG NO.: JCF30

MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL

LAB SAMPLE ID: L14893-17 L

SAMPLE wt/vcl: 1

(g/mL)

LAB FILE ID: DB03_097 S: 16

WATER SAMPLE PREP: (SEPF/SPE)

DATE RECEIVED: 06/22/2010

CONCENTRATED EXTRACT VOLUME: 20 (uL)

DATE EXTRACTED: 06/25/2010

INJECTION VOLUME: 2.0 (uL)

SOLIDS/LIPIDS:

DATE ANALYZED: 07/29/2010

GC COLUMN: DB225

ID: 0.25 (mm)

DILUTION FACTOR: 1.0

CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDF	304/306	18.82	0.76	0.335	<i>PAU</i>	

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	18.80	0.79	0.65 - 0.89	70.4	24 - 169
37Cl-2,3,7,8-TCDD	328/NA	17.37	NA	NA	92.7	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:06; Application: XMLETransformer-1.10.25; CLP-App: CLP-13 DLMForm1C.xsl; Report Filename: 1615_DIOXINS_D020DB225_L14893-17_Form1A_DB03_097S14_S31176299.html; Workgroup: WGS3139; Design ID: 1413] QA/QC Approval: Brian Watson



1DFA - FORM I-HR CDD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF64

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml)
 WATER SAMPLE PREP: (SEFF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS:
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: EP10W001069
 REPORT NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-18 LI2
 LAB FILE ID: DXOM_108A S: 33
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 08/17/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.52	1.11 #		EMPC 0.7	0.002 U
2,3,7,8-TCDF	304/306	25.30	0.42 #		EMPC 0.7	0.005 U
1,2,3,7,8-PeCDF	340/342	33.65	2.29 #		EMPC 0.7	0.001 U
1,2,3,7,8-PeCDD	354/356	36.27	0.25 #		EMPC 0.7	0.001 U
2,3,4,7,8-PeCDF	340/342	35.43	1.39	0.002	EMPC 0.7	0 U
1,2,3,4,7,8-HxCDF	374/376	40.80	1.83 #		EMPC 0.7	0.001 U
1,2,3,6,7,8-HxCDF	374/376	40.97	0.69 #		EMPC 0.7	0.001 U
1,2,3,4,7,8-HxCDD	390/392	42.17	0.96 #		EMPC 0.7	0.001 U
1,2,3,6,7,8-HxCDD	390/392	42.30	0.40 #		EMPC 0.7	0.001 U
1,2,3,7,8,9-HxCDD	390/392	42.70	0.81 #		EMPC 0.7	0.001 U
2,3,4,6,7,8-HxCDF	374/376	41.88	3.47 #		EMPC 0.7	0.001 U
1,2,3,7,8,9-HxCDF	374/376				U	0.0006 U
1,2,3,4,6,7,8-HpCDF	408/410	45.35	0.84 #		EMPC 0.7	0.008 U
1,2,3,4,6,7,8-HpCDD	424/426	46.73	1.11	0.025	EMPC 0.7	0.0005 U
1,2,3,4,7,8,9-HpCDF	408/410				U	0.0005 U
OCDD	456/460	50.28	0.82	0.168	EMPC 0.7	
OCDF	442/444	50.37	0.73 #		EMPC 0.7	0.018 U

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.50	0.76	0.65 - 0.89	73.0	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.18	0.63	0.52 - 0.70	107	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.13	1.21	1.05 - 1.43	81.5	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.28	1.19	1.05 - 1.43	82.4	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.72	1.01	0.88 - 1.20	101	23 - 140
13C-OCDD	470/472	50.27	0.86	0.76 - 1.02	101	17 - 257
13C-2,3,7,8-TCDF	316/318	25.28	0.76	0.65 - 0.89	73.8	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.62	1.53	1.32 - 1.78	78.9	24 - 105
13C-2,3,4,7,8-PeCDF	352/354	35.38	1.53	1.32 - 1.78	82.4	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.75	0.48	0.43 - 0.59	82.0	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.92	0.51	0.43 - 0.59	81.7	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.90	0.49	0.43 - 0.59	86.5	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.87	0.52	0.43 - 0.59	83.4	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.33	0.43	0.37 - 0.51	97.8	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.13	0.43	0.37 - 0.51	100	26 - 138
13C1-2,3,7,8-TCDD	328/NA	26.52	NA	NA	71.8	35 - 197

Column to be used to flag values outside QC limits.



LDFE - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF64

LAB NAME: AXYS ANALYTICAL SERVICES CONTRACT: EP10W001069
 LAB CODE: AXYS CASE NO.: 40216 TO NO.: EP-CALL-0002 BDG NO.: JCF30
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL LAB SAMPLE ID: L14893-18 L12
 SAMPLE wt/vol: 1 (g/ml): LAB FILE ID: DXOM_108A S: 33
 WATER SAMPLE PREP: (SEPP/SPE) DATE RECEIVED: 06/22/2010
 CONCENTRATED EXTRACT VOLUME: 20 (uL) DATE EXTRACTED: 06/25/2010
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS: DATE ANALYZED: 08/17/2010
 GC COLUMN: DB5 ID: 0.25 (mm) DILUTION FACTOR: 1.0
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0	x 1 =	0.00E+00
2,3,7,8-TCDF	0	x 0.1 =	0.00E+00
1,2,3,7,8-PECDF	0	x 0.03 =	0.00E+00
1,2,3,7,8-PECDD	0	x 1 =	0.00E+00
2,3,4,7,8-PECDF	0.002 0	x 0.2 =	0.00E-04 0
1,2,3,4,7,8-HxCDF	0	x 0.1 =	0.00E+00
1,2,3,6,7,8-HxCDF	0	x 0.1 =	0.00E+00
1,2,3,4,7,8-HxCDD	0	x 0.1 =	0.00E+00
1,2,3,6,7,8-HxCDD	0	x 0.1 =	0.00E+00
1,2,3,7,8,9-HxCDD	0	x 0.1 =	0.00E+00
2,3,4,6,7,8-HxCDF	0	x 0.1 =	0.00E+00
1,2,3,7,8,9-HxCDF	0	x 0.1 =	0.00E+00
1,2,3,4,6,7,8-HPCDF	0	x 0.01 =	0.00E+00
1,2,3,4,6,7,8-HPCDD	0.025	x 0.01 =	2.50E-04
1,2,3,4,7,8,9-HPCDF	0	x 0.01 =	0.00E+00
OCDD	0.168	x 0.0003 =	5.04E-05
OCDF	0	x 0.0003 =	0.00E+00
		Total =	0.000900

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

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0.0003



1DFC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF64

LAB NAME: AXYS ANALYTICAL SERVICES CONTRACT: EFLOW001069
 LAB CODE: AXYS CASE NO.: 40216 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL LAB SAMPLE ID: L14893-18 L
 SAMPLE wt/vol: 1 (g/ml): LAB FILE ID: DB03_097 S: 7
 WATER SAMPLE PREP: (SRPF/SPE) DATE RECEIVED: 06/22/2010
 CONCENTRATED EXTRACT VOLUME: 20 (uL) DATE EXTRACTED: 06/25/2010
 INJECTION VOLUME: 2.0 (uL) * SOLIDS/LIPIDS: DATE ANALYZED: 07/29/2010
 GC COLUMN: DB225 IR: 0.25 (mm) DILUTION FACTOR: 1.0
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDF	304/306	18.85	0.74	0.004	✓	

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
15C-2,3,7,8-TCDF	316/318	18.82	0.81	0.65 - 0.89	63.4	24 - 169
37Cl-2,3,7,8-TCDD	328/NA	17.38	NA	NA	88.2	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1C.xsl; Report Filename: I613_DIOXINS_D020DB225_L14893-18_Form1A_DB03_097S7_SJ1176292.html; Workgroup: W633139; Design ID: 1415] QA/QC Approval: Brian Watson .



1DFA - FORM I-HR CDD-1
 CDD/CDF SAMPLE DATA SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF65

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml)
 WATER SAMPLE PREP: (SBPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS:
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: EP10W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-19 L
 LAB FILE ID: DXDM_098 S: 17
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 07/31/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.53	0.52 #		EMPC 1.1	0.001 U
2,3,7,8-TCDF	304/306	25.37	0.75	0.004	J J Q	
1,2,3,7,8-PeCDF	340/342	33.70	0.72 #		EMPC 1.1	0.001 U
1,2,3,7,8-PeCDD	354/356	36.26	0.82 #		EMPC 1.1	0.002 U
2,3,4,7,8-PeCDF	340/342	35.47	1.39	0.001	J J Q	
1,2,3,4,7,8-HxCDF	374/376	40.80	1.30	0.001	J J Q	
1,2,3,6,7,8-HxCDF	374/376	40.98	1.13	0.001	J J Q	
1,2,3,4,7,8-HxCDD	390/392	42.18	0.93 #		EMPC 1.1	0.002 U
1,2,3,6,7,8-HxCDD	390/392	42.33	1.05	0.003	J J Q	
1,2,3,7,8,9-HxCDD	390/392	42.75	1.02 #		EMPC 1.1	0.003 U
2,3,4,6,7,8-HxCDF	374/376	41.90	1.07	0.001	J J Q	
1,2,3,7,8,9-HxCDF	374/376				U	0.0005
1,2,3,4,6,7,8-HpCDF	408/410	45.36	0.96	0.010	J J Q	
1,2,3,4,6,7,8-HpCDD	424/426	46.77	1.04	0.042	J J Q	
1,2,3,4,7,8,9-HpCDF	408/410	47.17	1.20	0.001	J J Q	
OCDD	458/460	50.32	0.88	0.313	J J Q	
OCDF	442/444	50.42	0.81	0.026	J J Q	

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.53	0.78	0.65 - 0.89	78.9	25 - 164
13C-1,2,3,7,8-PeCDD	366/368	36.23	0.81	0.52 - 0.70	110	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.18	1.24	1.05 - 1.43	98.1	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.32	1.21	1.05 - 1.43	87.2	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.75	1.05	0.88 - 1.20	106	23 - 140
13C-OCDF	470/472	50.32	0.88	0.76 - 1.02	109	17 - 157
13C-2,3,7,8-TCDF	316/318	25.32	0.76	0.65 - 0.89	78.0	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.67	1.51	1.32 - 1.78	80.4	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.43	1.52	1.32 - 1.78	81.7	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.78	0.49	0.43 - 0.59	82.8	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.97	0.45	0.43 - 0.59	82.3	26 - 123
13C-1,2,3,7,8,9-HxCDF	384/386	42.93	0.45	0.43 - 0.59	89.4	29 - 147
13C-2,3,4,6,7,8-HxCDF	384/386	41.90	0.49	0.43 - 0.59	87.2	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	416/420	45.37	0.43	0.37 - 0.51	74.9	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	416/420	47.15	0.42	0.37 - 0.51	98.5	26 - 136
13C1-2,3,7,8-TCDD	328/NA	26.57	NA	NA	86.8	35 - 197

Column to be used to flag values outside QC limits.



LDPE - FORM I-HR CDD-2
 CDD/PCDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.
 JCF65

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml):
 WATER SAMPLE PREP: (SEPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS:
 GC COLUMN: DB5 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: HP10W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-19 L
 LAB FILE ID: DXCM_098 S: 17
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 07/31/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDD	0	x 1 =	0.00E+00
2,3,7,8-TCDF	0.004	x 0.1 =	4.00E-04
1,2,3,7,8-PECDF	0	x 0.03 =	0.00E+00
1,2,3,7,8-PECDD	0	x 1 =	0.00E+00
2,3,4,7,8-PECDF	0.001	x 0.3 =	3.00E-04
1,2,3,4,7,8-HxCDF	0.001	x 0.1 =	1.00E-04
1,2,3,6,7,8-HxCDF	0.001	x 0.1 =	1.00E-04
1,2,3,4,7,8-HxCDD	0	x 0.1 =	0.00E+00
1,2,3,6,7,8-HxCDF	0.003	x 0.1 =	3.00E-04
1,2,3,7,8,9-HxCDD	0	x 0.1 =	0.00E+00
2,3,4,6,7,8-HxCDF	0.001	x 0.1 =	1.00E-04
1,2,3,7,8,9-HxCDF	0	x 0.1 =	0.00E+00
1,2,3,4,6,7,8-HpCDF	0.010	x 0.01 =	1.00E-04
1,2,3,4,6,7,8-HpCDD	0.042	x 0.01 =	4.20E-04
1,2,3,4,7,8,9-HpCDF	0.001	x 0.01 =	1.00E-05
OCDD	0.113	x 0.0003 =	3.39E-05
OCDF	0.026	x 0.0003 =	7.80E-06
		Total =	0.00193

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

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 Report Filename: 1613_DIOXINS_D020-TEQ_L14893-19_TEQ_SJ1176035.html; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Brian Watson



LDFC - FORM I-HR CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF65

LAB NAME: AXYS ANALYTICAL SERVICES CONTRACT: EP10W001069
 LAB CODE: AXYS CASE NO.: 40216 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL LAB SAMPLE ID: L14893-19 L1
 SAMPLE wt/vol: 1 (g/ml) LAB FILE ID: DB03_096A S: 12
 WATER SAMPLE PREP: (EPP/SPE) DATE RECEIVED: 06/22/2010
 CONCENTRATED EXTRACT VOLUME: 20 (uL) DATE EXTRACTED: 06/25/2010
 INJECTION VOLUME: 2.0 (uL) % SOLIDS/LIPIDS: DATE ANALYZED: 07/28/2010
 GC COLUMN: DB225 ID: 0.25 (mm) DILUTION FACTOR: 1.0
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/SDL
2,3,7,8-TCDF	304/306	16.87	0.66	0.002	3	

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITE	%REC #	%REC LIMITE
13C-2,3,7,8-TCDF	316/318	16.85	0.81	0.65 - 0.89	73.6	24 - 169
37Cl-2,3,7,8-TCDF	328/NA	17.40	NA	NA	92.1	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:06; Application: XMLTransformer-1.1025; CLP-App: CLP-1.3 DLMForm1C.xsl;
 Report Filename: 1613_DIOXINS_DB225_L14893-19_Form1A_DB03_096AS12_SJ1176250.html; Workgroup: WG33139; Design ID: 1413] QA/QC Approval: Brian Watson

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10FA - FORM I-HR CDD-1
CDD/CDF SAMPLE DATA SUMMARY
HIGH RESOLUTION

EPA SAMPLE NO.

JCF66

LAB NAME: AXYS ANALYTICAL SERVICES
LAB CODE: AXYS CASE NO.: 40216
MATRIX: (SOIL/WATER/ASH/TISSUE/DIL) SOIL
SAMPLE wt/vol: 1 (g/ml):
WATER SAMPLE PREP: (SEPF/SPE)
CONCENTRATED EXTRACT VOLUME: 20 (uL)
INJECTION VOLUME: 1.0 (uL) % SOLIDS/LIPIDS:
GC COLUMN: DB5 ID: 0.25 (mm)
CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: EF10W001069
TO NO.: EP-CALL-0002 SDC NO.: JCF30
LAB SAMPLE ID: L14893-20 L12
LAB FILE ID: DXOM_108A-S: 32
DATE RECEIVED: 06/22/2010
DATE EXTRACTED: 06/25/2010
DATE ANALYZED: 06/17/2010
DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	EMPC/EDL
2,3,7,8-TCDD	320/322	26.53	0.08 #		EMPC U	0.001 U
2,3,7,8-TCDF	304/306	25.30	0.67	0.002	EMPC U	
1,2,3,7,8-PeCDF	340/342				U	0.0005
1,2,3,7,8-PeCDD	354/356	36.23	0.31 #		EMPC U	0.001 U
2,3,4,7,8-PeCDF	340/342	35.43	5.87 #		EMPC U	0.001 U
1,2,3,4,7,8-HxCDF	374/376				U	0.0005
1,2,3,6,7,8-HxCDF	374/376				U	0.0005
1,2,3,4,7,8-HxCDD	390/392				U	0.0005
1,2,3,6,7,8-HxCDD	390/392				U	0.0005
1,2,3,7,8,9-HxCDD	390/392	42.70	2.27 #		EMPC U	0.001 U
2,3,4,6,7,8-HxCDF	374/376	41.92	1.85 #		EMPC U	0.001 U
1,2,3,7,8,9-HxCDF	374/376	42.92	0.73 #		EMPC U	0.001 U
1,2,3,4,6,7,8-HpCDF	408/410	45.33	0.34 #		EMPC U	0.001 U
1,2,3,4,6,7,8-HpCDD	424/426	46.75	1.07	0.001	EMPC U	
1,2,3,4,7,8,9-HpCDF	408/410				U	0.0005
OCDD	458/460	50.28	1.31 #		EMPC U	0.003 U
OCDF	442/444	50.38	6.00 #		EMPC U	0.002 U

NOTE: Concentrations, Estimated Maximum Possible Concentrations (EMPCs), and Estimated Detection Levels (EDLs) for solid samples are calculated on a dry weight basis (except tissues, which are reported on a wet weight basis with % Lipids).

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDD	332/334	26.50	0.77	0.65 - 0.89	83.0	25 - 164
13C-1,2,3,7,8-PeCDD	366/366	36.20	0.64	0.52 - 0.70	106	25 - 181
13C-1,2,3,4,7,8-HxCDD	402/404	42.15	1.23	1.05 - 1.43	85.4	32 - 141
13C-1,2,3,6,7,8-HxCDD	402/404	42.30	1.24	1.05 - 1.43	89.1	28 - 130
13C-1,2,3,4,6,7,8-HpCDD	436/438	46.73	1.00	0.88 - 1.20	103	23 - 140
13C-OCDD	470/472	50.28	0.88	0.76 - 1.02	105	17 - 157
13C-2,3,7,8-TCDF	316/318	25.28	0.76	0.65 - 0.89	81.1	24 - 169
13C-1,2,3,7,8-PeCDF	352/354	33.63	1.53	1.32 - 1.78	87.2	24 - 185
13C-2,3,4,7,8-PeCDF	352/354	35.42	1.57	1.32 - 1.78	85.8	21 - 178
13C-1,2,3,4,7,8-HxCDF	384/386	40.77	0.49	0.43 - 0.59	79.4	26 - 152
13C-1,2,3,6,7,8-HxCDF	384/386	40.93	0.52	0.43 - 0.59	88.0	26 - 125
13C-1,2,3,7,8,9-HxCDF	384/386	42.92	0.82	0.43 - 0.59	79.4	29 - 167
13C-2,3,4,6,7,8-HxCDF	384/386	41.88	0.48	0.43 - 0.59	87.8	28 - 136
13C-1,2,3,4,6,7,8-HpCDF	418/420	45.35	0.43	0.37 - 0.51	94.5	28 - 143
13C-1,2,3,4,7,8,9-HpCDF	418/420	47.13	0.44	0.37 - 0.51	94.4	26 - 138
13C1-2,3,7,8-TCDD	328/NA	26.53	NA	NA	92.7	35 - 197

Column to be used to flag values outside QC limits.



IDFB - FORM I-HR CDD-2
 CDD/CDF TOXICITY EQUIVALENCE SUMMARY
 HIGH RESOLUTION

EPA SAMPLE NO.

JCF66

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TESSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml):
 WATER SAMPLE PREP: (SEFF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 1.0 (uL) * SOLIDS/LIPIDS:
 GC COLUMN: DBE ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: EPL0W001069
 TO NO.: EP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-20 L12
 LAB FILE ID: DXCM_108A S: 32
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 06/17/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	CONCENTRATION	TEF*	TEF-ADJUSTED CONCENTRATION
2,3,7,8-TCDF	0	x 1 =	0.00E+00
2,3,7,8-TCDF	0.002	x 0.1 =	2.00E-04
1,2,3,7,8-PECDF	0	x 0.03 =	0.00E+00
1,2,3,7,8-PECDD	0	x 1 =	0.00E+00
2,3,4,7,8-PECDF	0	x 0.3 =	0.00E+00
1,2,3,4,7,8-HKCDF	0	x 0.1 =	0.00E+00
1,2,3,6,7,8-HKCDF	0	x 0.1 =	0.00E+00
1,2,3,4,7,8-HKCDD	0	x 0.1 =	0.00E+00
1,2,3,6,7,8-HKCDD	0	x 0.1 =	0.00E+00
1,2,3,7,8,9-HKCDD	0	x 0.1 =	0.00E+00
2,3,4,6,7,8-HKCDF	0	x 0.1 =	0.00E+00
1,2,3,7,8,9-HKCDF	0	x 0.1 =	0.00E+00
1,2,3,4,6,7,8-HPCDF	0	x 0.01 =	0.00E+00
1,2,3,4,6,7,8-HPCDD	0.001	x 0.01 =	1.00E-05
1,2,3,4,7,8,9-HPCDF	0	x 0.01 =	0.00E+00
OCDF	0	x 0.0003 =	0.00E+00
OCDF	0	x 0.0003 =	0.00E-00
		Total =	0.000210

* TEF - Toxicity Equivalent Factors from WHO 2005 MAMM

For Axys Internal Use Only | Created: 24-Aug-2010 18:30:28; Application: XMLTransformer-1.10.25; CLP-App: CLP-1.3 DLMForm1B.xls;
 Report Filename: 1613_DIOXINS_D020-TBQ_L14893-20_TBQ_631182749.html; Workgroup: WG353139; Design ID: 1413 | QA/QC Approval: Brian Watson.



1DFC - FORM 1-HP CDD-3
 CDD/CDF SECOND COLUMN CONFIRMATION
 HIGH RESOLUTION

BPA SAMPLE NO.

JCF66

LAB NAME: AXYS ANALYTICAL SERVICES
 LAB CODE: AXYS CASE NO.: 40216
 MATRIX: (SOIL/WATER/ASH/TISSUE/OIL) SOIL
 SAMPLE wt/vol: 1 (g/ml)
 WATER SAMPLE PREP: (SEPF/SPE)
 CONCENTRATED EXTRACT VOLUME: 20 (uL)
 INJECTION VOLUME: 2.0 (uL) % SOLIDS/LIPIDS:
 GC COLUMN: DB225 ID: 0.25 (mm)
 CONCENTRATION UNITS: (pg/L or ng/kg) ng/sample

CONTRACT: BFL0W001069
 TO NO.: HP-CALL-0002 SDG NO.: JCF30
 LAB SAMPLE ID: L14893-20 L
 LAB FILE ID: DB03_097 S: 10
 DATE RECEIVED: 06/22/2010
 DATE EXTRACTED: 06/25/2010
 DATE ANALYZED: 07/29/2010
 DILUTION FACTOR: 1.0

TARGET ANALYTE	SELECTED IONS	PEAK RT	ION RATIO #	CONCENTRATION	Q	RMPC/EDL
2,3,7,8-TCDF	304/306				U	0.0018

LABELLED COMPOUNDS	SELECTED IONS	PEAK RT	ION RATIO #	ION RATIO LIMITS	%REC #	%REC LIMITS
13C-2,3,7,8-TCDF	316/318	18.80	0.84	0.65 - 0.89	72.2	24 - 169
37Cl-2,3,7,8-TCDD	328/NA	17.37	NA	NA	99.2	35 - 197

Column to be used to flag values outside QC limits.

For Axys Internal Use Only [XSL Template: Form1A.xsl; Created: 24-Aug-2010 18:24:08; Application: XMLTransformer-1.0.25; CLP-App: CLP-1.3 DLMForm1C.xsl;
 Report Filename: 1613_DIOXINS_DB020DB225_L14893-20_Form1A_DB03_097S10_SJ1176295.html; Workgroup: WG33138; Design ID: 1413] QA/QC Approval: Brian Watson.





ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: July 8, 2010
TO: Linda Costello, START-3 Project Manager, E & E, Seattle, WA
FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington
SUBJ: **Organic Data Quality Assurance Review,
Former Joseph Guy Community Center Site, Kwethluk, Alaska**
REF: TDD: 09-09-0002 PAN: 002233.0486.01BA

The data quality assurance review of 2 soil samples collected from the Former Joseph Guy Community Center site located in Kwethluk, Alaska, has been completed. Analysis for Diesel and Residual Range Organics (ADEC Methods AK-102/-103) was performed by Columbia Analytical Services, Inc., Kelso, Washington.

The samples were numbered: FJ19SS FJ20SS

Data Qualifications:

1. Sample Holding Times: Acceptable.

The samples were maintained at $< 6^{\circ}\text{C}$. The samples were collected on June 9, 2010, extracted on June 23, 2010, and analyzed on June 24, 2010, therefore meeting QC criteria of less than 14 days between collection and extraction for soil samples, and less than 40 days between extraction and analysis.

2. Initial Calibration: Acceptable.

Calculations were verified as correct. All relative percent differences (RPDs) were less than or equal to the laboratory control limits.

3. Continuing Calibration: Acceptable.

Calculations were verified as correct. All percent differences (%Ds) were \leq the laboratory control limits.

4. Error Determination: Not Performed.

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

5. Blanks: Acceptable.

A method blank was analyzed for each extraction batch for each matrix and analysis system. Diesel- and motor oil-range TPHs were not detected in any blank.

6. System Monitoring Compounds (SMC): Acceptable.

All recoveries of the SMCs were greater than 10% and within QC criteria.

7. Performance Evaluation Samples: Not Provided.

Performance evaluation samples were not provided to the laboratory.

8. Matrix and Blank Spikes: Acceptable.

Matrix and blank spike results were within QC limits except when not applicable due to high analyte concentrations in the original sample.

9. Duplicates: Acceptable.

Spike duplicate results were acceptable.

10. Quantitation and Quantitation Limits: Acceptable.

Sample concentrations were correctly calculated.

11. Laboratory Contact: Not Required.

No laboratory contact was required.

12. Overall Assessment of Data for Use

The diesel range organics results were qualified as estimated quantities with an unknown bias (JK) since the chromatograms for these samples resembles a petroleum product but did not match that of the calibration standard chromatogram. The residual range organics result for sample FJ19SS was qualified as an estimated quantity with a likely high bias (JH) since the chromatographic pattern for the sample doesn't resemble a petroleum product.

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Data Validation Procedures" (EPA/540/G-90/004) and the analytical method. Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data and Bias Qualifiers and Definitions

- J- The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- H - The associated sample result has a high bias.
- K- The associated sample result has an unknown bias.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Ecology And Environment, Incorporated
 Project: AK 102/103
 Sample Matrix: Soil

Service Request: K1006400
 Date Collected: 06/09/2010
 Date Received: 06/21/2010

Diesel Range Organics

Sample Name: FJ19SS
 Lab Code: K1006400-001
 Extraction Method: EPA 3550B
 Analysis Method: AK102

Units: mg/Kg
 Basis: Dry
 Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
C10 - C25 DRO	9000	<i>YmwJK</i>	24	1	06/23/10	06/24/10	KWG1006157	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	106	50-150	06/24/10	Acceptable

mw
7/8/10

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Ecology And Environment, Incorporated
 Project: AK 102/103
 Sample Matrix: Soil

Service Request: K1006400
 Date Collected: 06/09/2010
 Date Received: 06/21/2010

Diesel Range Organics

Sample Name: FJ20SS
 Lab Code: K1006400-002
 Extraction Method: EPA 3550B
 Analysis Method: AK102

Units: mg/Kg
 Basis: Dry
 Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
C10 - C25 DRO	220	<i>X</i>	22	1	06/23/10	06/24/10	KWG1006157	<i>JK</i>

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	88	50-150	06/24/10	Acceptable

MW
7/8/10

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Ecology And Environment, Incorporated
 Project: AK 102/103
 Sample Matrix: Soil

Service Request: K1006400
 Date Collected: 06/09/2010
 Date Received: 06/21/2010

Residual Range Organics

Sample Name: FJ19SS
 Lab Code: K1006400-001
 Extraction Method: EPA 3550B
 Analysis Method: AK103

Units: mg/Kg
 Basis: Dry
 Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
C25 - C36 RRO	190		120	1	06/23/10	06/24/10	KWG1006156	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
n-Triacontane	94	50-150	06/24/10	Acceptable

MW
7-8-10

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client: Ecology And Environment, Incorporated
 Project: AK 102/103
 Sample Matrix: Soil

Service Request: K1006400
 Date Collected: 06/09/2010
 Date Received: 06/21/2010

Residual Range Organics

Sample Name: FJ20SS
 Lab Code: K1006400-002
 Extraction Method: EPA 3550B
 Analysis Method: AK103

Units: mg/Kg
 Basis: Dry
 Level: Low

Analyte Name	Result Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
C25 - C36 RRO	ND U	110	1	06/23/10	06/24/10	KWG1006156	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
n-Triacontane	85	50-150	06/24/10	Acceptable

Handwritten signature and date:
 [Signature]
 7-8-10

Comments: _____



ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: December 1, 2010

TO: Linda Costello, START-3 Project Manager, E & E, Seattle, Washington

FROM: Mark Woodke, START-3 Chemist, E & E, Seattle, Washington *MW*

SUBJ: **Data Summary Check,
Former Joseph Guy Community Center Site, Kwethluk, Alaska**

REF: TDD: 09-09-0002 PAN: 002233.0486.01BA

The data summary check of 12 samples collected from the Former Joseph Guy Community Center site located in Kwethluk, Alaska, has been completed. Asbestos analyses were performed at the EPA Manchester Environmental Laboratory, Port Orchard, Washington.

The samples were numbered:

10234073	10234076	10234077	10234091	10234092	10234093
10234094	10234095	10234096	10234097	10234098	10234099

No discrepancies were noted. The secondary reviewer added the approximate detection limit to the results in place of the "A" (absent) qualifier when applicable. The "PNQ" qualifier (present but not quantified) was left in place for non-asbestos results.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 LABORATORY
7411 Beach Dr. East
PortOrchard, Washington 98366

MEMORANDUM

TO: Joanné LaBaw, Site Assessment Manager
Office of Environmental Cleanup
Assessment and Brownfields Unit

FROM: Jed Januch, Senior Investigator
Office of Environmental Assessment
Environmental Services Unit

QA

REVIEWER: Susan Carrell, Washington State Department of Ecology _____

SUBJECT: Narrative for asbestos analysis by stereomicroscope and polarized light microscopy of bulk samples from the Former Joseph Guy Community Center

Project Code: TEC-980A
Account Code: 20102011B10P402D43CG000BZ00

The following pertains to the quality assurance (QA) documentation associated with the asbestos analysis, by stereomicroscope and polarized light microscopy (PLM), of 12 samples of bulk material from the Former Joseph Guy Community Center. I conducted the analyses using the EPA Region 10 standard operating procedure for analysis of bulk asbestos samples by stereo and polarized light microscopy ASB_001 and EPA method 600/R-93/116.

The following comments refer to the quality control specifications for analysis of the following samples:

Sample Number:

10234073	10234076	10234077	10234091
10234092	10234093	10234094	10234095
10234096	10234097	10234098	10234099

1.0 Holding time, Chain of Custody, and Sample Description

There is no recommended holding time for asbestos samples. The samples were received in the laboratory on June 14, 2010, and the analysis was completed on July 26, 2010. The EPA Region 10 Laboratory is a secure facility and the asbestos analysis area requires a key card for access. The samples consisted of a variety of building materials and miscellaneous debris contained in Ziploc bags.

2.0 Results of Analysis

No asbestos was detected in any of the samples submitted for analysis. The composition of the samples varied and several of the samples contained non-asbestos fibers including paper

fibers, glass fibers, mineral wool, and synthetic fibers. The result of analysis which includes a description of the fibrous non-asbestos material observed in each of the samples is summarized in Table 1. Photomicrographs related to samples for this project are appended to this narrative report.

Table 1 Results of analysis by PLM

Sample Number	Sample Description	Final Asbestos Result	Qualifier	Comments
10234073	Red colored tape	None Detected	A	Paper
10234076	Sheet Rock - friable	None Detected	A	Paper and glass fibers
10234076 dup (QC)	Sheet Rock - friable	None Detected	A	Paper and glass fibers
10234077	Brown material - friable	None Detected	A	Glass fibers
10234091	Brown material - friable	None Detected	A	Glass fibers
10234092	Mineral Wool - friable	None Detected	A	Mineral Wool
10234093	Mineral Wool - friable	None Detected	A	Mineral Wool
10234094	Copper Wire	None Detected	A	Synthetic (?) and paper fibers
10234095	Miscellaneous debris - friable	None Detected	A	Glass fibers
10234096	Miscellaneous debris - friable	None Detected	A	Glass and synthetic fibers, mineral wool
10234097	Metal/Slag fragments	None Detected	A	No fibers
10234098	Miscellaneous debris - friable	None Detected	A	Glass fibers
10234099	White colored mass of fibers - friable	None Detected	A	Glass fibers

3.0 Sample Preparation

The sample preparation techniques used for this project are as follows:

3.1 The friable samples were all lightly crushed with the aid of a corundum mortar and pestle. The crushed material was examined for fibers using a stereomicroscope and a minimum of four slide preparations for each sample were prepared and examined by PLM. Sample 10234076 and a quality control (QC) duplicate of this sample were further prepared by ashing in a muffle furnace for 6 hours at 450°C. When the samples cooled to room temperature, they were treated with dilute HCl for approximately 10 minutes and filtered through a 0.4 µm polycarbonate filter. The residue was air dried on the polycarbonate filter for approximately 24 hours. The dried residue was weighed to determine the amount of ashed material and acid soluble components that were eliminated. The residue was again examined by stereomicroscope and PLM. No asbestos was detected.

3.2 Bulk sample 10234073 was analyzed with the aid of a stereomicroscope to determine if possible asbestos fibers were present. No asbestos was detected during preliminary analysis, however due to the sticky adhesive; I preformed gravimetric matrix reduction of this sample. Sample 10234073 was ashed in a muffle furnace for 6 hours at 450°C. When the sample cooled to room temperature, the ashed residue was treated with dilute HCl for approximately 10 minutes and filtered through a 0.4 µm polycarbonate filter. The residue was air dried on the polycarbonate filter for approximately 24 hours. The dried residue was weighed to determine the amount of ashed material and acid soluble components that was eliminated. The residue was again examined by stereomicroscope and PLM. No asbestos was detected.

3.3 Samples 10234094 and 10234097 consisted mostly of metals revealed during screening by scanning electron microscope (SEM) equipped with energy dispersive spectroscopy (EDS). These samples were examined with the aid of a stereomicroscope to determine if fibers were present. Sample 10234094 had a few non-asbestos fibers that were hand-picked from the sample and examined further by PLM. No asbestos was detected.

4.0 Asbestos Measurement System Calibration

The calibration for the PLM and the refractive index liquids were performed as required using appropriate methods and procedures. Prior to analysis the PLM was checked for Köhler illumination. Refractive index liquids used for this project were verified accurate on June 24, 2010, using an Abbe refractometer.

5.0 Analytical Procedures

The analysis of samples for this project was done according to the EPA Region 10 standard operating procedure for analysis of bulk asbestos samples by stereo and polarized light microscopy ASB_001 and method EPA/600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. The analysis was performed using a Wild M-5 stereomicroscope with a magnification range of 6x to 50x and a Carl Zeiss Axioskop 40 PLM with a cross-hair reticle mounted in the microscope ocular. The magnification range for the Carl Zeiss Axioskop 40 PLM is 100x to 400x and 100x for dispersion staining.

The optical properties of fibrous structures were evaluated and compared with published optical properties for asbestos and other fibers (including, if applicable, extinction angle, sign of elongation, birefringence, and central-stop dispersion staining characteristics in appropriate refractive index liquids). In addition, a set of commercially prepared slides containing asbestos were used as references for comparison with the samples.

6.0 Quality Assurance and Quality Control

Prior to analyzing samples for this project, method blanks consisting of friable and non-friable materials (fibrous glass and quartz grains) were prepared in 1.550 refractive index liquid, and were analyzed to determine that supplies and tools used for this project were asbestos-free. No asbestos was detected in either of the method blanks.

7.0 Reporting Limits / Data Qualifiers

The detection limit for asbestos minerals by PLM is approximately 1%. No asbestos was detected in the samples so the qualifier for absent (A) was used. Other fibrous non-asbestos materials were observed in most of the samples however no percentage is reported, therefore the qualifier for present but not quantified (PNQ) is used.

Manchester Environmental Laboratory

Report by Parameter for Project TEC-980A

Project Code:	TEC-980A	Collected:	6/9/10	15:30:00
Project Name:	FORMER JOSEPH GUY COMMUNITY C	Matrix:	Solid	
Project Officer:	JOANNE LABAW	Sample Number:	10234073	
Account Code:	1011B10P402D43CG000BZ00	Type:	Reg sample	
Station Description:	FJ12BK			

Result	Units	Qlfr
---------------	--------------	-------------

GEN

Parameter :	Bulk Asbestos Analysis	Container ID :	N1
Method :	600R93/116 Method for the Determination of Asbestos in Bulk Building Materials	Analysis Date :	7/19/2010

Prep Method :

Prep Date :

Analytes(s):	*200009	Actinolite
	*200006	Amosite
	*200007	Anthophyllite
	*200005	Chrysotile
	*200010	Crocidolite
	*200124	Non-Asbestos
	*200125	Other Fibrous Amphibole
	*200008	Tremolite

↑ 100% U
 ↓
 ↑ Am
 ↑ PNQ
 ↓ 10% U
 ↓
 ↑ MW

Manchester Environmental Laboratory

Report by Parameter for Project TEC-980A

Project Code:	TEC-980A	Collected:	6/9/10	14:45:00
Project Name:	FORMER JOSEPH GUY COMMUNITY C	Matrix:	Solid	
Project Officer:	JOANNE LABAW	Sample Number:	10234076	
Account Code:	1011B10P402D43CG000BZ00	Type:	Reg sample	
Station Description:	FJ01BK			

	Result	Units	Qlfr
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GEN

Parameter :	Bulk Asbestos Analysis	Container ID :	NI	
Method :	600R93/116	Method for the Determination of Asbestos in Bulk Building Materials	Analysis Date :	7/9/2010
Prep Method :		Prep Date :		

- | | | |
|--------------|---------|-------------------------|
| Analytes(s): | *200009 | Actinolite |
| | *200006 | Amosite |
| | *200007 | Anthophyllite |
| | *200005 | Chrysotile |
| | *200010 | Crocidolite |
| | *200124 | Non-Asbestos |
| | *200125 | Other Fibrous Amphibole |
| | *200008 | Tremolite |

↑ 1% U
 ↓
 A
 A
 A
 A
 A
 PNQ
 A
 A
 ↓ 1% U

Manchester Environmental Laboratory

Report by Parameter for Project TEC-980A

Project Code:	TEC-980A	Collected:	6/9/10	14:45:00
Project Name:	FORMER JOSEPH GUY COMMUNITY C	Matrix:	Solid	
Project Officer:	JOANNE LABAW	Sample Number:	10234076	
Account Code:	1011B10P402D43CG000BZ00	Type:	Duplicate	
Station Description:	FJ01BK			

Result	Units	Qlfr
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GEN

Parameter : Bulk Asbestos Analysis
Method : 600R93/116 Method for the Determination of Asbestos in Bulk Building Materials

Container ID: N1
 Analysis Date: 7/9/2010

Prep Method :

Prep Date :

Analytes(s):	*200009	Actinolite
	*200006	Amosite
	*200007	Anthophyllite
	*200005	Chrysotile
	*200010	Crocidolite
	*200124	Non-Asbestos
	*200125	Other Fibrous Amphibole
	*200008	Tremolite

Handwritten notes: A vertical list of 'A's with 'w' and 'u' below them. To the right, a downward arrow is labeled '1% U'. Below this, 'PNQ' is written, followed by another downward arrow labeled '1% U'.

Manchester Environmental Laboratory

Report by Parameter for Project TEC-980A

Project Code: TEC-980A **Collected:** 6/9/10 **14:48:00**
Project Name: FORMER JOSEPH GUY COMMUNITY C **Matrix:** Solid
Project Officer: JOANNE LABAW **Sample Number:** 10234077
Account Code: 1011B10P402D43CG000BZ00 **Type:** Reg sample
Station Description: FJ02BK

	Result	Units	Qlfr
GEN			
Parameter : Bulk Asbestos Analysis			Container ID : N1
Method : 600R93/116	Method for the Determination of Asbestos in Bulk Building Materials		Analysis Date : 7/9/2010
Prep Method :			Prep Date :
Analytes(s): *200009	Actinolite		
*200006	Amosite		
*200007	Anthophyllite		
*200005	Chrysotile		
*200010	Crocidolite		
*200124	Non-Asbestos		
*200125	Other Fibrous Amphibole		
*200008	Tremolite		

Manchester Environmental Laboratory

Report by Parameter for Project TEC-980A

Project Code:	TEC-980A	Collected:	6/9/10	14:50:00
Project Name:	FORMER JOSEPH GUY COMMUNITY C	Matrix:	Solid	
Project Officer:	JOANNE LABAW	Sample Number:	10234091	
Account Code:	1011B10P402D43CG000BZ00	Type:	Reg sample	
Station Description:	FJ03BK			

	Result	Units	Qlfr
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GEN

Parameter :	Bulk Asbestos Analysis	Container ID : N1
Method :	600R93/116 Method for the Determination of Asbestos in Bulk Building Materials	Analysis Date : 7/9/2010

Prep Method :		Prep Date :
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Analytes(s):	*200009	Actinolite
	*200006	Amosite
	*200007	Anthophyllite
	*200005	Chrysotile
	*200010	Crocidolite
	*200124	Non-Asbestos
	*200125	Other Fibrous Amphibole
	*200008	Tremolite

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 PNQ
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Manchester Environmental Laboratory

Report by Parameter for Project TEC-980A

Project Code:	TEC-980A	Collected:	6/9/10	14:58:00
Project Name:	FORMER JOSEPH GUY COMMUNITY C	Matrix:	Solid	
Project Officer:	JOANNE LABAW	Sample Number:	10234092	
Account Code:	1011B10P402D43CG000BZ00	Type:	Reg sample	
Station Description:	FJ04BK			

Result	Units	Qlfr
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GEN

Parameter : Bulk Asbestos Analysis	Container ID : N1
Method : 600R93/116 Method for the Determination of Asbestos in Bulk Building Materials	Analysis Date : 7/9/2010

Prep Method :	Prep Date :
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Analytes(s): *200009	Actinolite
*200006	Amosite
*200007	Anthophyllite
*200005	Chrysotile
*200010	Crocidolite
*200124	Non-Asbestos
*200125	Other Fibrous Amphibole
*200008	Tremolite

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Manchester Environmental Laboratory

Report by Parameter for Project TEC-980A

Project Code:	TEC-980A	Collected:	6/9/10	15:00:00
Project Name:	FORMER JOSEPH GUY COMMUNITY C	Matrix:	Solid	
Project Officer:	JOANNE LABAW	Sample Number:	10234093	
Account Code:	1011B10P402D43CG000BZ00	Type:	Reg sample	
Station Description:	FJ05BK			

	Result	Units	Qlfr
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GEN

Parameter : Bulk Asbestos Analysis	Container ID : N1
Method : 600R93/116 Method for the Determination of Asbestos in Bulk Building Materials	Analysis Date : 7/9/2010

Prep Method : Prep Date :

Analytes(s): *200009	Actinolite
*200006	Amosite
*200007	Anthophyllite
*200005	Chrysotile
*200010	Crocidolite
*200124	Non-Asbestos
*200125	Other Fibrous Amphibole
*200008	Tremolite

Manchester Environmental Laboratory

Report by Parameter for Project TEC-980A

Project Code:	TEC-980A	Collected:	6/9/10	15:05:00
Project Name:	FORMER JOSEPH GUY COMMUNITY C	Matrix:	Solid	
Project Officer:	JOANNE LABAW	Sample Number:	10234094	
Account Code:	1011B10P402D43CG000BZ00	Type:	Reg sample	
Station Description:	FJ06BK			

Result	Units	Qlfr
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GEN

Parameter :	Bulk Asbestos Analysis	Container ID :	N1	
Method :	600R93/116	Method for the Determination of Asbestos in Bulk Building Materials	Analysis Date :	7/20/2010

Prep Method : _____ **Prep Date :** _____

Analytes(s):	*200009	Actinolite
	*200006	Amosite
	*200007	Anthophyllite
	*200005	Chrysotile
	*200010	Crocidolite
	*200124	Non-Asbestos
	*200125	Other Fibrous Amphibole
	*200008	Tremolite

Handwritten notes and arrows:

- Upward arrow with "1000" written next to it.
- Downward arrow with "1000" written next to it.
- Labels "Am" and "PNQ" are written near the arrows.

Manchester Environmental Laboratory
Report by Parameter for Project TEC-980A

Project Code:	TEC-980A	Collected:	6/9/10	15:10:00
Project Name:	FORMER JOSEPH GUY COMMUNITY C	Matrix:	Solid	
Project Officer:	JOANNE LABAW	Sample Number:	10234095	
Account Code:	1011B10P402D43CG000BZ00	Type:	Reg sample	
Station Description:	FJ07BK			

	Result	Units	Qlfr
GEN			
Parameter :	Bulk Asbestos Analysis		Container ID : N1
Method :	600R93/116	Method for the Determination of Asbestos in Bulk Building Materials	Analysis Date : 7/26/2010
Prep Method :			Prep Date :
Analytes(s):	*200009	Actinolite	
	*200006	Amosite	
	*200007	Anthophyllite	
	*200005	Chrysotile	
	*200010	Crocidolite	
	*200124	Non-Asbestos	
	*200125	Other Fibrous Amphibole	
	*200008	Tremolite	

Manchester Environmental Laboratory

Report by Parameter for Project TEC-980A

Project Code:	TEC-980A	Collected:	6/9/10	15:12:00
Project Name:	FORMER JOSEPH GUY COMMUNITY C	Matrix:	Solid	
Project Officer:	JOANNE LABAW	Sample Number:	10234096	
Account Code:	1011B10P402D43CG000BZ00	Type:	Reg sample	
Station Description:	FJ08BK			

Result	Units	Qifr
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GEN

Parameter : Bulk Asbestos Analysis	Container ID : N1
Method : 600R93/116 Method for the Determination of Asbestos in Bulk Building Materials	Analysis Date : 7/26/2010

Prep Method :	Prep Date :
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Analytes(s): *200009	Actinolite
*200006	Amosite
*200007	Anthophyllite
*200005	Chrysotile
*200010	Crocidolite
*200124	Non-Asbestos
*200125	Other Fibrous Amphibole
*200008	Tremolite

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Manchester Environmental Laboratory

Report by Parameter for Project TEC-980A

Project Code: TEC-980A **Collected:** 6/9/10 **15:16:00**
Project Name: FORMER JOSEPH GUY COMMUNITY C **Matrix:** Solid
Project Officer: JOANNE LABAW **Sample Number:** 10234097
Account Code: 1011B10P402D43CG000BZ00 **Type:** Reg sample
Station Description: FJ09BK

	Result	Units	Qlfr
GEN			
Parameter :	Bulk Asbestos Analysis		Container ID : N1
Method :	600R93/116	Method for the Determination of Asbestos in Bulk Building Materials	Analysis Date : 7/20/2010
Prep Method :			Prep Date :
Analytes(s):	*200009	Actinolite	
	*200006	Amosite	
	*200007	Anthophyllite	
	*200005	Chrysotile	
	*200010	Crocidolite	
	*200124	Non-Asbestos	
	*200125	Other Fibrous Amphibole	
	*200008	Tremolite	

Manchester Environmental Laboratory

Report by Parameter for Project TEC-980A

Project Code:	TEC-980A	Collected:	6/9/10	15:20:00
Project Name:	FORMER JOSEPH GUY COMMUNITY C	Matrix:	Solid	
Project Officer:	JOANNE LABAW	Sample Number:	10234098	
Account Code:	1011B10P402D43CG000BZ00	Type:	Reg sample	
Station Description:	FJ10BK			

	Result	Units	Qlfr
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GEN

Parameter :	Bulk Asbestos Analysis	Container ID : N1
Method :	600R93/116 Method for the Determination of Asbestos in Bulk Building Materials	Analysis Date : 7/20/2010

Prep Method : Prep Date :

Analytes(s):	*200009	Actinolite
	*200006	Amosite
	*200007	Anthophyllite
	*200005	Chrysotile
	*200010	Crocidolite
	*200124	Non-Asbestos
	*200125	Other Fibrous Amphibole
	*200008	Tremolite

Manchester Environmental Laboratory
Report by Parameter for Project TEC-980A

Project Code:	TEC-980A	Collected:	6/9/10	15:28:00
Project Name:	FORMER JOSEPH GUY COMMUNITY C	Matrix:	Solid	
Project Officer:	JOANNE LABAW	Sample Number:	10234099	
Account Code:	1011B10P402D43CG000BZ00	Type:	Reg sample	
Station Description:	FJ11BK			

	Result	Units	Qlfr
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GEN

Parameter :	Bulk Asbestos Analysis	Container ID : N1
Method :	600R93/116 Method for the Determination of Asbestos in Bulk Building Materials	Analysis Date : 7/9/2010

Prep Method : Prep Date :

Analytes(s): *200009	Actinolite
*200006	Amosite
*200007	Anthophyllite
*200005	Chrysotile
*200010	Crocidolite
*200124	Non-Asbestos
*200125	Other Fibrous Amphibole
*200008	Tremolite

Manchester Environmental Laboratory

Report by Parameter for Project TEC-980A

Project Code: TEC-980A **Collected:** 0:00:00
Project Name: FORMER JOSEPH GUY COMMUNITY C **Matrix:** Solid
Project Officer: JOANNE LABAW **Sample Number:** FMB070710
Account Code: 1011B10P402D43CG000BZ00 **Type:** Blank
Station Description:

Result Units Qlfr

GEN

Parameter : Bulk Asbestos Analysis Container ID : N1
Method : 600R93/116 Analysis Date : 7/9/2010
Method for the Determination of Asbestos in Bulk Building Materials

Prep Method : Prep Date :

Analytes(s): *200009 Actinolite
*200006 Amosite
*200007 Anthophyllite
*200005 Chrysotile
*200010 Crocidolite
*200124 Non-Asbestos
*200125 Other Fibrous Amphibole
*200008 Tremolite

Manchester Environmental Laboratory

Report by Parameter for Project TEC-980A

Project Code:	TEC-980A	Collected:	0:00:00
Project Name:	FORMER JOSEPH GUY COMMUNITY C	Matrix:	Solid
Project Officer:	JOANNE LABAW	Sample Number:	NFMB070710
Account Code:	1011B10P402D43CG000BZ00	Type:	Blank
Station Description:			

	Result	Units	Qlfr
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GEN

Parameter :	Bulk Asbestos Analysis	Container ID :	N1	
Method :	600R93/116	Method for the Determination of Asbestos in Bulk Building Materials	Analysis Date :	7/7/2010

Prep Method :

Prep Date :

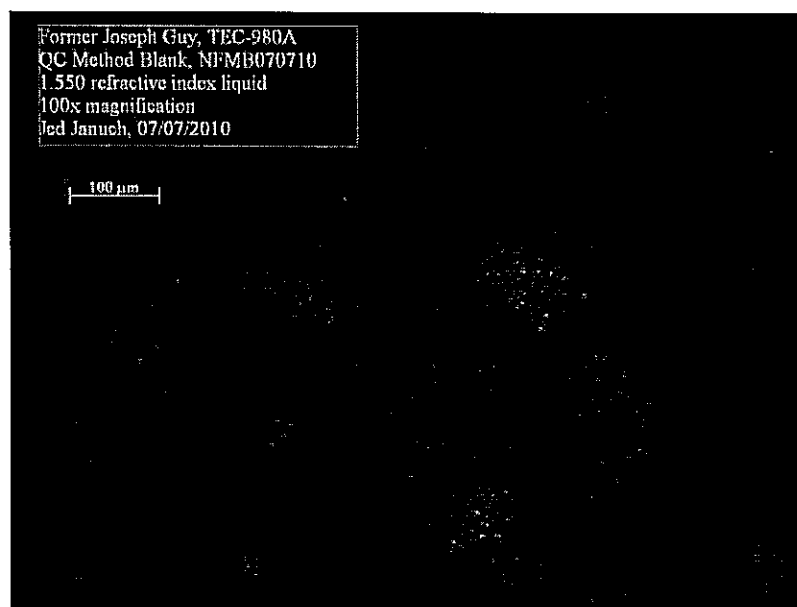
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	*200006	Amosite
	*200007	Anthophyllite
	*200005	Chrysotile
	*200010	Crocidolite
	*200124	Non-Asbestos
	*200125	Other Fibrous Amphibole
	*200008	Tremolite

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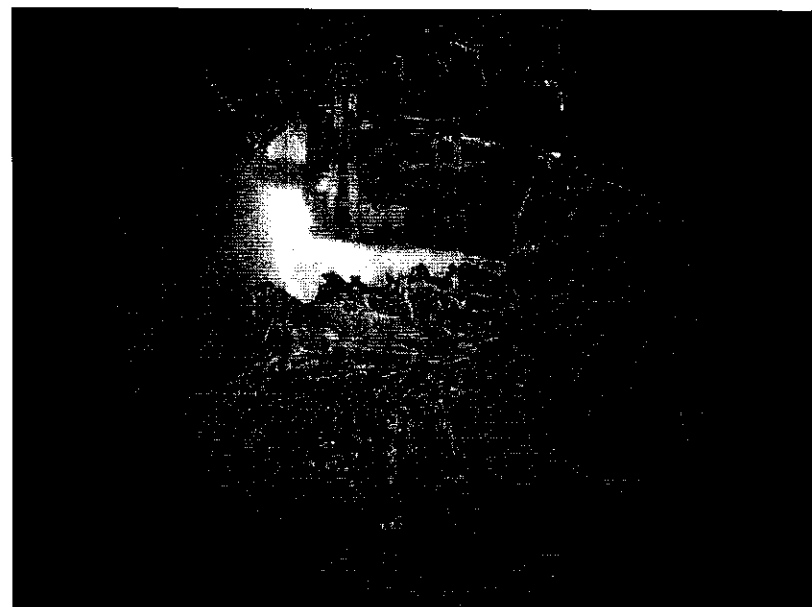
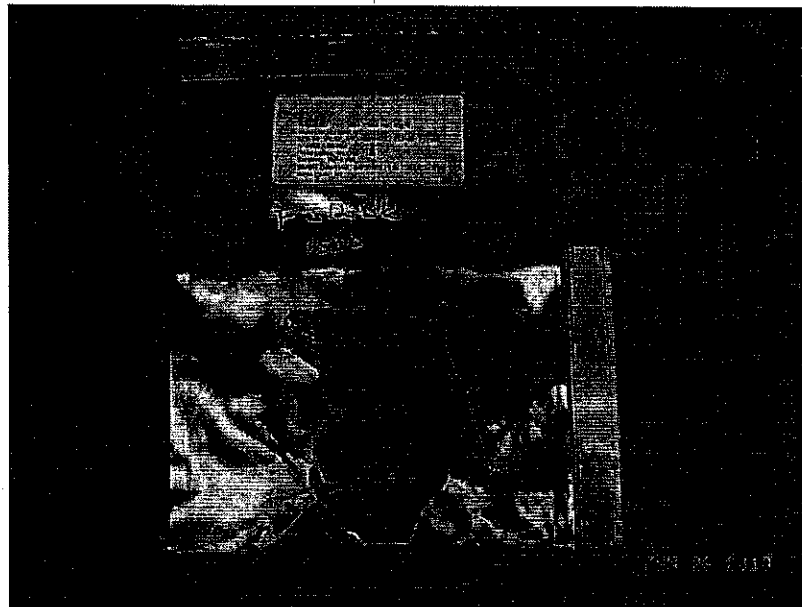
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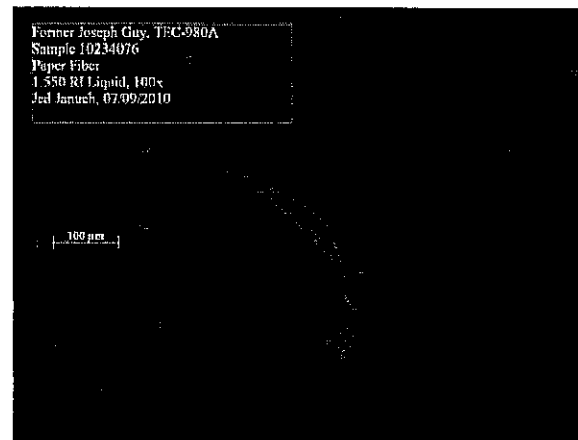
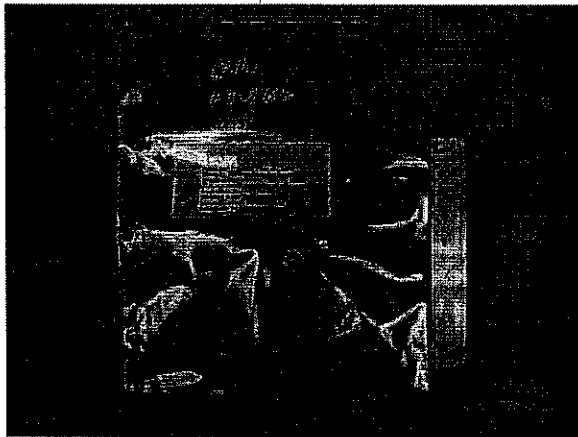
Photomicrographs
Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
QA/QC samples



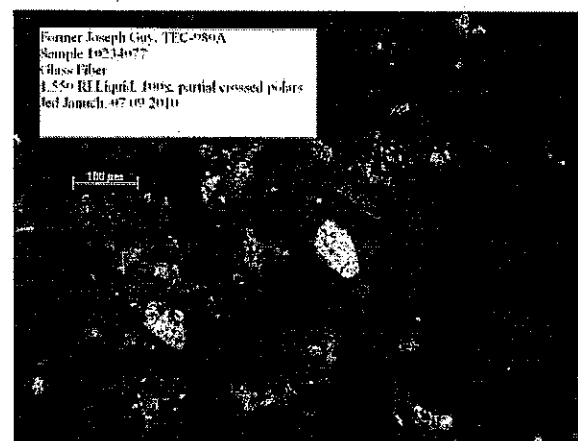
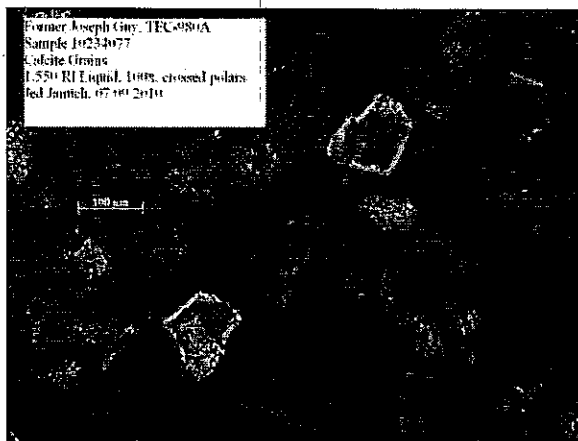
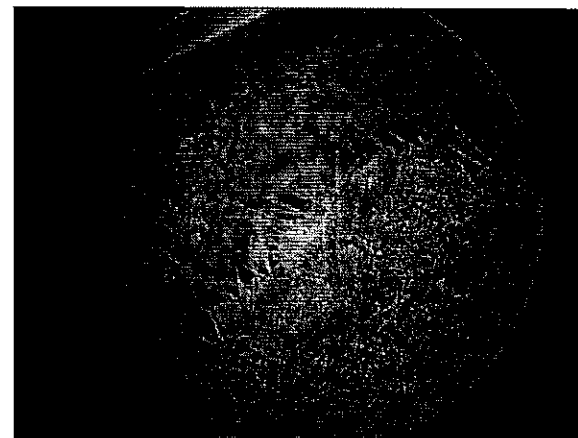
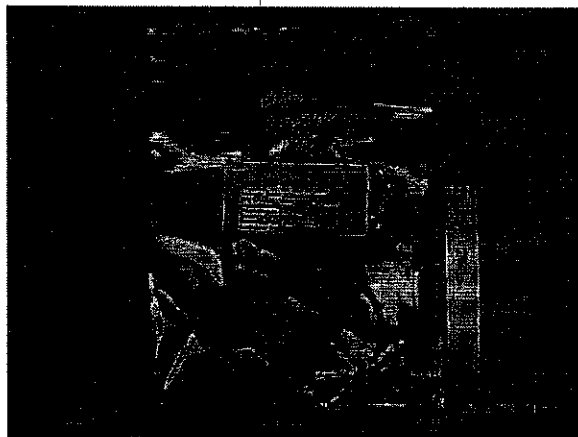
Photomicrographs
Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
Sample 10234073



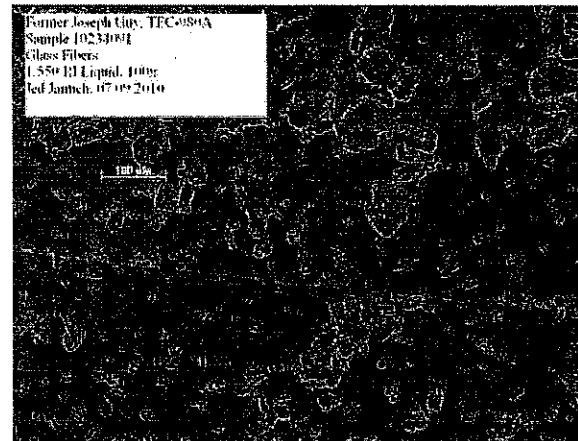
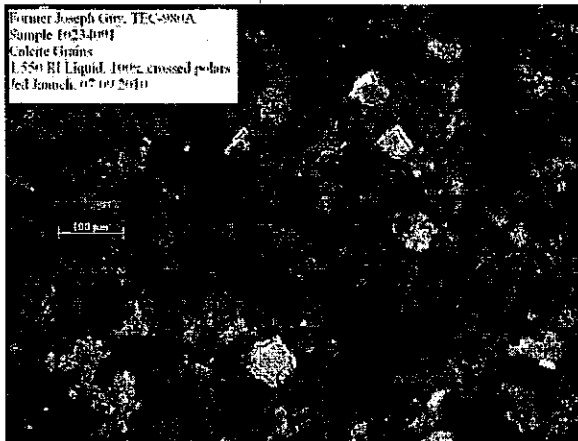
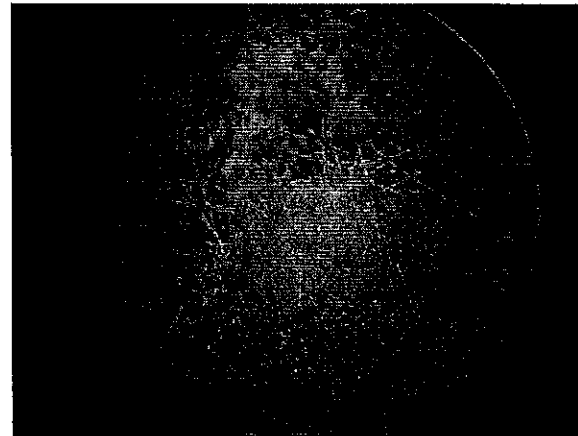
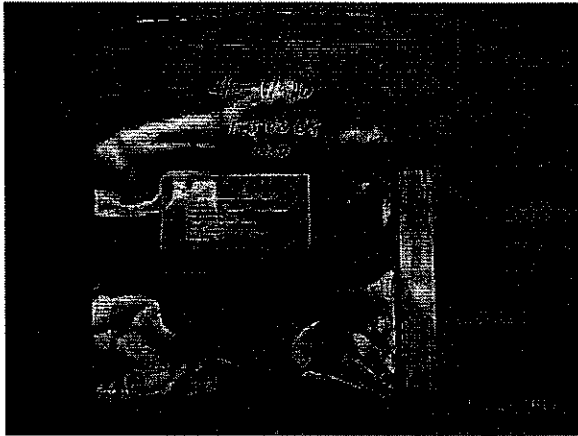
Photomicrographs
Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
Sample 10234076



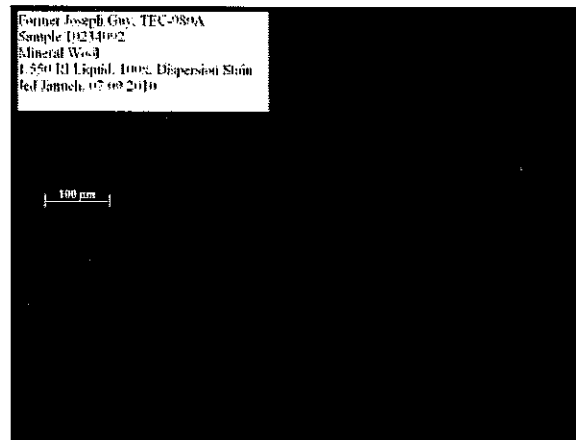
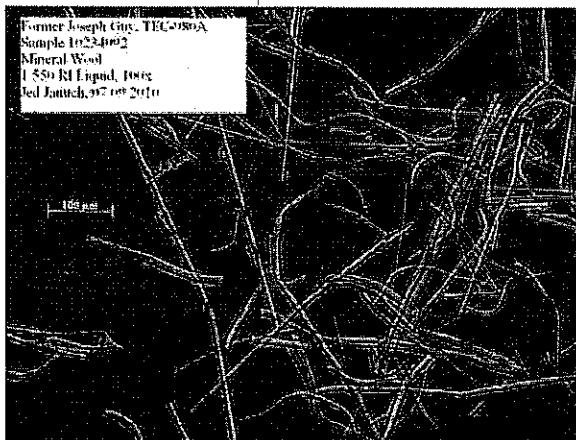
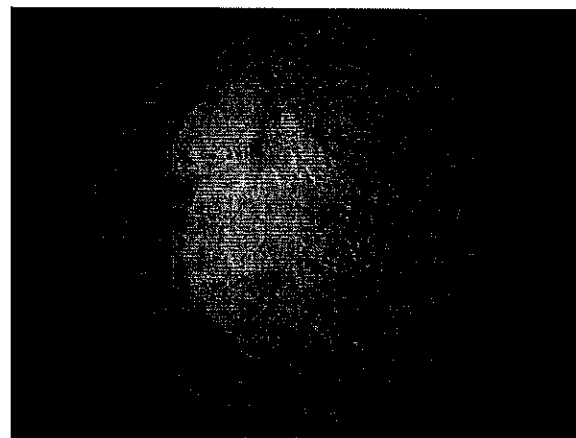
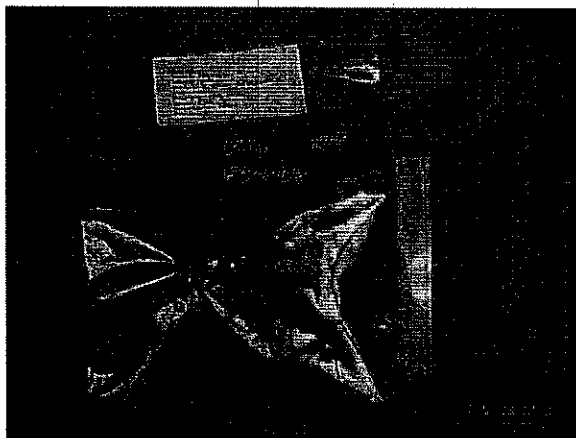
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Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
Sample 10234077



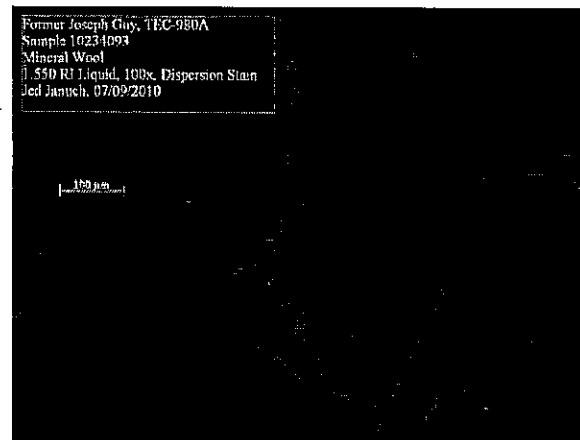
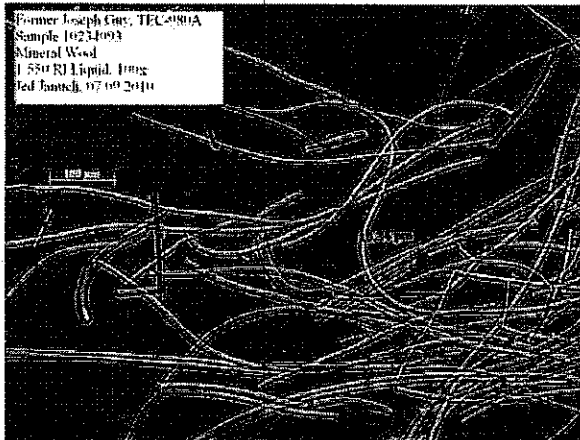
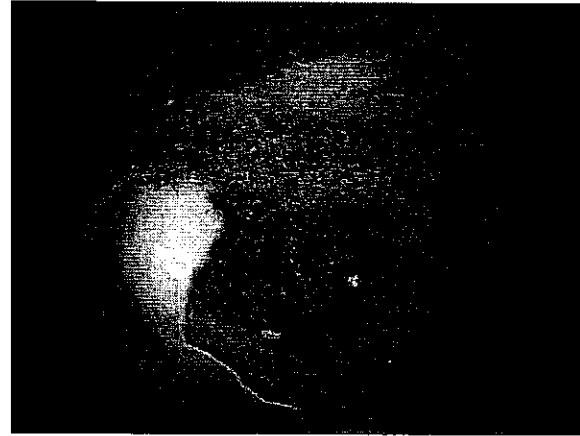
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Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
Sample 10234091



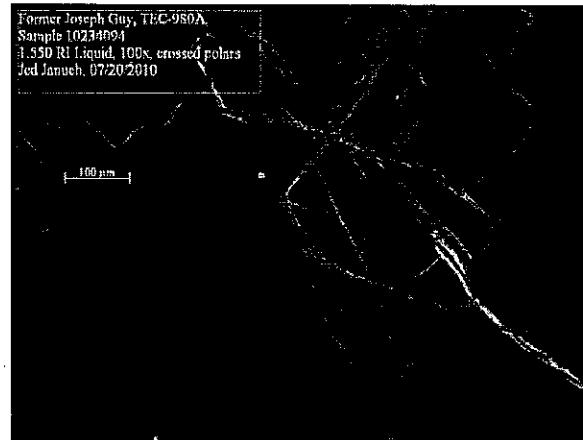
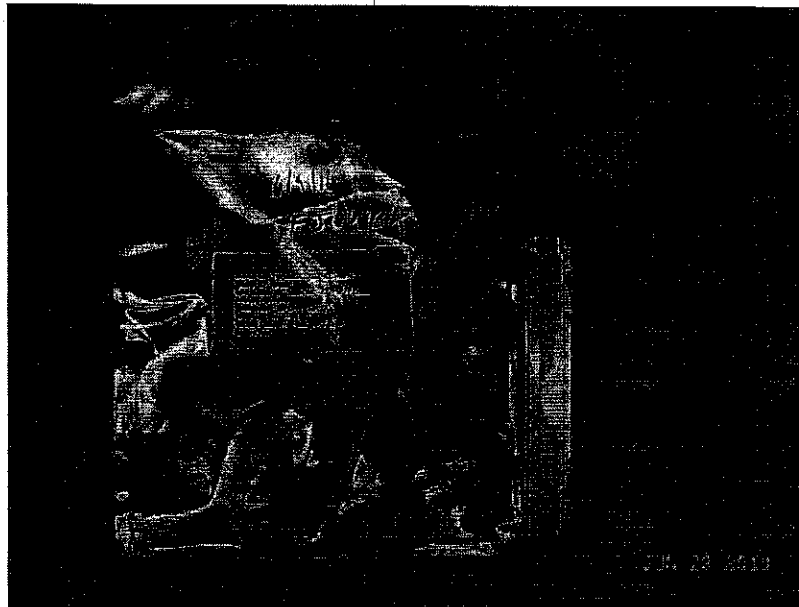
Photomicrographs
Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
Sample 10234092



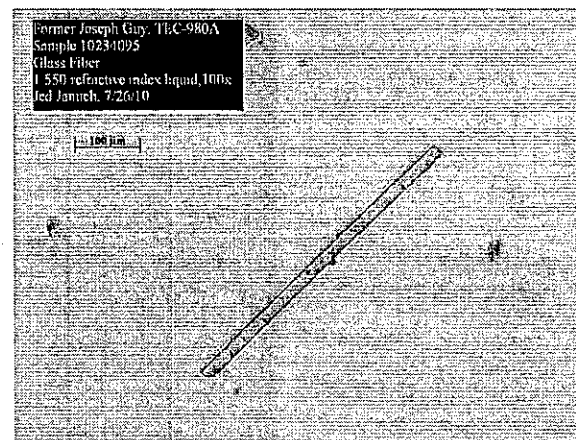
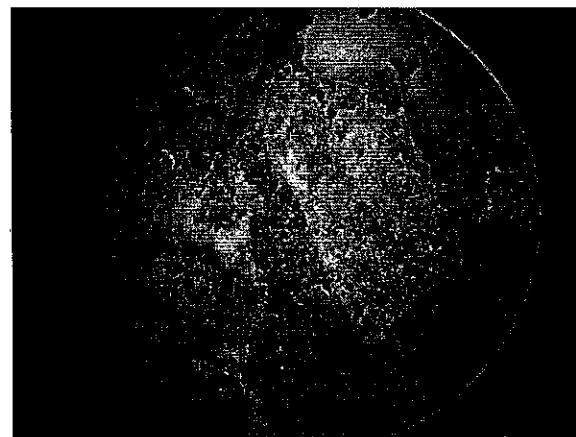
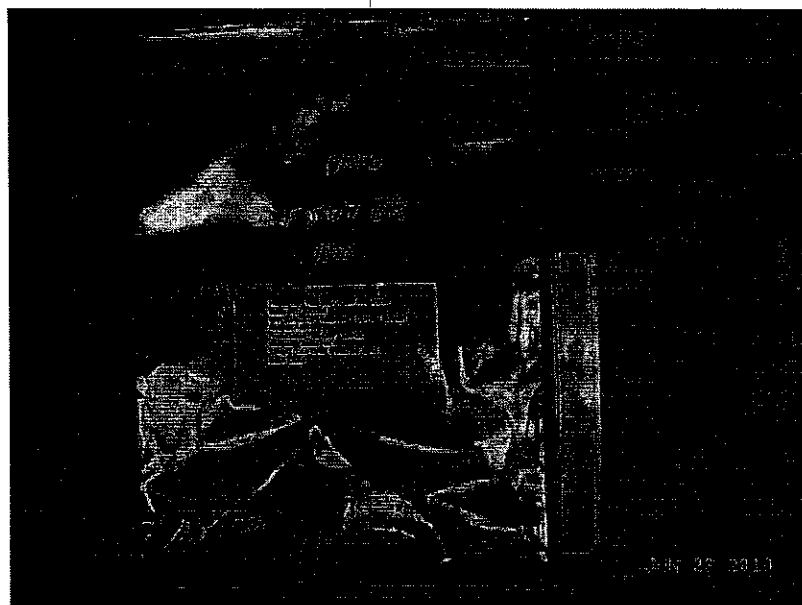
Photomicrographs
Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
Sample 10234093



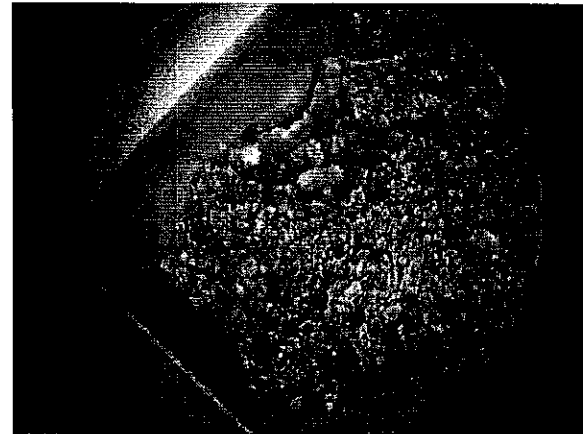
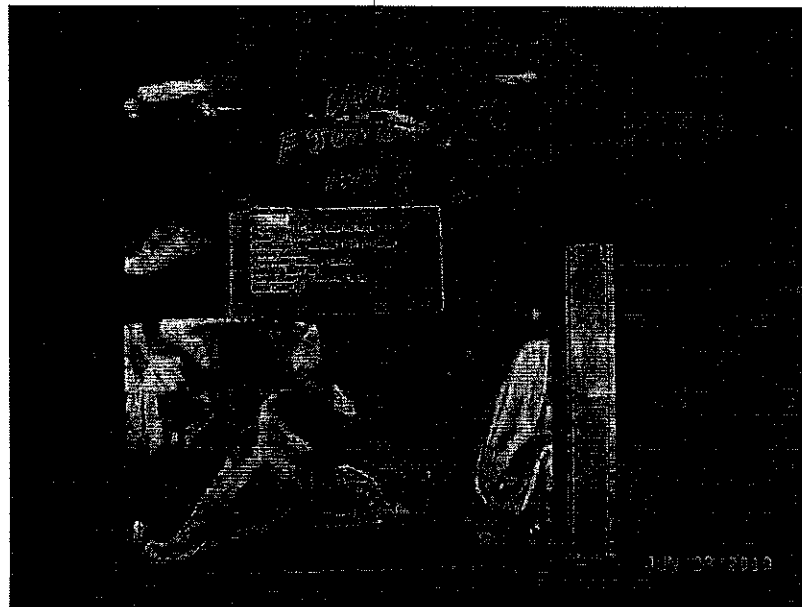
Photomicrographs
Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
Sample 10234094



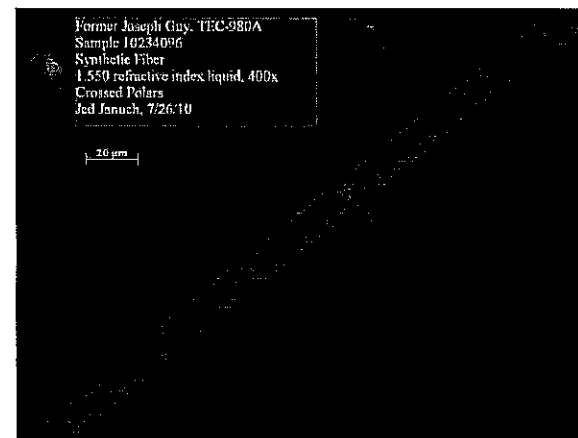
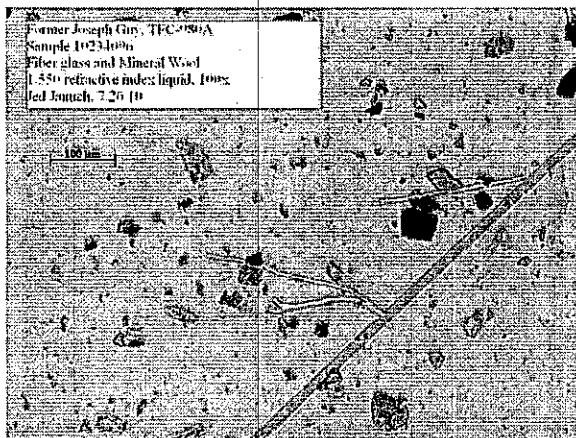
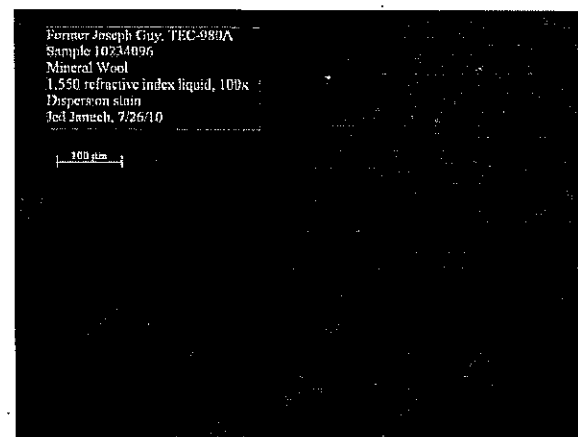
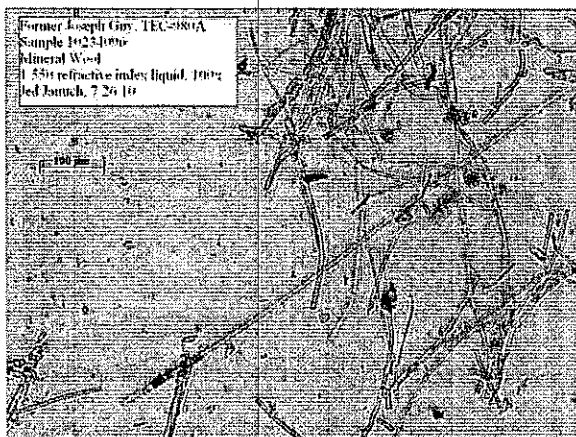
Photomicrographs
Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
Sample 10234095



Photomicrographs
Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
Sample 10234096



Photomicrographs
Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
Sample 10234096 - continued



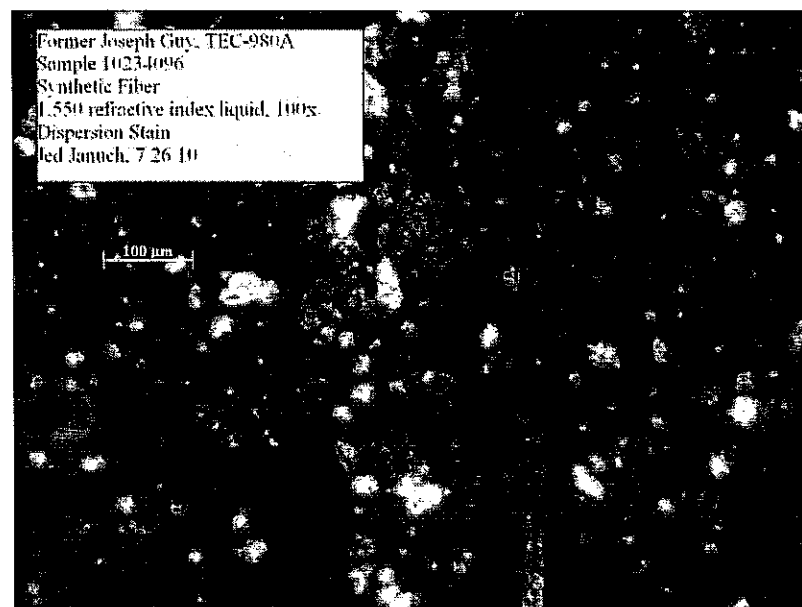
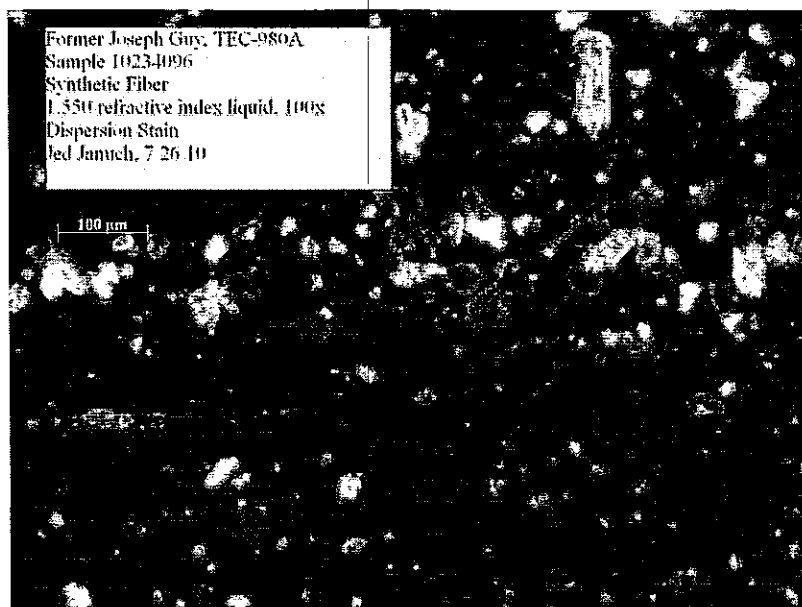
Photomicrographs

Former Joseph Guy Community Center - Brownfield Site

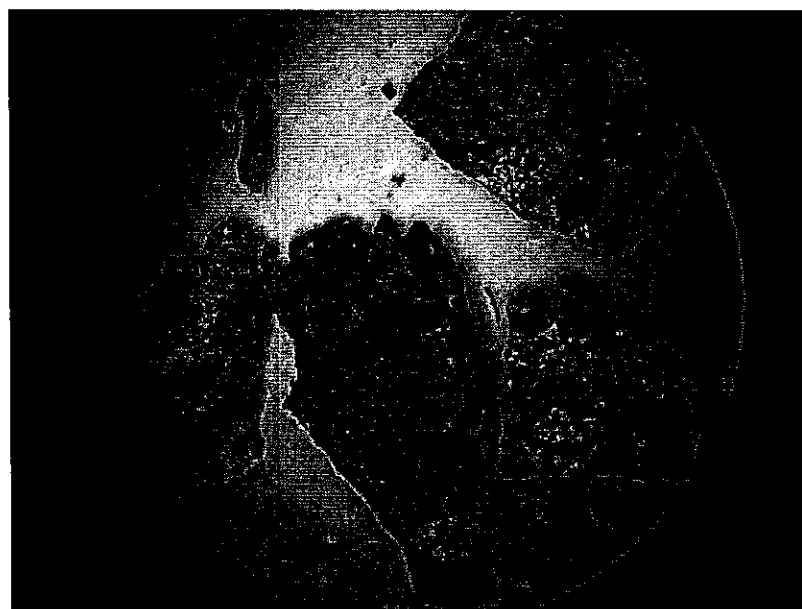
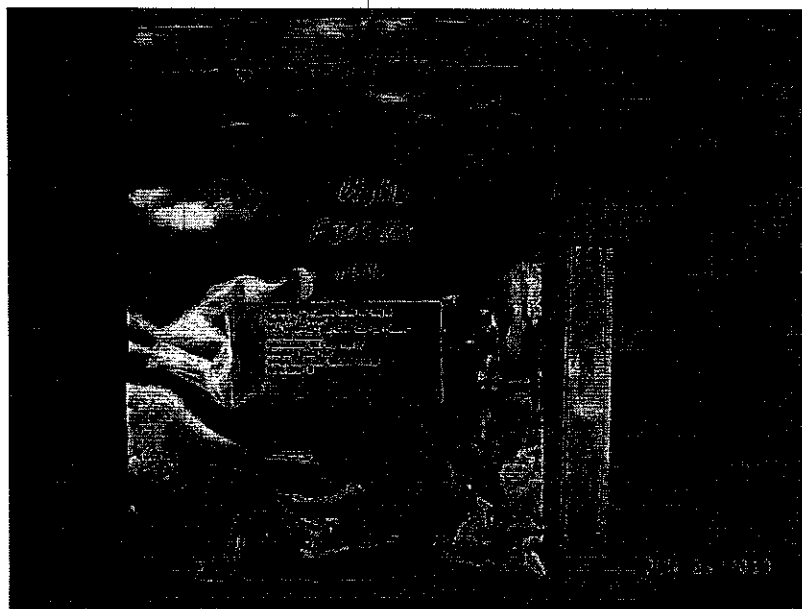
Project Code: TEC-980A

Analyst: Jed Januch

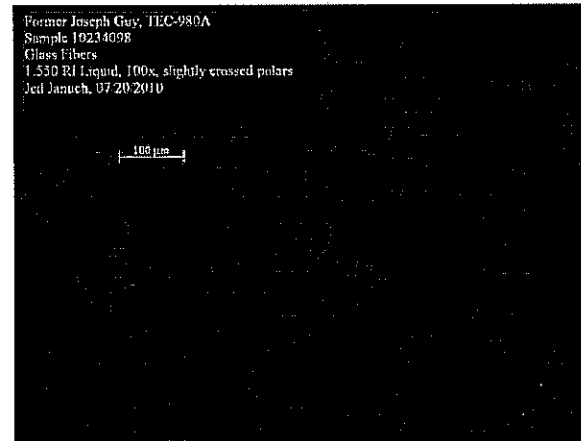
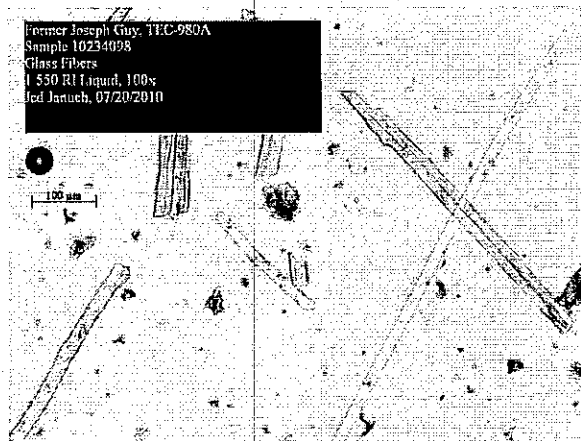
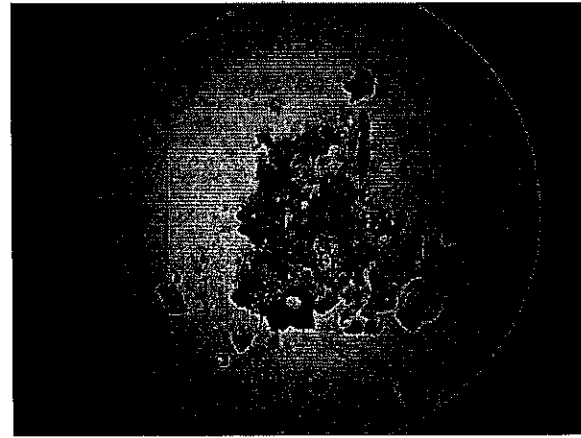
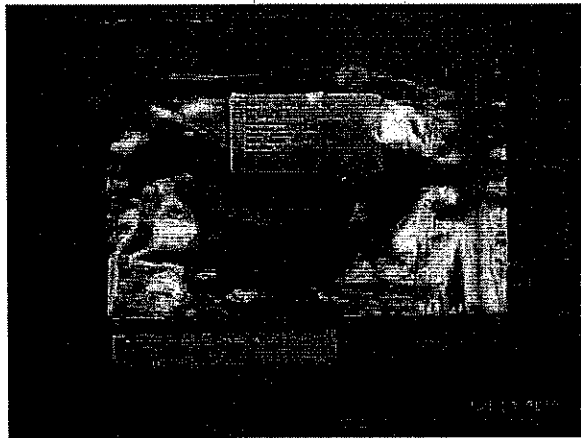
Sample 10234096 - continued



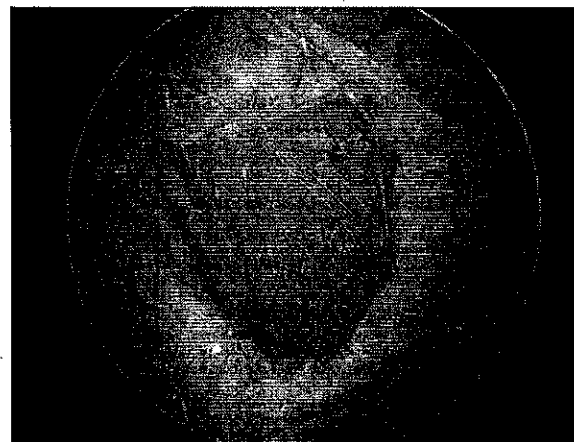
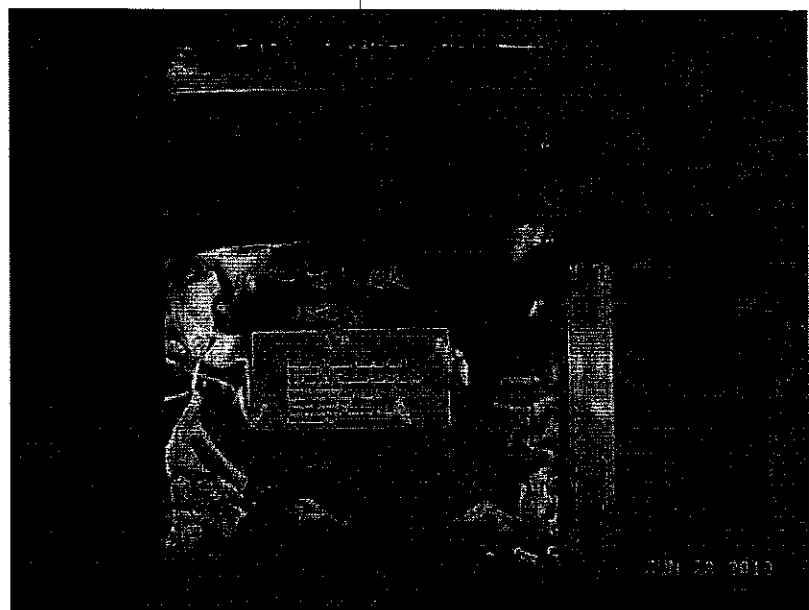
Photomicrographs
Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
Sample 10234097



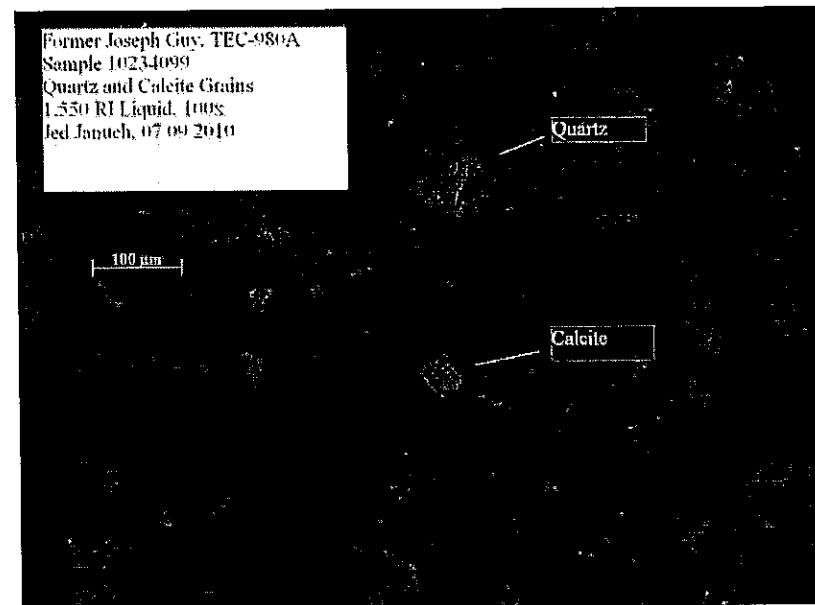
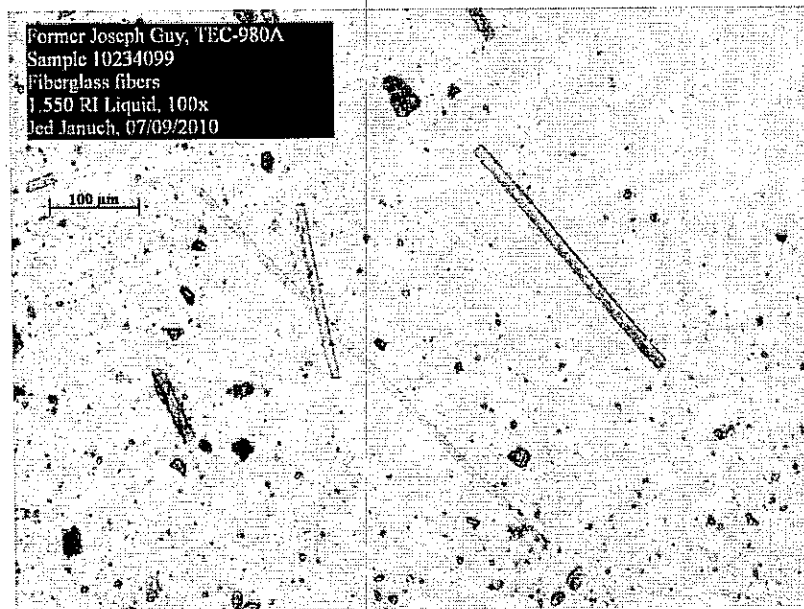
Photomicrographs
Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
Sample 10234098



Photomicrographs
Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
Sample 10234099



Photomicrographs
Former Joseph Guy Community Center - Brownfield Site
Project Code: TEC-980A
Analyst: Jed Januch
Sample 10234099 - continued



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E

Chain-of-Custody Forms

USEPA Contract Laboratory Program Generic Chain of Custody

Case No: 40216
DAS No:
SDG No: **L**

Date Shipped: 6/16/2010 Carrier Name: Hand Delivery Airbill No: Shipped to: Columbia Analytical Services - Kelso 1317 S 13th Ave Kelso WA 98626	Chain Of Custody Record		Sampler Signature: <i>R Brown</i>	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____		
	Relinquished By	(Date/Time)	Received By		(Date/Time)	
	1	<i>Kevin Larkin</i>	<i>6/16/10</i>		<i>afull</i>	<i>6/16/10</i>
	2					
	3					
4						

SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY	
							SAMPLE No	Sample Condition On Receipt
FJ19SS	Soil (0"-12")/ Linda Costello	G	(21)	10234089 (Ice Only) (1)	FJ19SS	S: 06/09/2010 12:52		
FJ20SS	Soil (0"-12")/ Linda Costello	G	(21)	10234090 (Ice Only) (1)	FJ20SS	S: 06/09/2010 12:58		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC:	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :
Analysis Key: = RRO & DRO	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium	Type/Designate : Composite = C, Grab = G, Both = B	Custody Seal Intact? _____	Shipment Iced? _____

COC Number : 10-4097213-061410-0005

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

**Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form**

PC LD

Client / Project: 45 Service Request K10 06400
 Received: 6/21/10 Opened: 6/21/10 By: [Signature]

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
 2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* NA
 3. Were custody seals on coolers? NA Y N If yes, how many and where? _____
 If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID	NA	Tracking Number	NA	Filed
<u>16</u>	<u>-</u>	<u>281</u>					

7. Packing material used. *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Sleeves* *Other* _____
 8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
 9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
 10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
 11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
 12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
 13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
 14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
 15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count	Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

USEPA Contract Laboratory Program Generic Chain of Custody

Case No: 40216

DAS No:

SDG No:

L

Date Shipped: 6/11/2010 Carrier Name: FedEx Airbill No: 860781082228 Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 2812925277	Chain Of Custody Record		Sampler Signature:	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____	
	Relinquished By	(Date/Time)	Received By		(Date/Time)
	1				
	2				
	3				

SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY	
							SAMPLE No	Sample Condition On Receipt
MJCF30	Soil (0"-6")/ Linda Costello	G	(21)	10234050 (Ice Only) (1)	FJ01SS	S: 06/09/2010 09:42		
MJCF31	Soil (0"-12")/ Linda Costello	G	(21)	10234051 (Ice Only) (1)	FJ02SS	S: 06/09/2010 09:52		
MJCF32	Soil (0"-12")/ Linda Costello	G	(21)	10234052 (Ice Only) (1)	FJ03SS	S: 06/09/2010 10:22		
MJCF33	Soil (0"-12")/ Linda Costello	G	(21)	10234053 (Ice Only) (1)	FJ04SS	S: 06/09/2010 10:27		
MJCF34	Soil (0"-12")/ Linda Costello	G	(21)	10234054 (Ice Only) (1)	FJ05SS	S: 06/09/2010 10:42		
MJCF35	Soil (0"-12")/ Linda Costello	G	(21)	10234055 (Ice Only) (1)	FJ06SS	S: 06/09/2010 10:55		
MJCF36	Soil (0"-12")/ Linda Costello	G	(21)	10234056 (Ice Only) (1)	FJ07SS	S: 06/09/2010 11:22		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC:	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :
Analysis Key:	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium	Type/Designate :	Composite = C, Grab = G, Both = B	Custody Seal Intact? _____
= CLP-TAL ICP & CVAA/CRQL				

COC Number : 10-4097213-061110-0001

LABORATORY COPY

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FORMS II Lite Help Desk, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602; e-Mail f2lite@fedcsc.com

USEPA Contract Laboratory Program Generic Chain of Custody

Case No: 40216

DAS No:

SDG No:

L

Date Shipped: 6/11/2010 Carrier Name: FedEx Airbill No: 860781082228 Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 2812925277	Chain Of Custody Record		Sampler Signature:	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____	
	Relinquished By	(Date/Time)	Received By		(Date/Time)
	1				
	2				
	3				

SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY	
							SAMPLE No	Sample Condition On Receipt
MJCF37	Soil (0"-12")/ Linda Costello	G	(21)	10234057 (Ice Only) (1)	FJ08SS	S: 06/09/2010 11:28		
MJCF38	Soil (0"-12")/ Linda Costello	G	(21)	10234058 (Ice Only) (1)	FJ09SS	S: 06/09/2010 12:26		
MJCF39	Soil (0"-12")/ Linda Costello	G	(21)	10234059 (Ice Only) (1)	FJ10SS	S: 06/09/2010 12:39		
MJCF40	Soil (0"-12")/ Linda Costello	G	(21)	10234060 (Ice Only) (1)	FJ11SS	S: 06/09/2010 13:00		
MJCF41	Soil (0"-12")/ Linda Costello	G	(21)	10234061 (Ice Only) (1)	FJ12SS	S: 06/09/2010 13:20		
MJCF42	Soil (0"-12")/ Linda Costello	G	(21)	10234062 (Ice Only) (1)	FJ13SS	S: 06/09/2010 13:31		
MJCF43	Soil (0"-12")/ Linda Costello	G	(21)	10234063 (Ice Only) (1)	FJ14SS	S: 06/09/2010 13:40		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC: MJCF41	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :	
Analysis Key:	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium		Type/Designate : Composite = C, Grab = G, Both = B		Custody Seal Intact? <input type="checkbox"/>
= CLP-TAL ICP & CVAA/CRQL					

COC Number : 10-4097213-061110-0001

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USEPA Contract Laboratory Program Generic Chain of Custody

Case No: 40216

DAS No:

SDG No:

L

Date Shipped: 6/11/2010 Carrier Name: FedEx Airbill No: 860781082228 Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 2812925277	Chain Of Custody Record		Sampler Signature:	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____	
	Relinquished By	(Date/Time)	Received By		(Date/Time)
	1				
	2				
	3				

SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY	
							SAMPLE No	Sample Condition On Receipt
MJCF44	Soil (0"-12")/ Linda Costello	G	(21)	10234064 (Ice Only) (1)	FJ15SS	S: 06/09/2010 14:06		
MJCF45	Soil (0"-12")/ Linda Costello	G	(21)	10234065 (Ice Only) (1)	FJ16SS	S: 06/09/2010 14:16		
MJCF46	Soil (0"-12")/ Linda Costello	G	(21)	10234066 (Ice Only) (1)	FJ17SS	S: 06/09/2010 14:22		
MJCF47	Soil (0"-12")/ Linda Costello	G	(21)	10234067 (Ice Only) (1)	FJ18SS	S: 06/09/2010 14:31		
MJCF48	Soil (0"-12")/ Linda Costello	G	(21)	10234068 (Ice Only) (1)	FJ11SB	S: 06/09/2010 13:05		
MJCF49	Soil (0"-12")/ Linda Costello	G	(21)	10234069 (Ice Only) (1)	FJ12SB	S: 06/09/2010 13:24		
MJCF50	Soil (0"-12")/ Linda Costello	G	(21)	10234070 (Ice Only) (1)	FJ13SB	S: 06/09/2010 13:35		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC: MJCF41, MJCF49	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :	
Analysis Key:	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium	Type/Designate :	Composite = C, Grab = G, Both = B	Custody Seal Intact? _____	Shipment Iced? _____
= CLP-TAL ICP & CVAA/CRQL					

COC Number : 10-4097213-061110-0001

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USEPA Contract Laboratory Program Generic Chain of Custody

Case No: 40216

DAS No:

SDG No:

L

Date Shipped: 6/11/2010 Carrier Name: FedEx Airbill No: 860781082228 Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 2812925277	Chain Of Custody Record		Sampler Signature:	For Lab Use Only	
	Relinquished By	(Date/Time)		Received By	(Date/Time)
	1				Unit Price: _____
	2				Transfer To: _____
	3				Lab Contract No: _____
4				Unit Price: _____	

SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY	
							SAMPLE No	Sample Condition On Receipt
MJCF51	Soil (0"-12")/ Linda Costello	G	(21)	10234071 (Ice Only) (1)	FJ14SB	S: 06/09/2010 13:46		
MJCF52	Soil (0"-12")/ Linda Costello	G	(21)	10234072 (Ice Only) (1)	FJ15SB	S: 06/09/2010 14:12		
MJCF54	Soil (0"-12")/ Linda Costello	G	(21)	10234074 (Ice Only) (1)	FJ17SB	S: 06/09/2010 14:26		
MJCF56	Soil (0"-12")/ Linda Costello	G	(21)	10234087 (Ice Only) (1)	FJ09SB	S: 06/09/2010 12:30		
MJCF57	Soil (0"-12")/ Linda Costello	G	(21)	10234088 (Ice Only) (1)	FJ10SB	S: 06/09/2010 12:43		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC: MJCF41, MJCF49	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :	
Analysis Key:	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium Type/Designate : Composite = C, Grab = G, Both = B			Custody Seal Intact? _____	Shipment Iced? _____
= CLP-TAL ICP & CVAA/CRQL					

COC Number : 10-4097213-061110-0001

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USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 40216

DAS No:

SDG No:

L

Date Shipped: 6/11/2010 Carrier Name: FedEx Airbill No: 86078102217 Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 2812925277	Chain Of Custody Record		Sampler Signature:	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____	
	Relinquished By	(Date/Time)	Received By		(Date/Time)
	1				
	2				
	3				

ORGANIC SAMPLE No.	MATRIX/SAMPLER	TYPE	ANALYSIS/TURNAROUND	TAG No./PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No	FOR LAB USE ONLY Sample Condition On Receipt
JCF30	Soil (0"-6")/ Linda Costello	G	CLP SVSIM (21)	10234050 (Ice Only) (1)	FJ01SS	S: 06/09/2010 09:42		
JCF31	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234051 (Ice Only) (1)	FJ02SS	S: 06/09/2010 09:52		
JCF32	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234052 (Ice Only) (1)	FJ03SS	S: 06/09/2010 10:22		
JCF33	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234053 (Ice Only) (1)	FJ04SS	S: 06/09/2010 10:27		
JCF34	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234054 (Ice Only) (1)	FJ05SS	S: 06/09/2010 10:42		
JCF35	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234055 (Ice Only) (1)	FJ06SS	S: 06/09/2010 10:55		
JCF36	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234056 (Ice Only) (1)	FJ07SS	S: 06/09/2010 11:22		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC:	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :
Analysis Key:	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium	Type/Designate :	Composite = C, Grab = G, Both = B	Custody Seal Intact? _____
CLP SVSIM = CLP TCL Semivolatiles-SIM				

COC Number : 10-4097213-061110-0003

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USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 40216

DAS No:

SDG No:

L

Date Shipped: 6/11/2010 Carrier Name: FedEx Airbill No: 86078102217 Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 2812925277	Chain Of Custody Record		Sampler Signature:	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____	
	Relinquished By	(Date/Time)	Received By		(Date/Time)
	1				
	2				
	3				

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No	FOR LAB USE ONLY Sample Condition On Receipt
JCF37	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234057 (Ice Only) (1)	FJ08SS	S: 06/09/2010 11:28		
JCF38	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234058 (Ice Only) (1)	FJ09SS	S: 06/09/2010 12:26		
JCF39	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234059 (Ice Only) (1)	FJ10SS	S: 06/09/2010 12:39		
JCF40	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234060 (Ice Only) (1)	FJ11SS	S: 06/09/2010 13:00		
JCF41	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234061 (Ice Only) (1)	FJ12SS	S: 06/09/2010 13:20		
JCF42	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234062 (Ice Only) (1)	FJ13SS	S: 06/09/2010 13:31		
JCF43	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234063 (Ice Only) (1)	FJ14SS	S: 06/09/2010 13:40		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC: JCF41	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :
Analysis Key:	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium	Type/Designate :	Composite = C, Grab = G, Both = B	Custody Seal Intact? _____
Shipment Iced? _____				
CLP SVSIM = CLP TCL Semivolatiles-SIM				

COC Number : 10-4097213-061110-0003

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

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USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 40216

DAS No:

SDG No:

L

Date Shipped: 6/11/2010 Carrier Name: FedEx Airbill No: 86078102217 Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 2812925277	Chain Of Custody Record		Sampler Signature:	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____	
	Relinquished By	(Date/Time)	Received By		(Date/Time)
	1				
	2				
	3				

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No	FOR LAB USE ONLY Sample Condition On Receipt
JCF44	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234064 (Ice Only) (1)	FJ15SS	S: 06/09/2010 14:06		
JCF45	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234065 (Ice Only) (1)	FJ16SS	S: 06/09/2010 14:16		
JCF46	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234066 (Ice Only) (1)	FJ17SS	S: 06/09/2010 14:22		
JCF47	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234067 (Ice Only) (1)	FJ18SS	S: 06/09/2010 14:31		
JCF48	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234068 (Ice Only) (1)	FJ11SB	S: 06/09/2010 13:05		
JCF49	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234069 (Ice Only) (1)	FJ12SB	S: 06/09/2010 13:24		
JCF50	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234070 (Ice Only) (1)	FJ13SB	S: 06/09/2010 13:35		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC: JCF41, JCF49	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :
Analysis Key:	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium	Type/Designate :	Composite = C, Grab = G, Both = B	Custody Seal Intact? _____
CLP SVSIM = CLP TCL Semivolatiles-SIM				

COC Number : 10-4097213-061110-0003

LABORATORY COPY

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USEPA Contract Laboratory Program Organic Traffic Report & Chain of Custody Record

Case No: 40216

DAS No:

SDG No:

L

Date Shipped: 6/11/2010 Carrier Name: FedEx Airbill No: 86078102217 Shipped to: A4 Scientific 1544 Sawdust Road Suite 505 The Woodlands TX 77380 2812925277	Chain Of Custody Record		Sampler Signature:		For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____	
	Relinquished By	(Date/Time)	Received By	(Date/Time)		
	1					
	2					
	3					

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	INORGANIC SAMPLE No	FOR LAB USE ONLY Sample Condition On Receipt
JCF51	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234071 (Ice Only) (1)	FJ14SB	S: 06/09/2010 13:46		
JCF52	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234072 (Ice Only) (1)	FJ15SB	S: 06/09/2010 14:12		
JCF54	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234074 (Ice Only) (1)	FJ17SB	S: 06/09/2010 14:26		
JCF56	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234087 (Ice Only) (1)	FJ09SB	S: 06/09/2010 12:30		
JCF57	Soil (0"-12")/ Linda Costello	G	CLP SVSIM (21)	10234088 (Ice Only) (1)	FJ10SB	S: 06/09/2010 12:43		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC: JCF41, JCF49	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :	
Analysis Key:	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium		Type/Designate :	Composite = C, Grab = G, Both = B	Custody Seal Intact? _____
CLP SVSIM = CLP TCL Semivolatiles-SIM					

COC Number : 10-4097213-061110-0003

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

FORMS II Lite Help Desk, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602; e-Mail f2lite@fedcsc.com

USEPA Contract Laboratory Program Generic Chain of Custody

Case No: 40216

DAS No:

SDG No:

L

Date Shipped: 6/21/2010 Carrier Name: FedEx Airbill No: Shipped to: Axys Analytical Services LTD 2045 Mills Road Sydney V8L5X2	Chain Of Custody Record		Sampler Signature:		For Lab Use Only	
	Relinquished By	(Date/Time)	Received By	(Date/Time)	Lab Contract No:	
	1				Unit Price:	
	2				Transfer To:	
	3				Lab Contract No:	
4				Unit Price:		

SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY	
							SAMPLE No	Sample Condition On Receipt
JCF30	Soil (0"-6")/ Linda Costello	G	PCDD (21)	10234050 (Ice Only) (1)	FJ01SS	S: 06/09/2010 09:42		
JCF32	Soil (0"-12")/ Linda Costello	G	PCDD (21)	10234052 (Ice Only) (1)	FJ03SS	S: 06/09/2010 10:22		
JCF34	Soil (0"-12")/ Linda Costello	G	PCDD (21)	10234054 (Ice Only) (1)	FJ05SS	S: 06/09/2010 10:42		
JCF35	Soil (0"-12")/ Linda Costello	G	PCDD (21)	10234055 (Ice Only) (1)	FJ06SS	S: 06/09/2010 10:55		
JCF36	Soil (0"-12")/ Linda Costello	G	PCDD (21)	10234056 (Ice Only) (1)	FJ07SS	S: 06/09/2010 11:22		
JCF40	Soil (0"-12")/ Linda Costello	G	PCDD (21)	10234060 (Ice Only) (1)	FJ11SS	S: 06/09/2010 13:00		
JCF41	Soil (0"-12")/ Linda Costello	G	PCDD (21)	10234061 (Ice Only) (1)	FJ12SS	S: 06/09/2010 13:20		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC: JCF41	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :
Analysis Key:	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium	Type/Designate :	Composite = C, Grab = G, Both = B	Custody Seal Intact? <input type="checkbox"/> Shipment Iced? <input type="checkbox"/>
PCDD = Dioxins and Furans				

COC Number : 10-4097213-062110-0001

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USEPA Contract Laboratory Program Generic Chain of Custody

Case No: 40216

DAS No:

SDG No:

L

Date Shipped: 6/21/2010 Carrier Name: FedEx Airbill No: Shipped to: Axys Analytical Services LTD 2045 Mills Road Sydney V8L5X2	Chain Of Custody Record		Sampler Signature: For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____		
	Relinquished By	(Date/Time)		Received By	(Date/Time)
	1				
	2				
	3				
4					

SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY	
							SAMPLE No	Sample Condition On Receipt
JCF42	Soil (0"-12")/ Linda Costello	G	PCDD (21)	10234062 (Ice Only) (1)	FJ13SS	S: 06/09/2010 13:31		
JCF44	Soil (0"-12")/ Linda Costello	G	PCDD (21)	10234064 (Ice Only) (1)	FJ15SS	S: 06/09/2010 14:06		
JCF45	Soil (0"-12")/ Linda Costello	G	PCDD (21)	10234065 (Ice Only) (1)	FJ16SS	S: 06/09/2010 14:16		
JCF47	Soil (0"-12")/ Linda Costello	G	PCDD (21)	10234067 (Ice Only) (1)	FJ18SS	S: 06/09/2010 14:31		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC: JCF41	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :	
Analysis Key: Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium		Type/Designate : Composite = C, Grab = G, Both = B		Custody Seal Intact? ____	Shipment Iced? ____
PCDD = Dioxins and Furans					

COC Number : 10-4097213-062110-0001

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USEPA Contract Laboratory Program Generic Chain of Custody

Case No: 40216

DAS No:

SDG No:

L

Date Shipped: 6/21/2010 Carrier Name: FedEx Airbill No: Shipped to: Axys Analytical Services LTD 2045 Mills Road Sydney V8L5X2	Chain Of Custody Record		Sampler Signature:	For Lab Use Only	
	Relinquished By	(Date/Time)		Received By	(Date/Time)
	1				Unit Price: _____
	2				Transfer To: _____
	3				Lab Contract No: _____
4				Unit Price: _____	

SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY	
							SAMPLE No	Sample Condition On Receipt
JCF58	Wipe Sample/ Linda Costello	G	PCDD (21)	10234078 (Ice Only) (1)	FJ01WI	S: 06/09/2010 10:00		
JCF59	Wipe Sample/ Linda Costello	G	PCDD (21)	10234079 (Ice Only) (1)	FJ02WI	S: 06/09/2010 10:13		
JCF60	Wipe Sample/ Linda Costello	G	PCDD (21)	10234080 (Ice Only) (1)	FJ03WI	S: 06/09/2010 10:34		
JCF61	Wipe Sample/ Linda Costello	G	PCDD (21)	10234081 (Ice Only) (1)	FJ04WI	S: 06/09/2010 10:49		
JCF62	Wipe Sample/ Linda Costello	G	PCDD (21)	10234082 (Ice Only) (1)	FJ05WI	S: 06/09/2010 11:11		
JCF63	Wipe Sample/ Linda Costello	G	PCDD (21)	10234083 (Ice Only) (1)	FJ06WI	S: 06/09/2010 11:33		
JCF64	Wipe Sample/ Linda Costello	G	PCDD (21)	10234084 (Ice Only) (1)	FJ07WI	S: 06/09/2010 14:45		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC:	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :
Analysis Key:	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium	Type/Designate :	Composite = C, Grab = G, Both = B	Custody Seal Intact? <input type="checkbox"/> Shipment Iced? <input type="checkbox"/>
PCDD = Dioxins and Furans				

COC Number : 10-4097213-062110-0002

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USEPA Contract Laboratory Program Generic Chain of Custody

Case No: 40216

DAS No:

SDG No:

L

Date Shipped: 6/21/2010 Carrier Name: FedEx Airbill No: Shipped to: Axys Analytical Services LTD 2045 Mills Road Sydney V8L5X2	Chain Of Custody Record		Sampler Signature:	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____	
	Relinquished By	(Date/Time)	Received By		(Date/Time)
	1				
	2				
	3				
4					

SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY	
							SAMPLE No	Sample Condition On Receipt
JCF65	Wipe Sample/ Linda Costello	G	PCDD (21)	10234085 (Ice Only) (1)	FJ08WI	S: 06/09/2010 14:53		
JCF66	Wipe Sample/ Linda Costello	G	PCDD (21)	10234086 (Ice Only) (1)	FJ09WI	S: 06/09/2010 15:02		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC:	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :
Analysis Key:	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium	Type/Designate : Composite = C, Grab = G, Both = B	Custody Seal Intact? <input type="checkbox"/>	Shipment Iced? <input type="checkbox"/>
PCDD = Dioxins and Furans				

COC Number : 10-4097213-062110-0002

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USEPA Contract Laboratory Program Generic Chain of Custody

Case No: 40216
DAS No:
SDG No:

L

Date Shipped: 6/16/2010 Carrier Name: Hand Delivery Airbill No: Shipped to: Columbia Analytical Services - Kelso 1317 S 13th Ave Kelso WA 98626	Chain Of Custody Record		Sampler Signature:	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____	
	Relinquished By	(Date/Time)	Received By		(Date/Time)
	1				
	2				
	3				

SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY	
							SAMPLE No	Sample Condition On Receipt
FJ19SS	Soil (0"-12")/ Linda Costello	G	(21)	10234089 (Ice Only) (1)	FJ19SS	S: 06/09/2010 12:52		
FJ20SS	Soil (0"-12")/ Linda Costello	G	(21)	10234090 (Ice Only) (1)	FJ20SS	S: 06/09/2010 12:58		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC:	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :
Analysis Key: = RRO & DRO	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium		Type/Designate : Composite = C, Grab = G, Both = B	Custody Seal Intact? _____
Shipment Iced? _____				

COC Number : 10-4097213-061410-0005

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USEPA Contract Laboratory Program Generic Chain of Custody

Case No: 40216

DAS No:

SDG No:

L

Date Shipped: 6/11/2010 Carrier Name: Hand Delivery Airbill No: Shipped to: Manchester Environmental Laboratory 7411 Beach Drive East Port Orchard WA 98366 3608718747	Chain Of Custody Record		Sampler Signature:	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____	
	Relinquished By	(Date/Time)	Received By		(Date/Time)
	1				
	2				
	3				

SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY	
							SAMPLE No	Sample Condition On Receipt
FJ01IN	Bulk/ S. Hall	G	ASBEST (21)	10234076 (Ice Only) (1)	FJ01BK	S: 06/09/2010 14:45		
FJ02IN	Bulk/ S. Hall	G	ASBEST (21)	10234077 (Ice Only) (1)	FJ02BK	S: 06/09/2010 14:48		
FJ03BK	Bulk/ S. Hall	G	ASBEST (21)	10234091 (Ice Only) (1)	FJ03BK	S: 06/09/2010 14:50		
FJ04BK	Bulk/ S. Hall	G	ASBEST (21)	10234092 (Ice Only) (1)	FJ04BK	S: 06/09/2010 14:58		
FJ05BK	Bulk/ Steve Hall	G	ASBEST (21)	10234093 (Ice Only) (1)	FJ05BK	S: 06/09/2010 15:00		
FJ06BK	Bulk/ Steve Hall	G	ASBEST (21)	10234094 (Ice Only) (1)	FJ06BK	S: 06/09/2010 15:05		
FJ07BK	Bulk/ Steve Hall	G	ASBEST (21)	10234095 (Ice Only) (1)	FJ07BK	S: 06/09/2010 15:10		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC:	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :
Analysis Key:	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium	Type/Designate :	Composite = C, Grab = G, Both = B	Custody Seal Intact? _____ Shipment Iced? _____
ASBEST = Asbestos				

COC Number : 10-4097213-061110-0002

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USEPA Contract Laboratory Program Generic Chain of Custody

Case No: 40216
DAS No:
SDG No:

L

Date Shipped: 6/11/2010 Carrier Name: Hand Delivery Airbill No: Shipped to: Manchester Environmental Laboratory 7411 Beach Drive East Port Orchard WA 98366 3608718747	Chain Of Custody Record		Sampler Signature:	For Lab Use Only Lab Contract No: _____ Unit Price: _____ Transfer To: _____ Lab Contract No: _____ Unit Price: _____	
	Relinquished By	(Date/Time)	Received By		(Date/Time)
	1				
	2				
	3				

SAMPLE No.	MATRIX/ SAMPLER	TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/Bottles	SAMPLING LOCATION	SAMPLE COLLECT DATE/TIME	FOR LAB USE ONLY	
							SAMPLE No	Sample Condition On Receipt
FJ08BK	Bulk/ Steve Hall	G	ASBEST (21)	10234096 (Ice Only) (1)	FJ08BK	S: 06/09/2010 15:12		
FJ09BK	Bulk/ Steve Hall	G	ASBEST (21)	10234097 (Ice Only) (1)	FJ09BK	S: 06/09/2010 15:16		
FJ10BK	Bulk/ Steve Hall	G	ASBEST (21)	10234098 (Ice Only) (1)	FJ10BK	S: 06/09/2010 15:20		
FJ11BK	Bulk/ Steve Hall	G	ASBEST (21)	10234099 (Ice Only) (1)	FJ11BK	S: 06/09/2010 15:28		
FJ12BK	Bulk/ Steve Hall	G	ASBEST (21)	ABC-10234073 (Ice Only) (1)	FJ12BK	S: 06/09/2010 15:30		

Shipment for Case Complete? Y	Sample (s) to be used for laboratory QC:	Additional Sampler Signature (s):	Cooler Temperature Upon Receipt:	Chain of Custody Seal Number :
Analysis Key: ASBEST = Asbestos	Concentration : L = Low, M = Medium, H = High, L/M = Low/Medium	Type/Designate : Composite = C, Grab = G, Both = B	Custody Seal Intact? _____	Shipment Iced? _____

COC Number : 10-4097213-061110-0002

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F

Toxicity Equivalency Quotient Calculations

Dioxins/Furans Toxic Equivalency Quotient Calculations

EPA Sample ID Sample Station ID CLP Sample ID	10234050 FJ01SS MJCF30				10234052 FJ03SS MJCF32				10234054 FJ05SS MJCF34				10234055 FJ06SS MJCF35				10234056 FJ07SS MJCF36				10234060 FJ11SS MJCF40							
	C	Q	TEF	C x TEF	C	Q	TEF	C x TEF	C	Q	TEF	C x TEF	C	Q	TEF	C x TEF	C	Q	TEF	C x TEF	C	Q	TEF	C x TEF				
Dioxins/Furans (ng/kg)																												
2,3,7,8-TCDD	2.33	x 1 =	2.33		0.119	U	x 1 =	0.119		1.35	U	x 1 =	1.35		1.84	x 1 =	1.84		2.25	U	x 1 =	2.25		0.061	JQ	x 1 =	0.061	
1,2,3,7,8-PeCDD	5.89	x 1 =	5.89		0.269	U	x 1 =	0.269		4.27	JQ	x 1 =	4.27		5.82	x 1 =	5.82		4.60	JQ	x 1 =	4.6		0.058	JQ	x 1 =	0.058	
1,2,3,4,7,8-HxCDD	5.80	x 0.1 =	0.58		0.376	JQ	x 0.1 =	0.0376		4.53	JQ	x 0.1 =	0.453		5.11	JQ	x 0.1 =	0.511		2.37	U	x 0.1 =	0.237		0.0464	U	x 0.1 =	0.00464
1,2,3,6,7,8-HxCDD	9.47	x 0.1 =	0.947		0.771	U	x 0.1 =	0.771		8.20	x 0.1 =	0.82		8.07	x 0.1 =	0.807		4.66	x 0.1 =	0.466		0.102	U	x 0.1 =	0.0102		0.0102	
1,2,3,7,8,9-HxCDD	14.6	x 0.1 =	1.46		0.714	U	x 0.1 =	0.714		14.1	x 0.1 =	1.41		13.2	x 0.1 =	1.32		7.58	x 0.1 =	0.758		0.115	JQ	x 0.1 =	0.0115		0.0115	
1,2,3,4,6,7,8-HpCDD	92.7	x 0.01 =	0.927		14	JQ	x 0.01 =	0.14		64.8	x 0.01 =	0.648		58.5	x 0.01 =	0.585		49.2	x 0.01 =	0.492		2.97	JQ	x 0.01 =	0.0297		0.0297	
OCDD	631	x 0.0003 =	0.1893		125	JQ	x 0.0003 =	0.0375		304	x 0.0003 =	0.0912		308	x 0.0003 =	0.0924		309	x 0.0003 =	0.0927		35.3	x 0.0003 =	0.01059		0.01059		
2,3,7,8-TCDD TEQ			12.3				2.1					9.0				11.0										0.2		
2,3,7,8-TCDF	116	x 0.1 =	11.6		3.3	JQ	x 0.1 =	0.33		66.9	x 0.1 =	6.69		83.9	x 0.1 =	8.39		61.1	x 0.1 =	6.11		0.294	U	x 0.1 =	0.0294		0.0294	
1,2,3,7,8-PeCDF	12.7	x 0.03 =	0.381		0.579	U	x 0.03 =	0.01737		9.49	x 0.03 =	0.2847		15.9	x 0.03 =	0.477		6.33	x 0.03 =	0.1899		0.055	JQ	x 0.03 =	0.00165		0.00165	
2,3,4,7,8-PeCDF	30.4	x 0.3 =	9.12		0.893	JQ	x 0.3 =	0.2679		18.7	x 0.3 =	5.61		23.6	x 0.3 =	7.08		8.57	x 0.3 =	2.571		0.107	U	x 0.3 =	0.0321		0.0321	
1,2,3,4,7,8-HxCDF	16.3	x 0.1 =	1.63		0.763	JQ	x 0.1 =	0.0763		19.3	x 0.1 =	1.93		25.1	x 0.1 =	2.51		7.70	x 0.1 =	0.77		0.0464	U	x 0.1 =	0.00464		0.00464	
1,2,3,6,7,8-HxCDF	18.4	x 0.1 =	1.84		0.92	JQ	x 0.1 =	0.092		20.6	x 0.1 =	2.06		23.6	x 0.1 =	2.36		6.63	x 0.1 =	0.663		0.073	U	x 0.1 =	0.0073		0.0073	
1,2,3,7,8,9-HxCDF	1.2	U	x 0.1 =	0.12	0.165	U	x 0.1 =	0.0165		1.38	JQ	x 0.1 =	0.138		2.06	JQ	x 0.1 =	0.206		1.06	JQ	x 0.1 =	0.106		0.0464	U	x 0.1 =	0.00464
2,3,4,6,7,8-HxCDF	35.0	x 0.1 =	3.5		0.756	JQ	x 0.1 =	0.0756		31.6	x 0.1 =	3.16		22.5	x 0.1 =	2.25		6.09	x 0.1 =	0.609		0.057	JQ	x 0.1 =	0.0057		0.0057	
1,2,3,4,6,7,8-HpCDF	75.1	x 0.01 =	0.751		5.06	x 0.01 =	0.0506		114	x 0.01 =	1.14		90.3	x 0.01 =	0.903		15.7	x 0.01 =	0.157		1.09	JQ	x 0.01 =	0.0109		0.0109		
1,2,3,4,7,8,9-HpCDF	6.94	x 0.01 =	0.0694		0.689	JQ	x 0.01 =	0.00689		12.5	x 0.01 =	0.125		9.60	x 0.01 =	0.096		3.64	U	x 0.01 =	0.0364		0.123	U	x 0.01 =	0.00123		0.00123
OCDF	76.9	x 0.0003 =	0.02307		14.4	x 0.0003 =	0.00432		70.6	x 0.0003 =	0.02118		50.0	x 0.0003 =	0.015		2.72	JQ	x 0.0003 =	0.000816		6.1	JQ	x 0.0003 =	0.00183		0.00183	
2,3,7,8-TCDF TEQ			29.0				0.9					21.2				24.3										11.2		0.1

Dioxins/Furans Toxic Equiva																				
EPA Sample ID Sample Station ID CLP Sample ID	10234061 FJ12SS MJCF41				10234062 FJ13SS MJCF42				10234064 FJ15SS MJCF44				10234065 FJ16SS MJCF45				10234067 FJ18SS MJCF47			
	C	Q	TEF	C x TEF	C	Q	TEF	C x TEF	C	Q	TEF	C x TEF	C	Q	TEF	C x TEF	C	Q	TEF	C x TEF
Dioxins/Furans (ng/kg)																				
2,3,7,8-TCDD	0.092	U	x 1 =	0.092	0.0483	U	x 1 =	0.0483	0.097	U	x 1 =	0.097	0.0959	U	x 1 =	0.0959	0.056	U	x 1 =	0.056
1,2,3,7,8-PeCDD	0.084	U	x 1 =	0.084	0.074	JQ	x 1 =	0.074	0.66	JQ	x 1 =	0.66	0.0564	U	x 1 =	0.0564	0.155	JQ	x 1 =	0.155
1,2,3,4,7,8-HxCDD	0.088	JQ	x 0.1 =	0.0088	0.168	JQ	x 0.1 =	0.0168	1.84	JQ	x 0.1 =	0.184	0.117	U	x 0.1 =	0.0117	0.293	U	x 0.1 =	0.0293
1,2,3,6,7,8-HxCDD	0.129	U	x 0.1 =	0.0129	0.4	JQ	x 0.1 =	0.04	4.66	JQ	x 0.1 =	0.466	0.175	U	x 0.1 =	0.0175	0.56	JQ	x 0.1 =	0.056
1,2,3,7,8,9-HxCDD	0.118	JQ	x 0.1 =	0.0118	0.328	U	x 0.1 =	0.0328	4.09	JQ	x 0.1 =	0.409	0.289	U	x 0.1 =	0.0289	0.625	JQ	x 0.1 =	0.0625
1,2,3,4,6,7,8-HpCDD	1.37	JQ	x 0.01 =	0.0137	11.9		x 0.01 =	0.119	127		x 0.01 =	1.27	5.38		x 0.01 =	0.0538	15.5		x 0.01 =	0.155
OCDD	14.3		x 0.0003 =	0.00429	97.5		x 0.0003 =	0.02925	1030		x 0.0003 =	0.309	47.9		x 0.0003 =	0.01437	151		x 0.0003 =	0.0453
2,3,7,8-TCDD TEQ				0.2				0.4				3.4				0.3				0.6
Dioxins/Furans (ng/kg)																				
2,3,7,8-TCDF	0.509	JQ	x 0.1 =	0.0509	0.507	JQ	x 0.1 =	0.0507	0.809	JQ	x 0.1 =	0.0809	0.559	JQ	x 0.1 =	0.0559	1.51		x 0.1 =	0.151
1,2,3,7,8-PeCDF	0.116	JQ	x 0.03 =	0.00348	0.086	U	x 0.03 =	0.00258	0.184	JQ	x 0.03 =	0.00552	0.115	U	x 0.03 =	0.00345	0.179	U	x 0.03 =	0.00537
2,3,4,7,8-PeCDF	0.255	U	x 0.3 =	0.0765	0.218	U	x 0.3 =	0.0654	0.543	U	x 0.3 =	0.1629	0.113	U	x 0.3 =	0.0339	0.422	U	x 0.3 =	0.1266
1,2,3,4,7,8-HxCDF	0.086	JQ	x 0.1 =	0.0086	0.086	JQ	x 0.1 =	0.0086	1.18	JQ	x 0.1 =	0.118	0.11	U	x 0.1 =	0.011	0.26	JQ	x 0.1 =	0.026
1,2,3,6,7,8-HxCDF	0.087	U	x 0.1 =	0.0087	0.068	U	x 0.1 =	0.0068	0.687	JQ	x 0.1 =	0.0687	0.131	JQ	x 0.1 =	0.0131	0.231	U	x 0.1 =	0.0231
1,2,3,7,8,9-HxCDF	0.076	U	x 0.1 =	0.0076	0.0483	U	x 0.1 =	0.00483	0.0493	U	x 0.1 =	0.00493	0.0465	U	x 0.1 =	0.00465	0.05	U	x 0.1 =	0.005
2,3,4,6,7,8-HxCDF	0.083	JQ	x 0.1 =	0.0083	0.073	U	x 0.1 =	0.0073	0.533	JQ	x 0.1 =	0.0533	0.102	U	x 0.1 =	0.0102	0.211	JQ	x 0.1 =	0.0211
1,2,3,4,6,7,8-HpCDF	0.472	U	x 0.01 =	0.00472	2.07	JQ	x 0.01 =	0.0207	21.2		x 0.01 =	0.212	1.78	JQ	x 0.01 =	0.0178	3.24	JQ	x 0.01 =	0.0324
1,2,3,4,7,8,9-HpCDF	0.068	U	x 0.01 =	0.00068	0.227	JQ	x 0.01 =	0.00227	2.36	JQ	x 0.01 =	0.0236	0.18	U	x 0.01 =	0.0018	0.282	U	x 0.01 =	0.00282
OCDF	1.51	JQ	x 0.0003 =	0.000453	11.4		x 0.0003 =	0.00342	101		x 0.0003 =	0.0303	7.87	JQ	x 0.0003 =	0.002361	15.7		x 0.0003 =	0.00471
2,3,7,8-TCDF TEQ				0.2				0.2				0.8				0.2				0.4

Key:

- C = Concentration of analyte.
- CLP = Contract Laboratory Program.
- EPA = United States Environmental Protection Agency.
- ID = Identification.
- JQ = The result is estimated because the concentration is below the Contract Required Quantitation Limits.
- ng/kg = nanograms per kilogram.
- Q = Qualifier.
- TEF = Toxic Equivalency Factor.
- TEQ = Toxic Equivalency Quotient.
- U = The analyte was not detected at or above the reported result.



Wipe Samples Analytical Data Summary

Wipe Samples Analytical Data Summary

EPA Sample ID	10234078	10234079	10234080	10234081	10234082	10234083	10234084	10234085
Sample Station ID	FJ01WI	FJ02WI	FJ03WI	FJ04WI	J05WI	FJ06WI	FJ07WI	FJ08WI
CLP Sample ID	JCF58	JCF59	JCF60	JCF61	JCF62	JCF63	JCF64	JCF65
Dioxins/Furans (ng/kg)								
2,3,7,8-TCDD	0.004 U	0.043	0.022	0.0005 U	0.014	0.030	0.001 U	0.001 U
1,2,3,7,8-PeCDD	0.004 JQ	0.091	0.024 JQ	0.003 JQ	0.032 JQ	0.051 JQ	0.001 U	0.002 U
1,2,3,4,7,8-HxCDD	0.019 JQ	0.044 U	0.014 U	0.003 U	0.025 U	0.026 U	0.001 U	0.002 U
1,2,3,6,7,8-HxCDD	0.020 JQ	0.049 JQ	0.029 U	0.006 U	0.041 U	0.041 U	0.001 U	0.003 JQ
1,2,3,7,8,9-HxCDD	0.009 JQ	0.117	0.038 JQ	0.008 JQ	0.076	0.069	0.001 U	0.003 U
1,2,3,4,6,7,8-HpCDD	0.080	0.219	0.404	0.077	0.345	0.404	0.025 JQ	0.042 JQ
OCDD	0.659	0.589	3.15	0.573	2.24	3.63	0.168	0.313
2,3,7,8-TCDF	0.112	0.441	0.783	0.016	0.520	1.55	0.005 U	0.004 JQ
1,2,3,7,8-PeCDF	0.021 U	0.086	0.126	0.004 U	0.107	0.288	0.001 U	0.001 U
2,3,4,7,8-PeCDF	0.036 U	0.138 U	0.0253 U	0.005 U	0.262 U	0.631 U	0.002 U	0.001 JQ
1,2,3,4,7,8-HxCDF	0.019 JQ	0.094	0.129	0.007 U	0.238	0.356	0.001 U	0.001 JQ
1,2,3,6,7,8-HxCDF	0.020 JQ	0.092	0.147	0.006 U	0.231	0.377	0.001 U	0.001 JQ
1,2,3,7,8,9-HxCDF	0.004 JQ	0.008 JQ	0.045 JQ	0.001 JQ	0.057	0.091	0.0006 U	0.0005 U
2,3,4,6,7,8-HxCDF	0.015 JQ	0.097	0.132	0.007 JQ	0.274	0.350	0.001 U	0.001 JQ
1,2,3,4,6,7,8-HpCDF	0.052	0.214	0.355	0.037 JQ	0.806	0.860	0.008 U	0.010 JQ
1,2,3,4,7,8,9-HpCDF	0.010 JQ	0.033 JQ	0.129	0.005 U	0.283	0.321	0.0005 U	0.001 JQ
OCDF	0.066 U	0.106	0.593	0.068	0.917	0.999	0.018 U	0.026 JQ

Key:

CLP = Contract Laboratory Program.

EPA = United States Environmental Protection Agency.

ID = Identification.

JQ = The result is estimated because the concentration is below the Contract Required Quantitation Limits.

ng/kg = nanograms per kilogram.

U = The analyte was not detected at or above the reported result.

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Remedial Cost Engineering and Requirements Estimates

Appendix H: Former Joseph Guy Community Center: Cost Estimate for Removal and Disposal

Notes and Assumptions:
Contamination did not permeate the permafrost layer
Appropriate mark-up factors were incorporated for location (Ketchikan, AK), labor, equipment and materials using R.S. Means 2011.
Level D PPE required
Removal volume = 5100 cubic feet (CF) = 189 cubic yards (BCY)
Removal volume with 20% expansion factor = 227 loose cubic yards (LCY)
Assumed sheet metal is 1 pound per CF
Assumed soil unit weight of 2800 pounds/LCY = 1.4 tons/LCY
Assumed cleanup depth = 1 ft for building footprint or until geotextile liner encountered.
Assumed that the interior is largely free of debris and was completely gutted by the fire.
Does not include the cost of any necessary permits.
Assumed dimensions of the building (ft): Base: 60x80, 2 Side Walls: 2x80x12, 2 Side Walls: 2x60x12, Roof: 60x3, 2x80x70. For a total surface area: 19,540 cubic feet (CF).
Assumed local labor used.
Assumed field duration to be 5 days.
Assumed two field technicians to perform field screening and collect soil samples for confirmation testing.
Energy surcharges, applicable to the date of service, will apply to all items that are affected by fuel costs. February 2011 energy surcharge is 14.60%. Energy surcharges vary month-to-month.
Disposal pricing is based on disposal method.
It is assumed that the above material is packaged in DOT approved shipping containers that are in good condition for transportation according to the regulations of the Department of Transportation. Off-spec containers will be re-packaged at customer's expense.
Assumed local, clean source of backfill material is available.
Assumed that characterization sampling of decontamination water and contaminated soil is done by ADEC-certified disposal samplers provided by the disposal contractor.
Sampling assumes that the geotextile liner will be encountered at a depth of 1 foot throughout the excavation. Therefore, only the sidewalls are sampled for further contamination.

<i>Option 1, Scenario 1: Hazardous Waste Disposal</i>								
ITEM	QTY	UNIT	LABOR	EQUIP	MTRL	UNIT TOTAL	TOTAL	REFERENCE / ASSUMPTIONS
Mobilization/Demobilization Construction Contractors & Construction Equipment	--	LS	--	--	--	--	\$18,000	Vendor Quote: For mobilization of heavy equipment, for structural removal and associated heavy lifting, and mobilization of disposal crew and equipment.
Disposal Crew Mobilization	--	LS	--	--	--	--	\$1,741	Includes 2 Hazmat Specialists with Equipment
Demolition of Building	19,540	CF	\$0.26	\$0.28	--	\$0.54	\$10,463	RS Means 02 41 16.13 0500 - Building demolition small building, steel, Crew B-3

ITEM	QTY	UNIT	LABOR	EQUIP	MTRL	UNIT TOTAL	TOTAL	REFERENCE / ASSUMPTIONS
Excavation	189	BCY	\$0.4	\$2.0	--	\$2.36	\$520	RS Means 31 23 16.43 5700. Crew B-14A. Excavating, large volume projects. 4.5 CY excavator, 80% fill factor. With 15% additional cost for HAZWOPER trained crew.
8 CY Haul Truck	227	LCY	\$6.7	\$7.1	--	\$14	\$3,139	RS Means 31 23 23.20 0024. Crew B-34A. 15mph Avg, cycle 8 miles, 10min.wait/lld/uld.
Backfill, stockpiled onsite	318	Ton	--	--	--	\$20	\$6,356	Professional judgment
Placement and Compaction of Backfill	227	LCY	\$6.7	\$7.1	--	\$14	\$3,139	RS Means 31 23 16.43 5700. Crew B-14A. Excavating, large volume projects. 4.5 CY excavator, 80% fill factor. With 15% additional cost for HAZWOPER trained crew.
Transportation and Disposal of Hazardous Soil	318	Ton	--	--	--	\$840	\$266,952	Vendor Quote, including the cost of the barge, but does not include labor
Transportation and Disposal of Hazardous Soil (Labor)	--	LS	--	--	--	--	\$5,030	Vendor Quote
Transportation and Disposal of Decontamination Water (drums)	2	EA	--	--	--	\$200	\$400	Professional judgment: 2 drums assumed
Transportation of Scrap Metal for Recycling	9.77	Ton	--	--	--	\$840	\$8,207	Professional judgment: Recycling of the scrap metal is highly suggested. Due to dioxin contamination the scrap metal should not be reused as building material.
CONSTRUCTION OVERSIGHT, FIELD SCREENING, AND CONFIRMATION TESTING								
Field technicians (2)	80	HR	--	--	--	\$85	\$6,800	Professional judgment
Construction Summary Report	--	LS	--	--	--	--	\$3,000	Professional judgment
Onsite Field Screening								
XRF, rental	2	DAY	--	--	--	\$38	\$76	Professional judgment
PID, rental	1	DAY	--	--	--	\$38	\$38	Professional judgment

ITEM	QTY	UNIT	LABOR	EQUIP	MTRL	UNIT TOTAL	TOTAL	REFERENCE / ASSUMPTIONS
Fixed Lab for Confirmation Testing (24-Hour Turnaround)								
Soil Confirmation Sampling (Arsenic)	28	EA	--	--	--	\$170	\$4,760	Vendor Quote: For determination of complete arsenic removal, ADEC-certified samplers required. TAL metals in soil. For the building footprint excavation, samples should be taken from the sidewall at 1 per 10 linear feet. For the spot removals outside of the building, 4 samples should be taken from each. If the geotextile is not encountered at the bottom of the excavation, a fifth sample of the bottom soil is necessary.
Soil Confirmation Sampling (Diesel Range Organics)	4	EA	--	--	--	\$65	\$260	Vendor Quote: For determination of complete removal of Diesel Range Organics in soil. If the geotextile is not encountered at the bottom of the excavation, a fifth sample of the bottom soil is necessary.
Construction Contingency (15%)							\$50,840	EPA FS Guidance
Subtotal:							\$382,850	
CAPITAL - INDIRECT COSTS								
Project Management (6%)							\$22,980	EPA FS Guidance
Construction Management (8%)							\$30,630	EPA FS Guidance
Subtotal:							\$53,610	
Total for Option 1, Scenario 1:							\$436,500	

ITEM	QTY	UNIT	LABOR	EQUIP	MTRL	UNIT TOTAL	TOTAL	REFERENCE / ASSUMPTIONS
<i>Option 1, Scenario 2: Non-Hazardous Waste Disposal</i>								
Mobilization/Demobilization Construction Contractors & Construction Equipment	--	LS	--	--	--	--	\$18,000	Vendor Quote: For mobilization of heavy equipment, for structural removal and associated heavy lifting, and mobilization of disposal crew an equipment.
Disposal Crew Mobilization	--	LS	--	--	--	--	\$1,741	Includes 2 Hazmat Specialists with Equipment
Demolition of Building	19,540	CF	\$0.26	\$0.28	--	\$0.54	\$10,463	RS Means 02 41 16.13 0500 - Building demolition small building, steel, Crew B-3
Excavation	189	BCY	\$0.4	\$2.0	--	\$2.36	\$520	RS Means 31 23 16.43 5700. Crew B-14A. Excavating, large volume projects. 4.5 CY excavator, 80% fill factor. With 15% additional cost for HAZWOPER trained crew.
8 CY Haul Truck	227	LCY	\$6.7	\$7.1	--	\$14	\$3,139	RS Means 31 23 23.20 0024. Crew B-34A.
Backfill, stockpiled onsite	318	TON	--	--	--	\$20	\$6,356	Professional judgment
Placement and Compaction of Backfill	227	LCY	\$6.7	\$7.1	--	\$14	\$3,139	RS Means 31 23 16.43 5700. Crew B-14A. Excavating, large volume projects. 4.5 CY excavator, 80% fill factor. With 15% additional cost for HAZWOPER trained crew.
Transportation and Disposal Non-Hazardous Soil	318	TON	--	--	--	\$694	\$220,553	Vendor Quote, including the cost of the barge, but does not include labor
Transportation and Disposal of Non-Hazardous Soil (Labor)	--	LS	--	--	--	--	\$5,030	Vendor Quote
Transportation and Disposal of Decontamination Water (drums)	2	EA	--	--	--	\$200	\$400	Professional judgment: 2 drums assumed
Transportation of Scrap Metal for Recycling	9.77	TON	--	--	--	\$840	\$8,207	Professional judgment: Recycling of the scrap metal is highly suggested. Due to dioxin contamination the scrap metal should not be reused as building material.
CONSTRUCTION OVERSIGHT, FIELD SCREENING, AND CONFIRMATION TESTING								
Field technicians (2)	80	HR	--	--	--	\$85	\$6,800	Professional judgment
Construction Summary Report	--	LS	--	--	--	--	\$3,000	Professional judgment
Onsite Field Screening								
XRF, rental	2	DAY	--	--	--	\$38	\$76	Professional judgment
PID, rental	1	DAY	--	--	--	\$38	\$38	Professional judgment

ITEM	QTY	UNIT	LABOR	EQUIP	MTRL	UNIT TOTAL	TOTAL	REFERENCE / ASSUMPTIONS
Fixed Lab for Confirmation Testing (24-Hour Turnaround)								
Soil Confirmation Sampling (Arsenic)	28	EA	--	--	--	\$170	\$4,760	Vendor Quote: For determination of complete arsenic removal, ADEC certified samplers required. TAL metals in soil. For the building footprint excavation, samples should be taken from the sidewall at 1 per 10 linear feet. If the geotextile is not encountered at the bottom of the excavation, a fifth sample of the bottom soil is necessary.
Soil Confirmation Sampling (Diesel Range Organics)	4	EA	--	--	--	\$65	\$260	Vendor Quote: For determination of complete removal of Diesel Range Organics in soil. If the geotextile is not encountered at the bottom of the excavation, a fifth sample of the bottom soil is necessary.
Construction Contingency (15%)							\$43,880	EPA FS Guidance
Subtotal:							\$329,490	
CAPITAL - INDIRECT COSTS								
Project Management (6%)							\$19,770	EPA FS Guidance
Construction Management (8%)							\$26,360	EPA FS Guidance
Subtotal:							\$46,130	
Total for Option 1, Scenario 2:							\$375,700	
References:								
For soil swelling factor, used common earth 20%: Moving The Earth: The Workbook of Excavation, By Herbert L. Nichols, David Day								
55 gallon Steel Drums: http://www.amazon.com/SKOLNIK-Steel-Overpack-Salvage-Drums/dp/B002S4GSG6								
RS Means 2011: Site Work & Landscape Cost Data								
EPA, 2000, A Guide to Developing and Documenting Cost Estimates During the Feasibility Study, EPA 540-R-00-002, OSWER Directive 9355.0-75 (EPA FS Guidance).								
A Guide to Developing and Documenting Cost Estimates During the Feasibility Study. EPA and USACE. Superfund. July 2000.								
Emerald Alaska Inc. Project Estimate # 10347. Prepared for Ecology and Environment Inc. on 01/31/11.								
Columbia Analytical Services, Kelso, WA. TCLP organics and inorganics, DRO soil and water, and TAL soil and water.								

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