



Department of Energy  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

16-ESQ-0055

APR 07 2016

Mr. T. Tebb, Acting Program Manager  
Nuclear Waste Program  
Washington State Department of Ecology  
3100 Port of Benton Boulevard  
Richland, Washington 99354

Dear Mr. Tebb:

CLOSURE CERTIFICATE FOR THE FS-1 OUTDOOR CONTAINER STORAGE AREA

This letter transmits the Closure Certificate for the FS-1 Outdoor Container Storage Area. The Independent Qualified Registered Professional Engineer evaluated closure activities per the Group 4, FS-1 Outdoor Container Storage Area Closure Plan approved by the Washington State Department of Ecology in January 2016. The FS-1 sampling and analysis complied with the closure plan and clean closure performance standards were met.

I certify under penalty of law that the attached certification is true, accurate, and complete to the best of my knowledge. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment for knowing violations.

If you have any questions, please contact us, or your staff may contact Jeffrey A. Frey, Assistant Manager for Safety and Environment, on (509) 376-7727.

Handwritten signature of Stacy Charboneau in cursive.

Stacy Charboneau, Manager  
Richland Operations Office

Handwritten signature of John A. Ciucci in cursive.

John A. Ciucci, President  
CH2M HILL Plateau Remediation Company

Attachment

ESQ:DBC

cc: See page 2

Mr. T. Tebb  
16-ESQ-0055

-2-

APR 07 2016

cc w/attach:

D. J. Alexander, Ecology  
R. H. Engelmann, CHPRC  
S. R. Horn, CHPRC  
R. Jim, YN (CD)  
S. K. Johansen, CHPRC  
S. Luttrell, Ecology  
D. G. Singleton, Ecology  
Administrative Record, TSD: D-2-9 (Hard Copy)  
Ecology NWP Library (CD)  
Environmental Portal, LMSI, G3-39  
HF Operating Record (J. Perry, MSA, A3-01) (CD)

cc w/o attach:

G. Bohnee, NPT  
R. Buck, Wanapum  
L. J. Cusack, CHPRC  
D. A. Faulk, EPA  
S. Hudson, HAB  
M. N. Jaraysi, CHPRC  
K. Niles, ODOE  
D. Rowland, YN  
R. Skeen, CTUIR  
E. R. Skinnarland, Ecology

# CLOSURE CERTIFICATION

FS-1 Outdoor Container Storage Area

January 25, 2016

Submitted by

**AKANA**

Plan + Design + Engineer + Manage



320 North 20<sup>th</sup> Avenue  
Pasco, Washington 99301  
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timothy.oliver@akana.us



January 25, 2016



Ms. Stephanie Johansen  
CH2M Plateau Remediation Company  
P.O. Box 1600  
Richland, Washington 99352

**Subject: FS-1 Outdoor Container Storage Area  
Hanford Facility  
Independent Qualified Registered Professional Engineer  
Closure Certification**

**Reference: Hanford Dangerous Waste Permit (WA7890008967), Part V Closure Unit  
Group 7, LLBG Trenches 31-34-94**

Dear Ms. Johansen:

Please find enclosed my certification of closure for the completion of the activities associated with the closure of the FS-1 Outdoor Container Storage Unit at the Hanford Site covered by the above-referenced Resource Conservation and Recovery Act (RCRA) Permit, Permit Modification Request Addendum H1, Low Level Burial Grounds Trenches 31-34-94, Appendix H-A, Low-Level Burial Grounds Trenches 31-34-94, FS-1 Dangerous Waste Management Unit Closure Plan.

FS-1 Outdoor Container Storage Unit closure involved soil sampling of the area. This certification is based upon my review of the FS-1 Outdoor Container Storage Unit closure activity and sampling reports, and various other associated documents as described in the enclosed Closure Certification report. This certification is limited to the proper completion of the closure activities described herein in accordance with the requirements of the Hanford Dangerous Waste Permit.

This Closure Certification is understood to be an expression of my professional opinion as an independent qualified registered professional engineer (IQRPE), based upon my best knowledge, information, and observation of the closure activities; and that it constitutes neither a guarantee nor a warranty of the closure activities.

The attached report summarizes the activities completed to verify closure in accordance with the Hanford Dangerous Waste Permit. This report meets the requirements of the 40 Code of

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Federal Regulation 264.115 and Washington Administrative Code 173-303-610(6), which require that the closure activities be certified by an IQRPE.

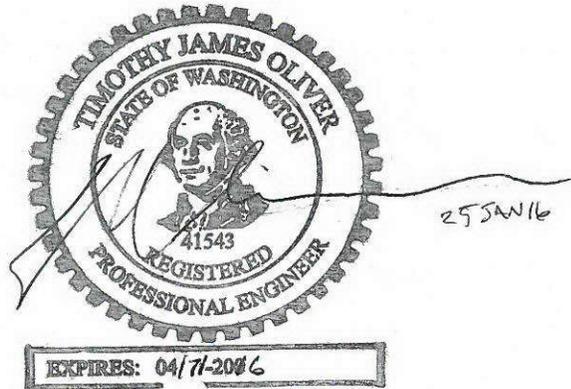
The attached report describes the actions undertaken by the IQRPE during the closure process to verify activities were performed in accordance with the Dangerous Waste Permit.

I hereby certify that the dangerous waste management unit at the facility described in this document has been closed in accordance with the requirements of the approved Dangerous Waste Permit. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons that manage the system, and those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,



Timothy J. Oliver, P.E.  
Washington P.E. 41543



Attachment



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## EXECUTIVE SUMMARY

This report provides a description of the Closure Certification for activities associated with the closure of the FS-1 Outdoor Container Storage Area. This report includes a summary of the completed activities, documentation reviews, physical field inspection results, and supporting documentation used by the Independent Qualified Registered Professional Engineer (IQRPE) to prepare and complete this certification. Permit Modification Request Addendum H1, Low Level Burial Grounds Trenches 31-34-94, Appendix H-A, Low-Level Burial Grounds Trenches 31-34-94, FS-1 Dangerous Waste Management Unit Closure Plan, discusses closure activities for dangerous waste management units (DWMUs) in the Low-Level Burial Ground (LLBG) Trenches 31-34-94 Operating Unit Group (OUG) (hereinafter LLBG Trenches 31-34-94).

LLBG Trenches 31-34-94 are comprised of the following three trenches: LLBG Trenches 31 and 34 in the 200 West Area of the Hanford Facility, and LLBG Trench 94 in the 200 East Area of the Hanford Facility. Previously, LLBG Trenches 31 and 34, and LLBG Trench 94 were managed as separate OUGs; however, due to similar missions and operational capabilities, they are now being combined into one OUG. Trench 94 is not relevant to this closure certification and is not addressed further.

LLBG Trenches 31 and 34 are large rectangular excavations in the southwest corner of the 218-W-5 Burial Ground operated as units for disposal of treated and land disposal restriction-compliant dangerous and/or mixed waste. LLBG Trenches 31 and 34 are rectangular and, at the top, are approximately 137 m (150 yard) long by 91 m (100 yard) wide by 9 m (10 yard) deep. LLBG Trenches 31 and 34 began receiving waste for disposal on September 15, 1999.

LLBG Trenches 31-34-94 include the following DWMUs:

- + LLBG Trench 31 Disposal Cell
- + LLBG Trench 34 Disposal Cell
- + LLBG Trench 94 Disposal Cell
- + LLBG Trench 31 Waste Storage and Treatment Pad
- + LLBG Trench 34 Waste Storage and Treatment Pad
- + FS-1 Outdoor Container Storage Area

The FS-1 Outdoor Container Storage Area is a dangerous waste management unit (DWMU) (hereinafter FS-1). This DWMU is located along the south side of Trench 34. The U.S. Department of Energy (DOE) has agreed through a Consent Agreement and Final Order with the U.S. Environmental Protection Agency (EPA) to close this DWMU.

The closure was performed in accordance with the schedule provided in Section H-A4. The closure plan complies with WAC 173-303-610(2) through WAC 173-303-610(6), "Dangerous Waste Regulations," "Closure and Post-Closure," and represents the baseline for closure and the enforceable compliance requirements for conducting closure. Amendments to this closure plan were submitted as a permit modification in accordance with WAC 173-303-610(3)(b).

The FS-1 Closure generally involved the following:

- + Inspection of all storage areas to verify that all waste and equipment had been removed
- + Inspection of gravel materials that line the storage areas.
- + Closure Verification Sampling
- + Closure Verification Sampling Survey

The completion of these closure activities is subject to certification requirements of the FS-1 Dangerous Waste Management Unit Closure Plan.

The FS-1 Closure activities were reviewed by the IQRPE Certifying Engineer. This included a thorough review of the data and other documentation associated with the implementation of FS-1 Closure, as well as a thorough inspection of the affected areas of FS-1. The Certifying Engineer has noted any discrepancies or minor deviations identified during the completion of the closure activities. These deviations did not impact the clean closure certification for FS-1.

FS-1 closure quality control was accomplished by IQRPE verification of CH2M Plateau Remediation Company adherence to approved plans and procedures.

## 1.0 PURPOSE

This report provides a description of the Closure Certification for activities associated with the closure of the FS-1 Outdoor Container Storage Area. This report includes a summary of the completed activities, documentation reviews, physical field inspection results, and supporting documentation used by the Independent Qualified Registered Professional Engineer (IQRPE) to prepare and complete this certification. Permit Modification Request Addendum H1, Low Level Burial Grounds Trenches 31-34-94, Appendix H-A, Low-Level Burial Grounds Trenches 31-34-94, FS-1 Dangerous Waste Management Unit Closure Plan, discusses closure activities for dangerous waste management units (DWMU) in the Low-Level Burial Ground (LLBG) Trenches 31-34-94 Operating Unit Group (OUG) (hereinafter LLBG Trenches 31-34-94).

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- + LLBG Trench 94 Disposal Cell
- + LLBG Trench 31 Waste Storage and Treatment Pad
- + LLBG Trench 34 Waste Storage and Treatment Pad
- + FS-1 Outdoor Container Storage Area

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FS-1 closure was completed in accordance with the requirements of the FS-1 Dangerous Waste Management Unit Closure Plan. This report provides a description of the Closure Certification of the FS-1 closure activities.

This report and the accompanying clean closure certification are provided in accordance with WAC 173-303-610(6), which requires that within 60 days of completion of closure of FS-1, a certification that the DWMU has been closed in accordance with the specifications in this closure plan be submitted to Ecology by registered mail. The following information is also included to support the closure certification:

- + All field notes and photographs related to closure activities
- + A description of any minor deviations from the approved closure plan and justification for these deviations
- + Documentation of the removal and final disposition of any unanticipated contaminated environmental media
- + All laboratory and/or field data, including sampling procedures, sampling locations, QA/QC samples, and chain-of-custody procedures for all samples and measurements, including samples and measurements taken to determine background conditions and/or determine or confirm clean closure
- + A summary report that identifies and describes the data reviewed by the IQRPE and tabulates the analytical results of samples taken to determine and confirm clean closure
- + A description of the DWMU area appearance at completion of closure, including what parts of the former unit, if any, will remain after closure

This report includes a summary of the completed activities, documentation reviews, physical field inspection results, and supporting documentation used by the Independent Qualified Registered Professional Engineer (IQRPE) to prepare and complete this certification. IQRPE activities were completed by Akana under contract to CH2M Plateau Remediation Company (CHPRC). CHPRC is the operator of FS-1, under contract to the U.S. Department of Energy.

## **2.0 DANGEROUS WASTE MANAGEMENT UNIT DESCRIPTION**

FS-1 was originally designated as a waste storage area in November 2004 for the temporary storage of non-mixed low-level waste (LLW) containers from the 300 Area prior to their disposal into LLBG Trench 34. The temporary storage of LLW was completed in July 2005. From July 16 2005 to November 2007, no dangerous, mixed, or Toxic Substances Control Act of 1976 (TSCA) polychlorinated biphenyl (PCB) LLW was stored in FS-1. From November 2007 through September 18 2008, FS-1 was used for the storage of LLW, mixed low-level waste (MLLW), and

TSCA-PCB LLW containers prior to disposal into LLBG Trenches 31 and 34. A radiological survey, performed on FS-1 in 20 March 2012, confirmed no radiological contamination above the expected background levels. FS-1 is a gravel-covered, rectangular area approximately 14 m (15 yards) wide by 69 m (75 yards) long equaling a total storage area of 966 m<sup>2</sup> (1,125 yd<sup>2</sup>). The perimeter of the storage area is defined by metal T-posts, with the corner posts holding signage designating the area as FS-1. There are no structures or equipment located at the storage area.

FS-1 does not currently store dangerous, mixed, or TSCA-PCB waste. Dangerous waste container storage and treatment of dangerous, mixed, or TSCA-PCB waste within FS-1 will not be requested after Resource Conservation and Recovery Act of 1976 (RCRA) closure is complete.

As a storage unit, the clean-closure determination for FS-1 is partially based on review of the operational history, operating records, and waste management records, and a visual inspection of the area to verify that waste-related staining is not present. Based on these reviews, FS-1 is a candidate for clean closure under RCRA, and confirmation sampling was performed. Sampling and analysis activities were developed utilizing the results of the records review and visual inspection (EPA/240/R-02/005, Guidance on Choosing a Sampling Design for Environmental Data Collection [EPA QA/G-5S], and Ecology Publication 94-111, Guidance for Clean Closure of Dangerous Waste Units and Facilities) and were conducted via a sampling and analysis plan (SAP) (Section H-A3.9). The objective of the sampling was to determine if the MTCA (WAC 173-340) Method B closure performance standards for soil were met, demonstrating clean closure of FS-1.

The following closure activities were required to achieve and verify clean closure for gravel/soil:

- + Remove all dangerous, mixed, and TSCA-PCB LLW waste inventory (completed; see Section H-A3.2 of the Closure Plan)
- + Review waste container storage, operating, and inspection records (completed; see Section H-A3.3 of the Closure Plan)
- + Perform a visual inspection of gravel and visible surface soil (completed; see Section H-A3.3 of the Closure Plan)
- + Perform gravel/soil sampling and analysis to confirm that clean-closure standards were met
- + If detected during initial sampling efforts, remove any contaminated environmental media present (not required)
- + Resampling, as necessary, to confirm that MTCA (WAC 173-340) Method B clean-closure levels have been met (not required)

- + Transmit closure certification to the Washington State Department of Ecology (Ecology).

### **3.0 IQRPE ACTIVITIES**

An independent, qualified, registered professional engineer (IQRPE) was retained to provide certification of the closure, as required by WAC 173-303-610(6). The IQRPE was responsible for observing field activities and reviewing documents associated with closure of FS-1. The following field activities were completed:

- + Review of the FS-1 visual inspection
- + Review of the sampling procedures and analytical results
- + Observation and review of sampling activities
- + Verification that locations of samples were as specified in the SAP

The IQRPE has recorded his observations in this written report that will be retained in the operating record. The report serves as the basis for the clean closure certification.

All IQRPE services for monitoring and certifying the completion of the FS-1 closure activities were performed under the direction of a professional engineer registered in the State of Washington. In order to complete the closure certification, the IQRPE conducted oversight of the closure verification sampling and reviewed the analytical results. The oversight activities included a visual inspection of FS-1 on several occasions. Minor deviations from the closure plan requirements are listed in Table 1 and are described throughout Section 8.0.

### **4.0 LIMITATIONS AND EXCLUSIONS**

None.

### **5.0 CLOSURE PERFORMANCE STANDARDS**

Closure performance standards for FS-1 are based on WAC 173-303-610(2), which requires closure of the facility in a manner that accomplishes the following objectives:

- + Minimizes the need for further maintenance
- + Controls, minimizes, or eliminates to the extent necessary to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated runoff, or dangerous waste decomposition products to the ground, surface water, groundwater, or the atmosphere
- + Returns the land to the appearance and use of surrounding land areas, to the degree possible, given the nature of the previous dangerous waste activity

Upon confirmation of clean closure levels through sampling and analysis, FS-1 will remain in an “as-is” state with the gravel remaining in place. The area surrounding FS-1 is an industrial setting and will continue to be used due to active RCRA-compliant landfill operations in the immediate vicinity; therefore, no removal of gravel is necessary, and the land will not be restored to its pre-operational appearance. The storage area marking will be removed once the closure activities are completed. A permit modification request will be submitted after clean closure has been confirmed to remove FS-1 from the site-wide permit active DWMUs.

## **6.0 CLOSURE SCHEDULE AND TIME FRAME**

Confirmation sampling and analysis activities were completed within 180 days after approval of the permit modification incorporating this closure plan. No extension to the 180-day closure activity expiration date was necessary. Closure certification will be submitted to Ecology within 60 days following completion of closure activities at FS-1 as outlined in Closure Plan Section H-A3.11 (Table H-A-9 and Figure H-A-3).

## **7.0 CLOSURE COSTS**

A detailed written estimate outlining updated projections of anticipated closure costs for the Hanford Facility treatment, storage, and disposal units is not required per Permit Condition II.H. As such, the IQRPE did not complete any activities regarding this activity.

## **8.0 CLOSURE VERIFICATION SAMPLING**

FS-1 is being clean closed. The gravel/soil has been sampled and meets clean-closure levels.

In accordance with WAC 173-303-610(2)(b)(i), clean-closure levels for the gravel/soil are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to WAC 173-340, “Model Toxics Control Act—Cleanup,” hereinafter called MTCA, cleanup regulations (WAC 173-340-700, “Overview of Cleanup Standards,” through WAC 173-340-760, “Sediment Cleanup Standards,” excluding WAC 173-340-745, “Soil Cleanup Standards for Industrial Properties”).

These numeric cleanup levels were calculated according to the requirements of WAC 173-303-610(2)(b)(i) as of the effective date of the permit modification. These cleanup levels consider carcinogens, noncarcinogens, groundwater protection, and ecological indicator values.

A null hypothesis was assumed true for sampling design purposes. The null hypothesis, as defined in WAC 173-340-200, “Definitions,” for FS-1 is that gravel/soil is assumed to be above unrestricted use cleanup levels, commonly called MTCA (WAC 173-340) Method B cleanup levels.

Therefore, FS-1 was presumed to be contaminated. Rejection of the null hypothesis means sampling and analysis results of the site indicated that gravel/soil concentrations are below the MTCA (WAC 173-340) Method B cleanup levels. Sampling and analysis were used to determine whether the null hypothesis could be rejected, thereby confirming that gravel/soil meets closure performance standards.

The Closure Plan included a Sampling and Analysis Plan (SAP) that summarized the sampling design used and the associated assumptions based on the knowledge of FS-1. The sampling design included input parameters used to determine the number and location of samples.

The results of the SAP implementation are summarized in CHPRC Memorandum 1505000, Summary of FS-1 Outdoor Container Storage Area Soil Sample Analytical Results to Support RCRA Clean Closure. This memorandum is included in Attachment B to this report.

### **8.1 Sampling and Analysis Plan (Closure Plan Section H-A3.9.1)**

Sampling and analysis of FS-1 gravel and soil were conducted to confirm that clean-closure levels have been achieved. All sampling and analysis were performed in accordance with the sampling and quality standards established in the SAP. The SAP detailed sampling and analysis procedures in accordance with SW-846, Test Methods for Evaluating Solid Waste:

Physical/Chemical Methods, Third Edition; Final Update IV-B; the ASTM International, formerly the American Society for Testing and Materials (ASTM), Annual Book of ASTM Standards; and applicable EPA guidance. Sampling and analysis activities met the applicable requirements of SW-846, ASTM standards, EPA-approved methods, and DOE/RL-96-68, Hanford Analytical Services Quality Assurance Requirements Document (HASQARD), at the time of closure. The SAP was also developed using Ecology Publication 94-111, Section 7.0, "Sampling and Analysis for Clean Closure," and EPA/240/R-02/005.

#### **8.1.1 Target Analytes (Closure Plan Section H-A3.9.2)**

Waste management records for MLLW and TSCA-PCB LLW containers previously stored at FS-1 were reviewed during the development of the FS-1 Closure Plan and SAP. The waste management records identified the federal and state waste codes required for disposal of MLLW and TSCA-PCB LLW. The identified waste codes were the basis for the list of target analytes for analysis in the SAP. Closure Plan Table H-A-4 details the waste codes listed for the FS-1 waste containers and the target analyte associated with each waste code.

#### **8.1.2 Sampling Design (Closure Plan Section H-A3.9.3 through H-A3.9.5)**

The SAP utilized Ecology Publication 94-111, Section 7.0, "Sampling and Analysis for Clean Closure," to determine the type of sampling design to be used to demonstrate clean closure. When designing the SAP, both focused and area wide (grid) sampling methods were

considered. Ecology Publication 94-111, Section 7.2.1, identifies that area wide sampling is appropriate when the spatial distribution of contamination at or from the closure unit is uncertain. Ecology Publication 94-111, Section 7.3, "Sampling to Determine or Confirm Clean Closure," identifies the area wide sampling approach as generally appropriate for sampling to determine or confirm that clean closure levels are achieved. Focused sampling, as identified in Section 7.2.2 of Ecology Publication 94-111, is selective sampling of areas where contamination is expected or releases have been documented. Based on the records review and visual inspection performed for FS-1 (Section H-A3.3), no known contamination within the sampling area was identified and no documented releases were identified; therefore, the area wide sampling approach was determined to be appropriate for FS-1 with no additional focused sampling.

The quantity and location of area wide samples were determined utilizing the Visual Sampling Plan (VSP) software. VSP is a tool used throughout Washington State and nationally that statistically determines the quantity of samples required to accept or reject the null hypothesis based on input parameters specific to the FS-1 DWMU.

Both parametric and nonparametric equations rely on assumptions about the data population. Typically, however, nonparametric equations require fewer assumptions and allow for more uncertainty about the distribution of data. Alternatively, if parametric assumptions are valid, the required number of samples is usually less than if a nonparametric equation was used. For FS-1, data assumptions were largely based on information obtained from a grouping of similar waste sites with the same type of constituents.

Parameters from the 200-MG-1 waste sites were approved by Ecology in the SAP (DOE/RL-2009-60, Sampling and Analysis Plan for Selected 200-MG-1 Operable Unit Waste Sites), evaluated, deemed appropriate, and utilized for the input parameters for FS-1. VSP parameter inputs and the basis for those inputs are detailed in Table H-A-5 of the Closure Plan.

The decision rule for demonstrating compliance with the MTCA (WAC 173-340) Method B clean closure level has three parts:

- + The 95 percent upper confidence limit on the true data mean must be less than the MTCA (WAC 173-340) Method B clean closure level
- + No sample concentration can be more than twice the cleanup level
- + Less than 10 percent of the samples can exceed the cleanup level

Using a nonparametric test and the input parameters identified in Table H-A-5, VSP calculated that a minimum of 20 samples was required to reject the null hypotheses with 95 percent

confidence and ensure that FS-1 would not be mistakenly released as clean. For the purpose of utilizing VSP software, the null hypothesis was used to compare a site mean to a fixed threshold. Data was evaluated to ensure that less than 10 percent of the individual values exceed MTCA (WAC 173-340) Method B clean closure performance standards and that no values were more than twice the cleanup level.

Sample locations were determined using the area wide grid with a random start sampling method run in the VSP software. Statistical analysis of systematically collected data is valid if a random start to the grid is used. FS-1 dimensions were entered into VSP to determine the locations of samples. The triangular grid sampling layout was determined to have an even distribution over the entire FS-1 sampling area providing the most representative data set including coverage of the middle portion of the sampling area. The 20 samples were taken from the node locations indicated by the VSP software (Attachment B) and were assigned sample location identifications and sample numbers using the Hanford Environmental Information System (HEIS). The southeast corner of the FS-1 DWMU is considered the (0,0) point of the sampling location map included in the FS-1 Closure Plan.

The first node location was chosen at random by the VSP software, and the subsequent 19 sample locations were assigned by the VSP software using a triangular grid sampling layout. Supporting documentation and the sampling grid map automatically generated by the VSP software are documented in the FS-1 Closure Plan.

The October 2013 version of the FS-1 Closure Plan showed statistical output from the Visual Sampling Plan (VSP) software, version 7.2. In the 2013 VSP report, the FS-1 site dimensions were entered using global positioning system (GPS) coordinates. When using GPS values as VSP input, rather than using feet or meters, the report output reflected a sampling area of zero.

After further discussions with Ecology, it was requested that VSP input be based on dimensions in meters so the report output reflected the actual FS-1 grid area. The May 2015 version of the FS-1 Closure Plan showed VSP report output based on area dimensions from the Part A Addendum which were approximate dimensions.

When the survey team went to FS-1 on August 3, 2015, to mark the 20 random VSP-generated sampling locations, they found seven of these random sample locations fell slightly outside of the T-post boundary of FS-1. At that time it was decided that additional samples would be collected within the T-post boundary to meet the intent of the FS-1 Closure Plan. The seven sample locations that fell outside the T-post boundary of FS-1 were documented in the field notebook as a minor deviation to the Sample Analysis Plan.

The 20 random samples generated by VSP were collected as mandated in the 2015 version of the FS-1 Closure Plan, and entered back into VSP to verify the correct user input parameters (specifically, the standard deviation) (see Section 8.7 below). The additional samples that were

collected are considered focused samples and fall outside of the VSP assumptions and MTCA-B closure performance standards.

The seven focused sample locations were positioned to try and meet the intent of the VSP identified locations, and to maximize coverage of the container storage area. The samples that fell outside of the T -post area are FS-1-2, FS-1-6, FS-1-10, FS-1-14, FS-1-18, FS-1-19, and FS-1-20. The first two focused samples were positioned at the same northing coordinates of FS-1-19 and FS-1-20, but located on the east side of the storage area, halfway between the zero point T -post and Sample FS-1-1. The remaining five focused samples were positioned one meter south of the corresponding random samples that fell just outside of the northern T -post boundary.

The analytical results of these focused samples were directly compared to the performance standards to ensure individual values do not exceed the MTCA Method B clean-closure performance standards.

This approach for FS-1 Outdoor Container Storage Area is consistent with the use of focused samples in T-Plant closure plans submitted to Ecology for review.

## **8.2 Sampling Methods and Handling (Closure Plan Section H-A3.9.6)**

The grab sample matrix consisted of gravel and soil collected in precleaned sample containers taken at a depth of 0 to 15.24 cm (0 to 6 inches) below ground surface. Ground surface was defined as the exposed surface layer once loose gravel has been moved aside. Over time, precipitation would have caused any potential contamination from waste storage to migrate down from the loose surface gravel into the surface soil and compacted gravel below. Subsurface sampling was evaluated; however, based on results of the records review, free liquid waste was not stored in the FS-1 DWMU, no releases of dangerous waste were identified, and subsurface sampling was not deemed necessary.

To gather the most representative sample, loose surface gravel was moved aside to expose the surface soil and compacted gravel. Once the compacted gravel and soil were sampled, the sampled media was screened to remove material larger than approximately 2 mm (0.08 inch) in diameter. Removal of material larger than approximately 2 mm (0.08 inch) in diameter allowed for a larger surface area to volume ratio more likely to identify any potential contamination in the sample. Grab samples were collected into containers at the chosen node sample locations. To ensure sample and data usability, sampling was performed in accordance with established CHPRC sampling practices, procedures, and requirements pertaining to sample collection, collection equipment, and sample handling.

Sample container, preservation, and holding time requirements were specified in Table H-A-6 of the FS-1 Closure Plan. These requirements were in accordance with the analytical method specified. The final container type and volumes were identified on the sampling authorization

form and the chain-of-custody form. To prevent potential contamination of samples, care was taken to use a combination of dedicated and decontaminated equipment for each sampling activity.

Level I EPA pre-cleaned sample containers were used for samples collected for chemical analysis. The sample location, depth, and corresponding HEIS numbers were documented in the sampler's field logbook. A custody seal (that is, evidence tape) was affixed to each sample container and/or sample collection package in such a way as to indicate potential tampering.

Each sample container was labeled with the following information on firmly affixed, water resistant labels:

- + Sampling Authorization Form and form number
- + HEIS number
- + Sample collection date and time
- + Sampler identification
- + Analysis required
- + Preservation method (if applicable)

Sample records included the following information:

- + Analysis required
- + Sample location
- + Matrix (that is, water or soil)

Sample custody was maintained in accordance with existing Hanford Facility protocols to ensure maintenance of sample integrity throughout the analytical process. Chain-of-custody protocols were followed throughout sample collection, transfer, analysis, and disposal to ensure that sample integrity was maintained. Waste generated by sampling activities was containerized, labeled, and characterized. The waste was designated as non-regulated and was transported offsite to an approved disposal facility.

### 8.3 Analytical Methods (Closure Plan Section H-A3.9.7)

Analyses and testing were performed consistent with the closure plan, laboratory analytical procedures, and HASQARD (DOE/RL-96-68). The approved laboratory achieved the lowest practical quantitation limits (PQL) consistent with the selected analytical method to confirm clean closure levels. Analytical methods and performance requirements associated with the target analytes were outlined in FS-1 Closure Plan Table H-A-7.

The FS-1 Closure Plan listed 47 analytes of interest (Table H-A-4). A number of laboratories were utilized to complete all analyses. However, analysis of one analyte, the solvent Cellosolve (or 2-ethoxyethanol) (CAS 110-80-5), could not be completed by any of those laboratories.

The analyte 2-ethoxyethanol was excluded as a constituent of concern based on the following:

- + The closure standard for 2-ethoxyethanol is 32,000 mg/kg, a concentration that would likely produce visible staining, not to mention a distinct smell (the odor threshold in water is 2400 mg/L). The inspection reports never noted a spill of this nature at the FS-1 Outdoor Storage Area.
- + The Handbook of Environmental Degradation Rates lists a half-life of 2-ethoxyethanol in soil of between 168 and 672 hours. Storage activities ended in September 2008. If this analyte had been present at levels near the 32,000 mg/kg closure standard at that time, and if a spill of this magnitude was overlooked during the routine inspections, it would not currently be found at levels detectable by EPA Method 8270.
- + This solvent was originally included because it is one of the F005 listed constituents (if present at greater than 10 percent at time of disposal). As F005 wastes were stored at the FS-1 Outdoor Container Storage Area, it was added conservatively to the closure plan.
- + Waste records showed that all wastes stored in the FS-1 Outdoor Storage Area were LDR compliant prior to storage and contained no free liquids, therefore 2-ethoxyethanol would not have been spilled in a pure form. If an undocumented spill of 2-ethoxyethanol occurred, during the degradation process, organic products would be left behind. All organic analytes were non-detect results, or below the practical quantitation limit in CHPRC results.

Additionally, it was determined that the FS-1 Closure Plan listed vanadium pentoxide (CAS 1314-62-1) as an analyte of interest (see Closure Plan Table H-A-4). The difficulty of analyzing FS-1 soil samples for vanadium pentoxide are outlined below.

- + The U.S. EPA method listed for analyzing Vanadium in the FS-1 Outdoor Container Storage Area Closure Plan is SW-846 Method 6010 or 200.8. Both of these EPA methods

list the metal form of vanadium (CAS 7440-62-2). Neither method would provide analysis of vanadium pentoxide.

- + There is no other U.S. EPA method known to the CHPRC Soil and Groundwater Group that would be appropriate for testing of vanadium pentoxide specifically. It is likely that vanadium in soil is already present in an oxide or hydroxide form, so analysis of vanadium compounds in method SW -846 Method 6010 would include the pentoxide form.
- + The results reported by the Washington Department of Ecology for their check samples of FS-1 provide the results in the metal form of vanadium using SW-846 method 6010. Other historic results reported for the Hanford site are in the metal form of vanadium.

To maintain consistency with other Hanford historic data, and Ecology results, vanadium pentoxide, FS-1 Outdoor Container Storage Area vanadium pentoxide (CAS 1314-62-1) results are reported as vanadium (CAS 7440-62-2).

#### **8.4 Quality Control (Closure Plan Section H-A3.9.8)**

Quality control (QC) procedures were followed in the field and laboratory to ensure that reliable data was obtained. Field QC samples were collected to evaluate the potential for cross-contamination and provide information pertinent to field sampling variability. Field QC included collection of the following samples:

- + Full trip blank
- + Field transfer blank
- + Equipment rinsate blank
- + Field duplicate
- + Field split samples

Laboratory QC samples estimate the precision and bias of the analytical data. Field and laboratory QC samples to be collected were summarized in FS-1 Closure Plan Table H-A-8.

A data quality assessment was performed utilizing the guidance in EPA/240/B-06/084, Data Quality Assessment: A Reviewer's Guide, and implementing the specific requirements in FS-1 Closure Plan Sections H-A3.9.8 through H-A3.9.10. Data verification, data validation, and data quality assessment included both the primary samples and quality control samples.

### **8.5 Data Verification (Closure Plan Section H-A3.9.9)**

Analytical results were received from the laboratory, loaded into HEIS, and verified. Verification activities included, but were not limited to, the following:

- + Amount of data requested matches the amount of data received (number of samples for requested methods of analytes)
- + Procedures/methods are used
- + Documentation/deliverables are complete
- + Hard copy and electronic versions of the data are identical
- + Data seem reasonable based on analytical methodologies

### **8.6 Data Validation (Closure Plan Section H-A3.9.10)**

Data validation was performed by a third party. The laboratory supplied contract laboratory program equivalent analytical data packages intended to support data validation by the third party. The laboratory submitted data packages that are supported by QC test results and raw data. Controls are in place to preserve the data sent to the validators and allow only additions to be made, not changes to the raw data.

The format and requirements for data validation activities were based upon the most current version of USEPA-540-R-08-01, National Functional Guidelines for Superfund Organic Methods Data Review (OSWER 9240.1-48), and USEPA-540-R-10-011, National Functional Guidelines for Inorganic Superfund Data Review (OSWER 9240.1-51). All of the results were subject to Level C validation.

### **8.7 Verification of VSP Input Parameters (Closure Plan Section H-A3.9.11)**

Analytical data was entered back into the VSP software. If all analytical data for a particular analyte was nondetect, verification of VSP input parameters was not required for that analyte. The VSP software uses the analytical data to determine if the user input parameters were estimated appropriately. Once analytical data was entered into the VSP software, VSP calculated the true standard deviation and determined if the null hypothesis could be rejected. If the calculated standard deviation was smaller than the estimated user input standard deviation, no additional sampling was required. If the calculated standard deviation was larger than the estimated standard deviation, outlier tests were completed to identify possible outliers, which were then removed from the data set. Upon removal of the outliers, recalculation of the standard deviation showed that they were smaller than the estimated user input standard deviation. Comparison of the maximum data value for each analyte to the clean closure standards ensures that all individual analytes are below the action levels. Verification of the null

hypothesis through VSP determined that the mean value of the site analytical data supports rejection of the null hypothesis (Closure Plan Section H-A2.1).

#### **8.8 Documents and Records (Closure Plan Section H-A3.9.12)**

The Project Manager was responsible for ensuring that the current version of the SAP was used and providing any updates to field personnel. Version control was maintained by the administrative document control process. Changes to the SAP affecting the data needs were submitted as a permit modification in accordance with WAC 173-303-610(3)(b) to DOE and the lead regulatory agency. Logbooks were used to document field activities. Logbooks were identified with a unique project name and number. The individual(s) responsible for logbooks are identified in the front of the logbook, and only authorized persons made entries in logbooks. Logbooks were signed by the field manager, supervisor, cognizant scientist/engineer, or other responsible individual. Logbooks were permanently bound, waterproof, and ruled with sequentially numbered pages. Pages were not removed from logbooks. Entries were made in indelible ink. Corrections were made by marking through the erroneous data with a single line, entering the correct data, and initialing and dating the changes.

The project manager was responsible for ensuring that a project file was properly maintained. The project file contains the records or references to their storage locations. The following items are included in the project file, as appropriate:

- + Field logbooks or operational records
- + Data forms
- + Global positioning system data
- + Chain-of-custody forms
- + Sample receipt records
- + Inspection or assessment reports and corrective action reports
- + Interim progress reports
- + Final reports
- + Laboratory data packages
- + Verification and validation reports

The laboratory is responsible for maintaining, and having available upon request, the following items:

- + Analytical logbooks
- + Raw data and QC sample records
- + Standard reference material and/or proficiency test sample data
- + Instrument calibration information

Records are stored in both electronic and hard copy format. Documentation and records, regardless of medium or format, are controlled in accordance with internal work requirements and processes to ensure the accuracy and retrievability of stored records. Records required by the Tri-Party Agreement (Ecology et al., 1989, Hanford Federal Facility Agreement and Consent Order) will be managed in accordance with the requirements therein.

#### **8.9 Sampling and Analysis Requirements to Address Removal of Contaminated Gravel/soil (Closure Plan Section H-A3.9.13)**

In the event that sample results based on the MTCA Method B (WAC 173-340) three part test (Section H-A3.9.5) indicated contamination above clean closure levels, the contaminated gravel/soil was to be removed in accordance with Section H-A3.7. Following removal of contaminated gravel/soil, additional samples were to be taken at the same grid location as identified in Attachment B of the Closure Plan. These activities were not required based on the sample results.

#### **8.10 Revisions to the Sampling and Analysis Plan and Constituents to Be Analyzed (Closure Plan Section H-A3.9.14)**

If changes to the SAP were needed due to unexpected events during closure that would affect sampling, a revision to this SAP was to be submitted no later than 30 days after the unexpected event as a permit modification as required in WAC 173-303-610(3)(b)(iii) and WAC 173-303-830, "Permit Changes." A revision to the SAP was not required. Minor deviations from the Closure Plan are summarized in Table 1.

#### **8.11 Removal of Wastes and Waste Residues (Closure Plan Section H-A3.2)**

No MLLW or TSCA-PCB LLW waste is currently stored at FS-1. MLLW was removed in September 2008, and TSCA-PCB LLW was removed in January 2008. FS-1 will no longer be used for dangerous, mixed, or TSCA-PCB waste storage. FS-1 will be maintained in accordance with WAC 173-303-610 in a manner that demonstrates that all steps have been taken and will continue to be taken to prevent threats to human health and the environment from the unclosed but not operating DWMU, including compliance with all applicable permit requirements.

Inspection requirements during the closure period are identified in Closure Plan Section H-A3.5.

Dangerous waste or waste residues are not anticipated at this unit. There are no containers or structures in FS-1 where waste or waste residues could be present. Any unanticipated waste or waste residues would be in the form of contaminated gravel/soil and will be managed as contaminated environmental media in accordance with Section H-A3.7.

## **9.0 OTHER REFERENCE DOCUMENTS**

Attachments A, B, C, and D comprise of all FS-1 closure documentation. Table 2 summarized the documents included in each attachment.

**TABLE 1**

**FS-1 CLOSURE MINOR DISCREPANCIES**

ISSUE	RESOLUTION
A total of 7 randomly-selected soil sampling points that were located outside of the DWMU boundary identified by T -posts and signage. This is not in keeping with the intent and graphical representations of the FS-1 closure plan, which was to have the 20 randomly-selected soil samples within the T -post boundary. See Section 8.2 for additional discussion.	Seven additional focused samples were collected and the analytical results compared to the performance standards. The 20 samples from the original grid were also collected and the results analyzed using VSP to validate the original VSP assumptions. See Section 8.7 for additional discussion.
The analyte 2-ethoxyethanol, originally identified as a compound of interest in the SAP, could not be analyzed by any of the laboratories for this project.	This analyte was removed from the target list. See Section 8.3 for additional discussion.
The analyte vanadium pentoxide was originally identified as a compound of interest in the SAP. It cannot be analyzed by any standard laboratory method.	Results were reported as vanadium for this target analyte. See Section 8.3 for additional discussion.

**TABLE 2**

**FS-1 ATTACHMENT FILES MATRIX**

Document Title	Attachment			
	A Field Documents	B Laboratory Results	C Deviations	D Photographs
Timothy J. Oliver IQRPE Field Notes: FS-1 Survey Oversight August 3, 2015	✓			
Timothy J. Oliver IQRPE Field Notes: FS-1 Sampling Oversight August 5 and 6, 2015	✓			
Survey Data Report- 200W/ Trench-34 FS-1 Storage Area Sample locations Staking, August 3, 2015	✓			
Log Book HNF-N-507-31, August 5, 2015: FS-1 Outdoor Container Storage Area	✓			
Log Book HNF-N-507-31 August 6, 2015: FS-1 Outdoor Container Storage Area	✓			
TRAVELER # TRVL-15-136 FS-1 Outdoor Container Storage Area – Soil Samples F15-048	✓			
CH2M HILL Plateau Remediation Company Radiological Survey Report SW-1200718 03/28/2012	✓			
CHPRC SAF F15-048 Word Order: 378728 SDG:GEL378728		✓		
CHPRC SAF F15-048 VOC Work Order: 378840 SDG:GEL378840		✓		
CHPRC SAF F15-048 VOC Work Order: 378965 SDG:GEL378965		✓		
CHPRC SAF F15-048 Formic Acid SDG: SWRI 579621		✓		

**TABLE 2 (continued)**

**FS-1 ATTACHMENT FILES MATRIX**

Document Title	Attachment			
	A Field Documents	B Laboratory Results	C Deviations	D Photographs
CHPRC SAF F15-048 Formic Acid SDG: SWRI 579671		✓		
Data Validation Report for CH2M Hill Plateau Remediation Company VSR 15-002 Project Low-Level Burial Grounds Trenches 31-34-94 Chemical & Radiochemical Validation- Level C		✓		
Summary Of FS-1 Outdoor Container Storage Areas Soil Sample Analytical Results To Support RCRA Clean Closure CHPRC-1505000, Revision 0 - October 20, 2015		✓		
Results Summary Table ECY Combined		✓		
FS-1 Outdoor Container Storage Area Revised Barium Results for Soil Samples Analyzed to Support RCRA Clean Closure CHPRC-1600338, Revision 0, January 13, 2016		✓		
Transmittal Of Minor Deviations From FS-1 Outdoor Container Storage Area Closure Plan CHPRC-1503561 Sample Locations Memorandum, August 12, 2015			✓	
Transmittal Of Proposed Deviations From FS-1 Outdoor Container Storage Area Closure Plan- Listed Analyte CHPRC-1504284 Analyte Eliminated Memorandum, September 18, 2015			✓	

**TABLE 2 (continued)**

**FS-1 ATTACHMENT FILES MATRIX**

Document Title	Attachment			
	A Field Documents	B Laboratory Results	C Deviations	D Photographs
Transmittal Of Proposed Deviations From FS-1 Outdoor Container Storage Area Closure Plan- Vanadium Pentoxide Reporting CHPRC-1504935 Vanadium Oxide, October 26, 2015			✓	
Photographs				✓

**ATTACHMENT A**  
**FS-1 CLOSURE FIELD DOCUMENTS**  
**(287 Pages)**

PROJECT FS-1 Closure

NO. 15-188

DATE 3 August 2015

SUBJECT Surveying Oversight

BY T.O.

SHEET 1 of 1



0830 Meet V. Herter at Mod 281.

- discuss plan of day
- determine that samplers will follow internal procedures for VOC (SVOC) soil sample collection.  $\Rightarrow$  Request copies
- determine that something called a "traveler" will be the document that is really used by the samplers to follow.  $\Rightarrow$  Request copy
- wait for documentation to be completed for H+S purposes before we can mobilize to the field.

1000 Mobilize to FS-1 to observe sample locate layout.

Area is designated by a series of T-bars. 10 on south and 9 on north. Driveway enters area on south side between T-bars 6+7.

Start laying out locates. F-5-2 ends up north of the T-bars on north side of area. This means F-5-6, -10, -14, -18 will also fall outside.  $\Rightarrow$  will need to resolve.

Locate PS-1-9 is located at a driveway that enters from the south. Will need to remove driveway material before sample collection.

Place focused samples FS-1-21<sup>OPTION 1</sup> and FS-1-22<sup>OPTION 2</sup> at east end of site because FS-1-19 + -20 fell west of storage area.

Place focused samples FS-1-OPTION-3 thru 7 inside northern boundary of area to compensate for samples north of area boundary.

1345 Done with sample locates.

FS-1 Closure

15-138

5 August 2015

PROJECT

NO.

DATE



Sampling Oversight

ED

1 of 1

SUBJECT

BY

SHEET

COMPUTATION SHEET

0645 On-site. Meet w/ V. Harter to discuss day's activities.

0700 Prejob Briefing. Discrepancy in work order regarding waste disposal delays start of work.

0830 Ecology staff briefing. Discuss additional focused samples. Request Ecology split-sample data. They plan to collect 3 samples.

0930 Mobilize to FS-1 to start sample collection.

Observe collection of FS-1-19. Ecology Split.  
FS-1-20  
~~FS-1-OPTION-7~~ to  
FS-1-18  
FS-1-OPTION-7. Ecology Split.  
FS-1-17  
FS-1-4 ecology split.  
FS-1-OPTION-6  
FS-1-15 (Duplicate)  
FS-1-12

1200 to 1300 Lunch

1400 Done sampling for the day.

6 August 2015

0700 Onsite at FS-1. Continue sampling.

Observe collection of FS-1-11.  
FS-1-9.

0745 Offsite to 207A.

1030 Return. Working on FS-1-OPTION 1  
FS-1-OPTION 2

No anomalies noted.

1100 Offsite

SURVEY DATA REPORT				Request No. 154-156		
Project No.	Title 200W/ Trench-34 FS-1 Storage Area Sample Locations Staking			File No. 2WWC-037		
Job No. CACN: 303757- JPRC	Prepared By N.P. Fastabend	Date 8/3/15	Reviewer 			
DESCRIPTION OF WORK			DISTRIBUTION	SDR	PLOT	DWG
Staked sample point locations at coordinates provided and as directed in the field to support collection of soil/gravel samples at the FS-1 Storage Area, located north of the WRAP Facility and south of Trench-34.  Horizontal Coordinate System: WCS83S/91 (Meters) Vertical Datum: NAVD88 (Meters)			Survey File	OR		
			D. Todak	1		
			J.L. Hammons	1		
			V.L. Harter	1		
SURVEY RESULTS AND COMMENTS						
<u>Name</u>	<u>Northing</u>	<u>Easting</u>	<u>Ground Elevation</u>	<u>Description</u>		
FS-1-1	136667.442	565946.896	213.6	Set Hub & Stake		
FS-1-2	136674.910	565946.896	213.8	Set Hub & Stake		
FS-1-3	136663.708	565940.429	213.7	Set Hub & Stake		
FS-1-4	136671.176	565940.429	213.8	Set Hub & Stake		
FS-1-5	136667.442	565933.961	213.9	Set Hub & Stake		
FS-1-6	136674.910	565933.961	214.0	Set Hub & Stake		
FS-1-7	136663.708	565927.494	213.9	Set Hub & Stake		
FS-1-8	136671.176	565927.494	214.1	Set Hub & Stake		
FS-1-9	136667.442	565921.026	214.2	Set Hub & Stake		
FS-1-10	136674.910	565921.026	214.3	Set Hub & Stake		
FS-1-11	136663.708	565914.558	214.3	Set Hub & Stake		
FS-1-12	136671.176	565914.558	214.4	Set Hub & Stake		
FS-1-13	136667.442	565908.091	214.4	Set Hub & Stake		
FS-1-14	136674.910	565908.091	214.6	Set Hub & Stake		
FS-1-15	136663.708	565901.623	214.5	Set Hub & Stake		
FS-1-16	136671.176	565901.623	214.7	Set Hub & Stake		
FS-1-17	136667.442	565895.156	214.8	Set Hub & Stake		

**SURVEY DATA REPORT**

Request No.

154-156

Project No.

Title

200W/ Trench-34 FS-1 Storage Area  
Sample Locations Staking

File No.

2WWC-037

<u>Name</u>	<u>Northing</u>	<u>Easting</u>	<u>Ground Elevation</u>	<u>Description</u>
FS-1-18	136674.910	565895.156	214.9	Set Hub & Stake
FS-1-19	136663.708	565888.688	214.7	Set Hub & Stake
FS-1-20	136671.176	565888.688	215.0	Set Hub & Stake
FS-1-OPT-1	136663.708	565950.012	213.5	Set Hub & Stake
FS-1-OPT-2	136671.176	565950.012	213.6	Set Hub & Stake
FS-1-OPT-3	136673.910	565946.896	213.7	Set Hub & Stake
FS-1-OPT-4	136673.910	565933.961	214.0	Set Hub & Stake
FS-1-OPT-5	136673.910	565921.026	215.0	Set Hub & Stake
FS-1-OPT-6	136673.910	565908.091	214.6	Set Hub & Stake
FS-1-OPT-7	136673.910	565895.156	214.9	Set Hub & Stake
SE COR (ORIGIN)	136662.380	565953.127	213.3	Existing T-Post @ SE Corner
NE COR	136674.511	565953.408	213.6	Existing T-Post @ NE Corner

Sample Date: 08/05/2015

LOGBOOK: HNF-N-507-31 / Pg.67

PROJECT TITLE: FS-1 Outdoor Container Storage Area - Soil Samples 2015 - Day 1

S.A.F. #: F15-048 CHARGE CODE: 303757 / JPRC Traveler #: TRVL-15-136

CUSTOMER: V. Harter Project Manager for FS-1

FIELD CONTACT: D. Beerman CWC FWS R. Simms CWC NCO

PURPOSE: To sample and characterize the FS-1 soil for clean closure.

0730 On site MO-720 Operations center for Pre-job given by CWC FWS

Attendees:

J. Hammons	GWS FWS	K. Patterson	NCO Sampler
C. Fulton	NCO Sampler	F. Hall	NCO Sampler
R. Simms	CWC NCO	V. Harter	FS-1 Pro. Mgr.
T. Oliver	I.Q.R.P.E. (Akana)		

(I.Q.R.P.E. - Independent Qualified Registered Professional Engineer)

DOCUMENTS: SAF # F15-048, Sampling Procedures: GRP-FS-04-G-016,029, 030, and TRVL-15-136.

CWC Work Package: 2X-15-02665

PPE: Substantial foot ware, safety glasses, reflective clothing

0750 Problem with waste statement in CWC work package, paused pre-job to make corrections to work package.

0815 Oversight and Ecology arrive at MO-720 OPS Center:

T. McKarns	DOE	D. Carter	DOE
S. Luttrell	Ecology (ECY)	J. Williams	CHRPC-EP
J. Temple	ECY	J. Yokel	ECY
L. Peterson	CHRPC-EP		

0857 Work Package changed, pre-job continued.

0915 Off-site MO-720.

LOCATION:

0920 On-site FS-1 Outdoor Container Storage Area.



*Handwritten signature and date: 8/15/15*

\* NOTE - ONE FORM ATTACHED THIS PAGE. *Handwritten signature* Continued on Page 68

Read and Understood By

*Handwritten signature*

8/15/15

Signed

Date

Signed

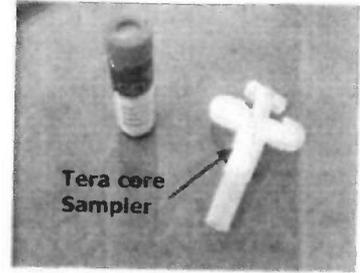
Date

**SAMPLE DATE:** 08/05/2015

**Logbook:** HNF-N-507-31 / Pg.68

**Sample method:**

At each sample point identified in TRVL-15-136 and verified at the staked location, a laboratory cleaned Shovel was used to remove the top cap of gravel at the Southeast corner of each stake to reveal undisturbed soil (ranging from 5 to 8 inches). Using new certified clean TERA core samplers approximately 5 grams of soil was captured and placed into 5 – 40 ml aGs (amber glass w/septa lid) Lot# B015201VB. Then using a laboratory clean hand trowel, 2 mm sieve, and stainless steel bowl the soil was scooped into the sieve and sifted into the bowl. Then using the trowel the remaining 7 sample bottles were filled for each location. 5 – 250 ml aG Lot# 035302, 1 – 125 ml aG Lot# 00044152, 1 – 60 ml aG Lot# 00047927. A Sample Record Sheet was filled out for each low volume VOA set of samples per GRP-FS-04-G-030.



**Scale #:** 7131321228  
**0957** Sampled FS-1

**Cal. Due date:** 12/03/2015

**Weight Test:** 199.96 g

Closure  
Confirmation 1-19.  
Sample #s B32D73,  
B32D73, and  
B32D73. Sample  
material: moist sand.  
ECY had samplers fill  
their sample bottle for  
the same location.



**Weather:** 77°F, wind @4 mph from the West, Humidity at 27%, Barometric: 29.24.  
Per Hanford Weather Station (PFP monitoring station).

\* NOTE - ONE FORM ATTACHED THIS PAGE. continued on 69

*[Signature]*

8/5/15

Signed

Date

Signed

Date

Read and Understood By

*8/5/15*  
**Logbook:** HNF-N-507-31 / Pg.69

**SAMPLE DATE:** 08/05/2015

- 1020 Sampled FS-1 Closure Confirmation 1-20. Sample #s B32D76, B32D77, and B32D78. Sample material: moist sand.
- 1043 Sampled FS-1 Closure Confirmation 1-18. Sample #s B32D70, B32D71, and B32D72. Sample material: moist clay.
- 1105 Sampled FS-1 Closure Confirmation: Optional 7. Sample #s B32F31, B32F32, and B32F33. Sample material: moist clay. ECY had samplers fill their sample bottle for the same location
- 1129 Sampled FS-1 Closure Confirmation 1-17. Sample #s B32D67, B32D68, and B32D69. Sample material: damp clay.
- 1148 Sampled FS-1 Closure Confirmation: Optional 1-4 at the request of the Department of Ecology. Sample #s B32D25, B32D26, and B32D27. Sample material: damp hard packed sand. ECY had samplers fill their sample bottle for the same location.



- 1205 All Ecology and DOE over site Personnel off-site FS-1.
  - 1223 Sampled FS-1 Closure Confirmation 1-16. Sample #s B32D65, B32D66, and B32D67. Sample material: damp compact sand.
  - 1235 Sampled FS-1 Closure Confirmation 1-15. Sample #s B32D61, B32D62, and B32D63. Sample material: dry sand.
  - 1251 Sampled FS-1 Closure Confirmation 1-14. Sample #s B32D58, B32D59, and B32D60. Sample material: dry sand.
- 8/5/15*

\* NOTE - ONE FORM ATTACHED THIS PAGE. *98* continued on Page 70

Read and Understood By

*[Signature]*

Signed

*8/5/15*

Date

Signed

Date

**Logbook:** HNF-N-507-31 / Pg.70

**SAMPLE DATE:** 08/05/2015

*8/5/15*

- 1306 Sampled FS-1 Closure Confirmation: Optional 6. Sample #s B32F28, B32F29, and B32F30. Sample material: dry sand.
- 1322 Sampled FS-1 Closure Confirmation 1-13. Sample #s B32D52, B32D53, and B32D54. Also sampled FS-1 Closure Confirmation 1-13 Duplicate B32D55, B32D56, and B32D57. Sample material: moist sand.
- 1347 Sampled FS-1 Closure Confirmation 1-12. Sample #s B32D49, B32D50, and B32D51. Sample material: moist hard packed sand.
- 1353 sample evolution suspended until 08/06/2015.
- 1355 Waste to CWC NCO for disposal.
- 1358 Off-site FS-1.
- 1412 Samples entered into SSU-1 at the 6269 Shipping Facility for overnight storage
- 1530 No further entries this date. K. Patterson

*8/5/15*

\* NOTE - ONE FORM ATTACHED THIS PAGE. *AK*

COPY

*AK*

*8/5/15*

Continued on Page N/A

*AK*

Read and Understood By

*8/5/15*

Signed

Date

Signed

Date

**Sample Date:** 08/05/2015

**LOGBOOK:** HNF-N-507-31 / Pg.67

**PROJECT TITLE:** FS-1 Outdoor Container Storage Area – Soil Samples 2015 - Day 1

**S.A.F. #:** F15-048      **CHARGE CODE:** 303757 / JPRC      **Traveler #:** TRVL-15-136

**CUSTOMER:** V. Harter      Project Manager for FS-1

**FIELD CONTACT:** D. Beerman      CWC FWS      R. Simms      CWC NCO

**PURPOSE:** To sample and characterize the FS-1 soil for clean closure.

**0730** On site MO-720 Operations center for Pre-job given by CWC FWS

**Attendees:**

J. Hammons	GWS FWS	K. Patterson	NCO Sampler
C. Fulton	NCO Sampler	F. Hall	NCO Sampler
R. Simms	CWC NCO	V. Harter	FS-1 Pro. Mgr.
T. Oliver	I.Q.R.P.E. (Akana)		

(I.Q.R.P.E. – Independent Qualified Registered Professional Engineer)

**DOCUMENTS:** SAF # F15-048, Sampling Procedures: GRP-FS-04-G-016,029, 030, and TRVL-15-136.

**CWC Work Package:** 2X-15-02665

**PPE:** Substantial foot ware, safety glasses, reflective clothing

**0750** Problem with waste statement in CWC work package, paused pre-job to make corrections to work package.

**0815** Oversight and Ecology arrive at MO-720 OPS Center:

T. McKarns	DOE	D. Carter	DOE
S. Luttrell	Ecology (ECY)	J. Williams	CHRPC-EP
J. Temple	ECY	J. Yokel	ECY
L. Peterson	CHRPC-EP		

**0857** Work Package changed, pre-job continued.

**0915** Off-site MO-720.

**LOCATION:**

**0920** On-site FS-1 Outdoor Container Storage Area.



**Logbook:** HNF-N-507-31 / Pg.68

**SAMPLE DATE:** 08/05/2015

**Sample method:**

At each sample point identified in TRVL-15-136 and verified at the staked location, a laboratory cleaned Shovel was used to remove the top cap of gravel at the Southeast corner of each stake to reveal undisturbed soil (ranging from 5 to 8 inches). Using new certified clean TERA core samplers approximately 5 grams of soil was captured and placed into 5 – 40 ml aGs (amber glass w/septa lid) Lot# B015201VB. Then using a laboratory clean hand trowel, 2 mm sieve, and stainless steel bowl the soil was scooped into the sieve and sifted into the bowl. Then using the trowel the remaining 7 sample bottles were filled for each location. 5 – 250 ml aG Lot# 035302, 1 – 125 ml aG Lot# 00044152, 1 – 60 ml aG Lot# 00047927. A Sample Record Sheet was filled out for each low volume VOA set of samples per GRP-FS-04-G-030.



**Scale #:** 7131321228

**Cal. Due date:** 12/03/2015

**Weight Test:** 199.96 g

**0957** Sampled FS-1

Closure

Confirmation1-19.

Sample #s B32D73,

B32D73, and

B32D73. Sample

material: moist sand.

ECY had samplers fill

their sample bottle for

the same location.



**FS-1-1.6" Southeast corner of the stake**

**Weather:** 77°F, wind @4 mph from the West, Humidity at 27%, Barometric: 29.24.  
Per Hanford Weather Station (PFP monitoring station).

- 1020** Sampled FS-1 Closure Confirmation1-20. Sample #s B32D76, B32D77, and B32D78. Sample material: moist sand.
- 1043** Sampled FS-1 Closure Confirmation1-18. Sample #s B32D70, B32D71, and B32D72. Sample material: moist clay.
- 1105** Sampled FS-1 Closure Confirmation: Optional 7. Sample #s B32F31, B32F32, and B32F33. Sample material: moist clay. ECY had samplers fill their sample bottle for the same location
- 1129** Sampled FS-1 Closure Confirmation1-17. Sample #s B32D67, B32D68, and B32D69. Sample material: damp clay.
- 1148** Sampled FS-1 Closure Confirmation: Optional 1-4 at the request of the Department of Ecology. Sample #s B32D25, B32D26, and B32D27. Sample material: damp hard packed sand. ECY had samplers fill their sample bottle for the same location.



- 1205** All Ecology and DOE over site Personnel off-site FS-1.
- 1223** Sampled FS-1 Closure Confirmation1-16. Sample #s B32D65, B32D66, and B32D67. Sample material: damp compact sand.
- 1235** Sampled FS-1 Closure Confirmation1-15. Sample #s B32D61, B32D62, and B32D63. Sample material: dry sand.
- 1251** Sampled FS-1 Closure Confirmation1-14. Sample #s B32D58, B32D59, and B32D60. Sample material: dry sand.

**Logbook:** HNF-N-507-31 / Pg.70

**SAMPLE DATE:** 08/05/2015

- 1306** Sampled FS-1 Closure Confirmation: Optional 6. Sample #s B32F28, B32F29, and B32F30. Sample material: dry sand.
- 1322** Sampled FS-1 Closure Confirmation1-13. Sample #s B32D52, B32D53, and B32D54. Also sampled FS-1 Closure Confirmation1-13 Duplicate B32D55, B32D56, and B32D57. Sample material: moist sand.
- 1347** Sampled FS-1 Closure Confirmation1-12. Sample #s B32D49, B32D50, and B32D51. Sample material: moist hard packed sand.
- 1353** sample evolution suspended until 08/06/2015.
- 1355** Waste to CWC NCO for disposal.
- 1358** Off-site FS-1.
- 1412** Samples entered into SSU-1 at the 6269 Shipping Facility for overnight storage
- 1530** No further entries this date. K. Patterson

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 05, 2015
SAF NO.(S) F15-048		TIME 0955-0957
LOCATION FS-1 Closure Confirmation: 1-19	LOGBOOK NO./PAGE HNF-N-507-31-67	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12' <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-058**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D73	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-059**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D74	5 / 40mL / aGs	B015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-060**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D75	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D75	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D75	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D75	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D75	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32D75	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE AUG 05 2015 TIME 0955 <sup>0955</sup> 0957
LOCATION FS-1 Closure Confirmation: 1-19	LOGBOOK NO./PAGE HNF-N-507-31.67	
WELL NAME N/A	ORIGINAL	WELL ID N/A
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		ACTUAL DEPTH 0.12" <input type="checkbox"/> ft <input type="checkbox"/> m
	BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

<b>FIELD INFORMATION</b>		
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER		
CONTAINER/DRUM/TOTE/BOX (N/A)		
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER		
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]		
MOIST SAND. <span style="font-size: 2em; color: blue; opacity: 0.5;">COPY</span>		
<b>FIELD OBSERVATIONS</b>		
WEATHER SEE log book		
FIELD COMMENTS ABOUT AN 8" Cap of Gravel.		
SUPPORT PERSONNEL See log Book		
SAMPLES SURVEYED BY RCT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IS A BLUE CARD REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO BLUE CARD NO (N/A)		
IS SRS PROVIDED AND COMPLETE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
RECORDED BY	K.C. Patterson/CHPRC	AUG 05 2015
PRINT NAME	SIGN NAME 	DATE
INDEPENDENT REVIEW	PRINT NAME	SIGN NAME
	PRINT NAME	DATE

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1 OF 2
		<b>DATE</b> AUG 05 2015
<b>SAF NO.(S)</b> F15-048		<b>TIME</b> 1020
<b>LOCATION</b> FS-1 Closure Confirmation: 1-20	<b>LOGBOOK NO./PAGE</b> HNF-N-507-31-67	
<b>WELL NAME</b> N/A	<b>ORIGINAL</b>	<b>WELL ID</b> N/A
<b>BOTTOM OF CASING (bgs)</b> (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		<b>ACTUAL DEPTH</b> 0-12' <input type="checkbox"/> ft <input type="checkbox"/> m
		<b>BOTTOM OF BOREHOLE (bgs)</b> (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b> F.M. HalvCHPRC

<b>SWRI</b>		<b>F15-048-061</b>		
<b>SAMPLE NO.</b>	<b>BOTTLE QTY/SIZE/TYPE</b>	<b>LOT NO.</b>	<b>PRESERVATION</b>	<b>ANALYSIS</b>
B32D76	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};
<b>GEL</b>		<b>F15-048-062</b>		
<b>SAMPLE NO.</b>	<b>BOTTLE QTY/SIZE/TYPE</b>	<b>LOT NO.</b>	<b>PRESERVATION</b>	<b>ANALYSIS</b>
B32D77	5 / 40mL / aGs	B015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
<b>GEL</b>		<b>F15-048-063</b>		
<b>SAMPLE NO.</b>	<b>BOTTLE QTY/SIZE/TYPE</b>	<b>LOT NO.</b>	<b>PRESERVATION</b>	<b>ANALYSIS</b>
B32D78	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D78	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D78	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D78	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D78	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32D78	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1020
LOCATION FS-1 Closure Confirmation: 1-20	LOGBOOK NO./PAGE HNF-N-507-31-67	
WELL NAME N/A	ORIGINAL	WELL ID N/A
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		ACTUAL DEPTH 0-12' <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

<b>FIELD INFORMATION</b>		
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER		
CONTAINER/DRUM/TOTE/BOX (N/A)		
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER		
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]		
MOIST SAND		
<b>FIELD OBSERVATIONS</b>		
WEATHER See log book		
FIELD COMMENTS		
7" CAP		
SUPPORT PERSONNEL See log Book		
SAMPLES SURVEYED BY RCT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IS A BLUE CARD REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		BLUE CARD NO (N/A)
IS SRS PROVIDED AND COMPLETE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
RECORDED BY	K.C. Patterson/CHPRC	AUG 05 2015
PRINT NAME	SIGN NAME	DATE
INDEPENDENT REVIEW		
PRINT NAME	SIGN NAME	DATE

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1043
LOCATION FS-1 Closure Confirmation: 1-18	LOGBOOK NO./PAGE HNF-N-507-31-67	
WELL NAME N/A	<b>ORIGINAL</b>	WELL ID N/A
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		ACTUAL DEPTH 0.12" <input type="checkbox"/> ft <input type="checkbox"/> m
		BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-055**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D70	1 / 250mL / G/P	035312	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-056**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D71	5 / 40mL / aGs	B015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-057**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D72	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D72	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D72	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D72	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D72	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32D72	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1043
LOCATION FS-1 Closure Confirmation: 1-18	LOGBOOK NO./PAGE HNF-N-507-31-67	
WELL NAME N/A	ORIGINAL	WELL ID N/A
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. HalvCHPRC

<b>FIELD INFORMATION</b>	
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER	
CONTAINER/DRUM/TOTE/BOX (N/A)	
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER	
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
DAMP clay	
<b>FIELD OBSERVATIONS</b>	
COPY	
WEATHER See log book	
FIELD COMMENTS	
Cap was 8" deep widened the hole enough access.	
SUPPORT PERSONNEL See log book	
SAMPLES SURVEYED BY RCT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
IS A BLUE CARD REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	BLUE CARD NO (N/A)
IS SRS PROVIDED AND COMPLETE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
RECORDED BY	K.C. Patterson/CHPRC
PRINT NAME	SIGN NAME 
INDEPENDENT REVIEW	DATE
PRINT NAME	SIGN NAME
	DATE

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples

PAGE 1 OF 2

DATE AUG 05 2015

SAF NO.(S) F15-048

TIME 1105

LOCATION FS-1 Closure Confirmation: Optional 7

LOGBOOK NO./PAGE HNF-N-507-31-67

WELL NAME N/A

**ORIGINAL**

WELL ID N/A

ACTUAL DEPTH 0-12"  ft  m

BOTTOM OF CASING (bgs) (N/A)  ft  m

BOTTOM OF BOREHOLE (bgs) (N/A)  ft  m

### SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12      TOTAL NUMBER OF CHAINS 3      COLLECTOR F.M. HAINCHPRO

SWRI F15-048-082

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F31	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

GEL F15-048-083

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F32	5 / 40mL / aGs	B015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

GEL F15-048-084

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F33	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32F33	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32F33	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32F33	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32F33	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32F33	1 / 60mL / G/P	00047427	Cool <=6C	9012_CYANIDE: COMMON;

COPY

TRVL 15-136

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples

PAGE 2 OF 2

DATE AUG 05 2015

SAF NO.(S) F15-048

TIME 1105

LOCATION FS-1 Closure Confirmation: Optional 7

LOGBOOK NO./PAGE HNF-N-507-31-67

WELL NAME N/A

**ORIGINAL**

WELL ID N/A

ACTUAL DEPTH 0-12"  ft  m

BOTTOM OF CASING (bgs) (N/A)  ft  m

BOTTOM OF BOREHOLE (bgs) (N/A)  ft  m

### SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12

TOTAL NUMBER OF CHAINS 3

COLLECTOR

F.M. Hall/CHPRC

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX (N/A)

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

*MOIST clay*

### FIELD OBSERVATIONS

COPY

WEATHER *See log book*

FIELD COMMENTS

*Dept. of Ecology samples TAKEN*

SUPPORT PERSONNEL *See log book*

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO

BLUE CARD NO (N/A)

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY K.C. Patterson/CHPRC

*[Signature]*  
SIGN NAME

AUG 05 2015  
DATE

INDEPENDENT REVIEW  
PRINT NAME

SIGN NAME

DATE

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1129
LOCATION FS-1 Closure Confirmation: 1-17	LOGBOOK NO./PAGE HNF-N-507-3-67	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

SWRI		F15-048-052		
SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D67	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

GEL		F15-048-053		
SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D68	5 / 40mL / aGs	B015261VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

GEL		F15-048-054		
SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D69	1 / 250mL / G	035302 <sup>2</sup>	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D69	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D69	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D69	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D69	1 / 120mL / G/P	0004452	Cool <=6C	7196_CR6: COMMON;
B32D69	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1/29
LOCATION FS-1 Closure Confirmation: 1-17	LOGBOOK NO./PAGE	HNF-N-507-31-67
WELL NAME N/A	ORIGINAL	WELL ID N/A
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

<b>FIELD INFORMATION</b>	
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER	
CONTAINER/DRUM/TOTE/BOX (N/A)	
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER	
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
DAMP clay	
<b>FIELD OBSERVATIONS</b>	
WEATHER	See log book
FIELD COMMENTS	5" CAP
SUPPORT PERSONNEL	See log book
SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
IS SRS PROVIDED AND COMPLETE	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
RECORDED BY	K.C. Patterson/CHPRC
INDEPENDENT REVIEW	
PRINT NAME	SIGN NAME
PRINT NAME	SIGN NAME
DATE	AUG 05 2015
DATE	

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1148
LOCATION FS-1 Closure Confirmation: 1-4	LOGBOOK NO./PAGE	HNF-N-507-31.67
WELL NAME N/A	ORIGINAL	WELL ID N/A
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-010**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D25	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) (Formate);

**GEL F15-048-011**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D26	5 / 40mL / aGs	B015201VB 035302	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-012**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D27	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON (Methanol);
B32D27	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D27	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D27	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D27	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32D27	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1148
LOCATION FS-1 Closure Confirmation: 1-4	LOGBOOK NO./PAGE	HNF-N-507-31-67
WELL NAME N/A	ORIGINAL	WELL ID N/A
		ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs)	(N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

<b>FIELD INFORMATION</b>	
WHERE ARE SAMPLES LOCATED AT THIS TIME?	<input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER
CONTAINER/DRUM/TOTE/BOX	(N/A)
SAMPLE MATRIX DESCRIPTION	<input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
Damp Hard Packed sand.	
<b>FIELD OBSERVATIONS</b>	
WEATHER	See logbook
FIELD COMMENTS	Location Picked as Ecology's last location.
SUPPORT PERSONNEL See logbook	
SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
IS SRS PROVIDED AND COMPLETE	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
RECORDED BY	K.C. Patterson/CHPRC
INDEPENDENT REVIEW	
PRINT NAME	SIGN NAME
DATE	AUG 05 2015

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1223
LOCATION FS-1 Closure Confirmation: 1-16	LOGBOOK NO./PAGE HNF-N-507-31.67	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-049**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D64	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) (Formate);

**GEL F15-048-050**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D65	5 / 40mL / aGs	B015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-051**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D66	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON (Methanol);
B32D66	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D66	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D66	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D66	1 / 120mL / G/P	0004452	Cool <=6C	7196_CR6: COMMON;
B32D66	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

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# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1223
LOCATION FS-1 Closure Confirmation: 1-16	LOGBOOK NO./PAGE	HNF-N-507-31-67
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs)	(N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Halv/CHPRC

<b>FIELD INFORMATION</b>	
WHERE ARE SAMPLES LOCATED AT THIS TIME?	<input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER
CONTAINER/DRUM/TOTE/BOX	(N/A)
SAMPLE MATRIX DESCRIPTION	<input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
DAMP compact sand	
<b>FIELD OBSERVATIONS</b>	
WEATHER	See log book
FIELD COMMENTS	N/A
SUPPORT PERSONNEL	See log book
SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO BLUE CARD NO (N/A)
IS SRS PROVIDED AND COMPLETE	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
RECORDED BY	<u>K.C. Patterson/CHPRC</u> SIGN NAME DATE AUG 05 2015
INDEPENDENT REVIEW	PRINT NAME SIGN NAME DATE

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# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1235
LOCATION FS-1 Closure Confirmation: 1-15	LOGBOOK NO./PAGE	HNF-N-507-31-67
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs)	(N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-046**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D61	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-047**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D62	5 / 40mL / aGs	BO15201UB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-048**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D63	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D63	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D63	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D63	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D63	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32D63	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1235
LOCATION FS-1 Closure Confirmation: 1-15	LOGBOOK NO./PAGE HNF-N-507-31-67	
WELL NAME N/A	ORIGINAL	WELL ID N/A ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

<b>FIELD INFORMATION</b>		
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER		
CONTAINER/DRUM/TOTE/BOX (N/A)		
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER		
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]		
Dry SAND		
<b>FIELD OBSERVATIONS</b>		
WEATHER See log book		
FIELD COMMENTS		
N/A		
SUPPORT PERSONNEL See logbook		
SAMPLES SURVEYED BY RCT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IS A BLUE CARD REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO BLUE CARD NO (N/A)		
IS SRS PROVIDED AND COMPLETE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
RECORDED BY	M.C. Patterson/CHPRC	AUG 05 2015
PRINT NAME	SIGN NAME 	DATE
INDEPENDENT REVIEW	PRINT NAME	SIGN NAME
	PRINT NAME	DATE

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# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1251
LOCATION FS-1 Closure Confirmation: 1-14	LOGBOOK NO./PAGE HNF-N-507-31-67	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-043**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D58	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-044**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D59	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-045**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D60	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D60	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D60	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D60	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D60	1 / 120mL / G/P	00044152 035302	Cool <=6C	7196_CR6: COMMON;
B32D60	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

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# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples

PAGE 2 OF 2

DATE AUG 05 2015

SAF NO.(S) F15-048

TIME 1257

LOCATION FS-1 Closure Confirmation: 1-14

LOGBOOK NO./PAGE HNF-N-507-31-67

WELL NAME N/A

**ORIGINAL**

WELL ID N/A

ACTUAL DEPTH 0-12"  ft  m

BOTTOM OF CASING (bgs) (N/A)  ft  m

BOTTOM OF BOREHOLE (bgs) (N/A)  ft  m

### SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12

TOTAL NUMBER OF CHAINS 3

COLLECTOR

F.M. Hall/CHPRC

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX (N/A)

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

DRY SAND

COPY

### FIELD OBSERVATIONS

WEATHER See log book

FIELD COMMENTS

N/A

SUPPORT PERSONNEL

See log book

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO

BLUE CARD NO (N/A)

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY K.C. Patterson/CHPRC



AUG 05 2015

PRINT NAME

SIGN NAME

DATE

INDEPENDENT REVIEW

PRINT NAME

SIGN NAME

DATE

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
SAF NO.(S) F15-048		DATE AUG 05 2015
LOCATION FS-1 Closure Confirmation: Optional 6		TIME 1306
WELL NAME N/A	LOGBOOK NO./PAGE HNF-N-507-31-67	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-079**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32F28	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-080**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32F29	5 / 40mL / aGs	BO15201V13	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-081**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32F30	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32F30	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32F30	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32F30	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32F30	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32F30	1 / 60mL / G/P	000 47927	Cool <=6C	9012_CYANIDE: COMMON;

TRVL-15- 136

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 130L
LOCATION FS-1 Closure Confirmation: Optional 6	LOGBOOK NO./PAGE	HNF-N-507-31-167
WELL NAME N/A	ORIGINAL	WELL ID N/A
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
		BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX (N/A)

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

COPY

Dry sand

### FIELD OBSERVATIONS

WEATHER *See logbook.*

FIELD COMMENTS

N/A

SUPPORT PERSONNEL *See logbook*

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO (N/A)

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY *F.M. Hall/CHPRC* K.C. Patterson/CHPRC AUG 05 2015

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FV-15-136

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1322
LOCATION FS-1 Closure Confirmation: 1-13	LOGBOOK NO./PAGE HNF-N-507- 21-67	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12' <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR P.M. Hall/CHPRC

**SWRI F15-048-037**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D52	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-038**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D53	5 / 40mL / aGs	0015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-039**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D54	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D54	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D54	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D54	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D54	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32D54	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1322
LOCATION FS-1 Closure Confirmation: 1-13	LOGBOOK NO./PAGE HNF-N-507-31-67	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR P.M. Hall/CHPRC

<b>FIELD INFORMATION</b>	
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER	
CONTAINER/DRUM/TOTE/BOX (N/A)	
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER	
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
moist <sup>dry</sup> sand	
<b>FIELD OBSERVATIONS</b>	
WEATHER See logbook	
FIELD COMMENTS N/A	
SUPPORT PERSONNEL See logbook	
SAMPLES SURVEYED BY RCT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
IS A BLUE CARD REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	BLUE CARD NO (N/A)
IS SRS PROVIDED AND COMPLETE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
RECORDED BY K.C. Patterson/CHPRC	AUG 05 2015
PRINT NAME	SIGN NAME
INDEPENDENT REVIEW	DATE
PRINT NAME	SIGN NAME
	DATE

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1322
LOCATION FS-1 Closure Confirmation: 1-13 Duplicate	LOGBOOK NO./PAGE	HNF-N-507- 31.67
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12 <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs)	(N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-040**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D55	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-041**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D56	5 / 40mL / aGs	B015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-042**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D57	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D57	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D57	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D57	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D57	1 / 120mL / G/P	000 44152	Cool <=6C	7196_CR6: COMMON;
B32D57	1 / 60mL / G/P	000 47927	Cool <=6C	9012_CYANIDE: COMMON;

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 05 2015
SAF NO.(S) F15-048		TIME 1322
LOCATION FS-1 Closure Confirmation: 1-13 Duplicate	LOGBOOK NO./PAGE	HNF-N-507-31-67
WELL NAME N/A	ORIGINAL	WELL ID N/A
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hal/CHPRC

FIELD INFORMATION	
WHERE ARE SAMPLES LOCATED AT THIS TIME?	<input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER
CONTAINER/DRUM/TOTE/BOX	(N/A)
SAMPLE MATRIX DESCRIPTION	<input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
moist sand	
FIELD OBSERVATIONS	
WEATHER	see log book
FIELD COMMENTS	
SUPPORT PERSONNEL	
SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO BLUE CARD NO (N/A)
IS SRS PROVIDED AND COMPLETE	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
RECORDED BY	K.C. Patterson/CHPRC
INDEPENDENT REVIEW	
PRINT NAME	SIGN NAME
PRINT NAME	SIGN NAME
DATE	AUG 05 2015
DATE	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1 <b>OF</b> 2
		<b>DATE</b> AUG 05 2015
<b>SAF NO.(S)</b> F15-048		<b>TIME</b> 1347
<b>LOCATION</b> FS-1 Closure Confirmation: 1-12	<b>LOGBOOK NO./PAGE</b> HNF -N-507- <u>31.67</u>	
<b>WELL NAME</b> N/A	<b>ORIGINAL</b>	<b>WELL ID</b> N/A
<b>BOTTOM OF CASING (bgs)</b> (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	<b>ACTUAL DEPTH</b> 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m	
	<b>BOTTOM OF BOREHOLE (bgs)</b> (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b> F.M. Hall/CHPRC

**SWRI** **F15-048-034**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D49	1 / 250mL / G/P	<i>035302</i>	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-035**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D50	5 / 40mL / aGs	<i>B015201VB</i>	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-036**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D51	1 / 250mL / G	<i>035302</i>	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D51	1 / 250mL / aG	<i>035302</i>	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D51	1 / 250mL / aG	<i>035362</i>	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D51	1 / 250mL / G/P	<i>035302</i>	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D51	1 / 120mL / G/P	<i>00044152</i>	Cool <=6C	7196_CR6: COMMON;
B32D51	1 / 60mL / G/P	<i>00047927</i>	Cool <=6C	9012_CYANIDE: COMMON;

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples

PAGE 2 OF 2

DATE AUG 05 2015

SAF NO.(S) F15-048

TIME 1347

LOCATION FS-1 Closure Confirmation: 1-12

LOGBOOK NO./PAGE HNF-N-507-31-67

WELL NAME N/A

**ORIGINAL**

WELL ID N/A

ACTUAL DEPTH 0-12"  ft  m

BOTTOM OF CASING (bgs) (N/A)  ft  m

BOTTOM OF BOREHOLE (bgs) (N/A)  ft  m

### SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12

TOTAL NUMBER OF CHAINS 3

COLLECTOR

F.M. Hall/CHPRC

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX (N/A)

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

moist sand Hand Pack

### FIELD OBSERVATIONS

WEATHER See logbook

FIELD COMMENTS N/A

COPY

SUPPORT PERSONNEL See logbook

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO

BLUE CARD NO (N/A)

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY K.C. Patterson/CHPRC

PRINT NAME

SIGN NAME

DATE

AUG 05 2015

INDEPENDENT REVIEW

PRINT NAME

SIGN NAME

DATE

**Sample Date:** 08/06/2015

**LOGBOOK:** HNF-N-507-31 / Pg.71

**PROJECT TITLE:** FS-1 Outdoor Container Storage Area – Soil Samples 2015 - Day 2

**S.A.F. #:** F15-048 **CHARGE CODE:** 303757 / JPRC **Traveler #:** TRVL-15-136

**CUSTOMER:** V. Harter Project Manager for FS-1

**FIELD CONTACT:** M. Pawlick CWC FWS R. Simms CWC NCO

**PURPOSE:** To sample and characterize the FS-1 soil for clean closure.

**0655** On site FS-1 Outdoor Container Storage Area. CWC FWS

**0700** Pre-job given by CWC FWS.

**Attendees:**

K. Patterson	NCO Sampler	C. Fulton	NCO Sampler
F. Hall	NCO Sampler	R. Simms	CWC NCO
V. Harter	FS-1 Pro. Mgr.	T. Oliver	I.Q.R.P.E. (Akana)

**DOCUMENTS:** SAF # F15-048, Sampling Procedures: GRP-FS-04-G-016,029, 030, and TRVL-15-136.

**CWC Work Package:** 2X-15-02665

**PPE:** Substantial foot ware, safety glasses, reflective clothing

**Weather:** 75°F, wind from the Southeast @ 6 mph, Humidity at 25%, Barometric: 29.30.

Per Hanford Weather Station (PFP monitoring station).

- 0710** Prepped for first sample location, will start at location FS-1-11.
- 0714** Sample evolution continues from day 1(08/05/2015).
- 0715** Sampled FS-1 Closure Confirmation 1-11. Sample #s B32D46, B32D47, and B32D48. Sample material: dry soil with cobble as the cap used a laboratory cleaned pick. Sample material was dry soil and rocky sieved heavily.
- 0733** Sampled FS-1 Closure Confirmation 1-9. Sample #s B32D40, B32D41, and B32D42. Sample material: moist sand.
- 0750** Sampled FS-1 Closure Confirmation: Optional 5. Sample #s B32F25, B32F25, and B32F24. Sample material: moist sandy clay.
- 0810** Sampled FS-1 Closure Confirmation 1-10. Sample #s B32D43, B32D44, and B32D45. Sample material: moist sand. Used a laboratory cleaned pick to break up the compact gravel cap.
- 0822** Sampled FS-1 Closure Confirmation 1-7. Sample #s B32D34, B32D35, and B32D36. Sample material: dry sand.
- 0838** Sampled FS-1 Closure Confirmation 1-8. Sample #s B32D37, B32D38, and B32D39. Sample material: moist hard packed sand.
- 0850** Sampled FS-1 Closure Confirmation 1-5. Sample #s B32D28, B32D29, and B32D30. Sample material: moist compact sand and clay.
- 0905** Sampled FS-1 Closure Confirmation 1-6. Sample #s B32D31, B32D32, and B32D33. Sample material: moist sand and clay mix.
- 0928** Sampled FS-1 Closure Confirmation: Optional 4. Sample #s B32F22, B32F23, and B32F24. Sample material: moist sandy clay mix.
- 0940** Sampled FS-1 Closure Confirmation 1-3. Sample #s B32D22, B32D23, and B32D24. Sample material: moist compact sand.

\*NOTE - ONE FORM ATTACHED THIS PAGE.

Continued on Page 72

*[Signature]*

8/6/15

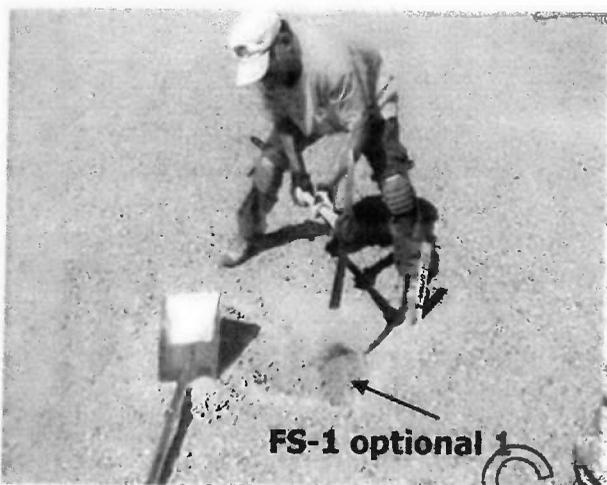
Read and Understood By

*gp slabs*

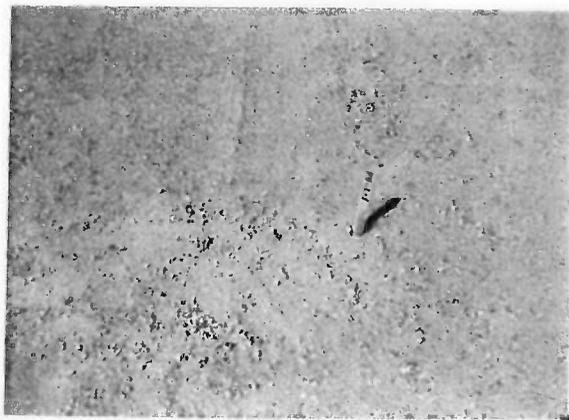
**Logbook:** HNF-N-507-31 / Pg.72

**SAMPLE DATE:** 08/06/2015

- 0954 Sampled FS-1 Closure Confirmation 1-1. Sample #s B32D16, B32D17, and B32D18. Sample material: moist sand.
- 1006 Sampled FS-1 Closure Confirmation: Optional 3. Sample #s B32F19, B32F20, and B32F21. Sample material: moist compact sandy clay mix. Used a laboratory cleaned pick to break up the compact gravel cap.
- 1022 Sampled FS-1 Closure Confirmation 1-2. Sample #s B32D19, B32D20, and B32D21. Sample material: moist sand. Used a laboratory cleaned pick to break up the compact gravel cap.
- 1033 Sampled FS-1 Closure Confirmation: Optional 1. Sample #s B32DK9, B32DL1, and B32DL3. Sample material: moist sand.



- 1045 Sampled FS-1 Closure Confirmation: Optional 3. Sample #s B32DL0, B32DL2, and B32DL4. Sample material: moist compact sand. Used a laboratory cleaned pick to break up the compact gravel cap.
- 1050 All sample locations were filled in to eliminate a tripping hazard.
- 1052 FS-1 Sample Evolution complete.
- 1055 Waste to CWC NCO for storage.
- 1100 Off-site FS-1.
- 1110 Samples to the 6269 Shipping Facility storage and shipment to off-site laboratories.
- 1400 **No further entries this date.**  
**08/06/2015 K. Patterson**



*gp slabs*

\* NOTE - ONE FORM ATTACHED THIS PAGE ~~SEE~~ continued on Page

Read and Understood By

*[Signature]*

*8/6/15*

Signed

Date

Signed

Date

**Sample Date:** 08/06/2015

**LOGBOOK:** HNF-N-507-31 / Pg.71

**PROJECT TITLE:** FS-1 Outdoor Container Storage Area – Soil Samples 2015 - Day 2

**S.A.F. #:** F15-048      **CHARGE CODE:** 303757 / JPRC      **Traveler #:** TRVL-15-136

**CUSTOMER:** V. Harter      Project Manager for FS-1

**FIELD CONTACT:** M. Pawlick      CWC FWS      R. Simms      CWC NCO

**PURPOSE:** To sample and characterize the FS-1 soil for clean closure.

**0655** On site FS-1 Outdoor Container Storage Area. CWC FWS

**0700** Pre-job given by CWC FWS.

**Attendees:**

K. Patterson	NCO Sampler	C. Fulton	NCO Sampler
F. Hall	NCO Sampler	R. Simms	CWC NCO
V. Harter	FS-1 Pro. Mgr.	T. Oliver	I.Q.R.P.E. (Akana)

**DOCUMENTS:** SAF # F15-048, Sampling Procedures: GRP-FS-04-G-016,029, 030, and TRVL-15-136.

**CWC Work Package:** 2X-15-02665

**PPE:** Substantial foot ware, safety glasses, reflective clothing

**Weather:** 75°F, wind from the Southeast @ 6 mph, Humidity at 25%, Barometric: 29.30.  
Per Hanford Weather Station (PFP monitoring station).

**0710** Prepped for first sample location, will start at location FS-1-11.

**0714** Sample evolution continues from day 1(08/05/2015).

**0715** Sampled FS-1 Closure Confirmation 1-11. Sample #s B32D46, B32D47, and B32D48. Sample material: dry soil with cobble as the cap used a laboratory cleaned pick. Sample material was dry soil and rocky sieved heavily.

**0733** Sampled FS-1 Closure Confirmation 1-9. Sample #s B32D40, B32D41, and B32D42. Sample material: moist sand.

**0750** Sampled FS-1 Closure Confirmation: Optional 5. Sample #s B32F25, B32F25, and B32F24. Sample material: moist sandy clay.

**0810** Sampled FS-1 Closure Confirmation 1-10. Sample #s B32D43, B32D44, and B32D45. Sample material: moist sand. Used a laboratory cleaned pick to break up the compact gravel cap.

**0822** Sampled FS-1 Closure Confirmation 1-7. Sample #s B32D34, B32D35, and B32D36. Sample material: dry sand.

**0838** Sampled FS-1 Closure Confirmation 1-8. Sample #s B32D37, B32D38, and B32D39. Sample material: moist hard packed sand.

**0850** Sampled FS-1 Closure Confirmation 1-5. Sample #s B32D28, B32D29, and B32D30. Sample material: moist compact sand and clay.

**0905** Sampled FS-1 Closure Confirmation 1-6. Sample #s B32D31, B32D32, and B32D33. Sample material: moist sand and clay mix.

**0928** Sampled FS-1 Closure Confirmation: Optional 4. Sample #s B32F22, B32F23, and B32F24. Sample material: moist sandy clay mix.

**0940** Sampled FS-1 Closure Confirmation 1-3. Sample #s B32D22, B32D23, and B32D24. Sample material: moist compact sand.

- 0954** Sampled FS-1 Closure Confirmation 1-1. Sample #s B32D16, B32D17, and B32D18. Sample material: moist sand.
- 1006** Sampled FS-1 Closure Confirmation: Optional 3. Sample #s B32F19, B32F20, and B32F21. Sample material: moist compact sandy clay mix. Used a laboratory cleaned pick to break up the compact gravel cap.
- 1022** Sampled FS-1 Closure Confirmation 1-2. Sample #s B32D19, B32D20, and B32D21. Sample material: moist sand. Used a laboratory cleaned pick to break up the compact gravel cap.
- 1033** Sampled FS-1 Closure Confirmation: Optional 1. Sample #s B32DK9, B32DL1, and B32DL3. Sample material: moist sand.



- 1045** Sampled FS-1 Closure Confirmation: Optional 3. Sample #s B32DL0, B32DL2, and B32DL4. Sample material: moist compact sand. Used a laboratory cleaned pick to break up the compact gravel cap.
- 1050** All sample locations were filled in to eliminate a tripping hazard.
- 1052** FS-1 Sample Evolution complete.
- 1055** Waste to CWC NCO for storage.
- 1100** Off-site FS-1.
- 1110** Samples to the 6269 Shipping Facility storage and shipment to off-site laboratories.
- 1400** **No further entries this date.**  
08/06/2015 K. Patterson



# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 0715
LOCATION FS-1 Closure Confirmation: 1-11	LOGBOOK NO./PAGE HNF -N-507- 31.71	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0.12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-031**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D46	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-032**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D47	5 / 40mL / aGs	B015201VB B0182A1616	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-033**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D48	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D48	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D48	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D48	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D48	1 / 120mL / G/P	000 44152	Cool <=6C	7196_CR6: COMMON;
B32D48	1 / 60mL / G/P	000 47927	Cool <=6C	9012_CYANIDE: COMMON;

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE AUG 06 2015 TIME 0715
LOCATION FS-1 Closure Confirmation: 1-11	LOGBOOK NO./PAGE HNF-N-507- 31-71	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

<b>FIELD INFORMATION</b>		
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER		
CONTAINER/DRUM/TOTE/BOX (N/A)		
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER		
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)] dry soil lots of cobble		
<b>FIELD OBSERVATIONS</b>		
WEATHER See log Book		COPY
FIELD COMMENTS N/A - on road way.		
SUPPORT PERSONNEL See log book		
SAMPLES SURVEYED BY RCT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IS A BLUE CARD REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		BLUE CARD NO (N/A)
IS SRS PROVIDED AND COMPLETE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
RECORDED BY K.C. Patterson/CHPRC		AUG 06 2015
INDEPENDENT REVIEW	PRINT NAME	SIGN NAME
	PRINT NAME	SIGN NAME

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME AUG 06 2015 0733
LOCATION FS-1 Closure Confirmation: 1-9	LOGBOOK NO./PAGE	HNF-N-507-31-71
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs)	(N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-025**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D40	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-026**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D41	5 / 40mL / aGs	B015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-027**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D42	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D42	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D42	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D42	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D42	1 / 120mL / G/P	0004152	Cool <=6C	7196_CR6: COMMON;
B32D42	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 0733
LOCATION FS-1 Closure Confirmation: 1-9	LOGBOOK NO./PAGE HNF-N-507-31.71	
WELL NAME N/A	ORIGINAL	WELL ID N/A
		ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

<b>FIELD INFORMATION</b>		
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER		
CONTAINER/DRUM/TOTE/BOX (N/A)		
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER		
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]		
MOIST SAND		
<b>FIELD OBSERVATIONS</b>		
WEATHER See logbook		
FIELD COMMENTS		
N/A		
SUPPORT PERSONNEL See logbook		
SAMPLES SURVEYED BY RCT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IS A BLUE CARD REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		BLUE CARD NO (N/A)
IS SRS PROVIDED AND COMPLETE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
RECORDED BY	K.C. Patterson/CHPRC	
PRINT NAME		DATE AUG 06 2015
INDEPENDENT REVIEW		
PRINT NAME		DATE

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
SAF NO.(S) F15-048		DATE AUG 06 2015 TIME 0750
LOCATION FS-1 Closure Confirmation: Optional 5	LOGBOOK NO./PAGE HNF-N-507-21-71	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-076**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F25	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-077**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F26	5 / 40mL / aGs	B015201UB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-078**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F27	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32F27	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32F27	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32F27	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32F27	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32F27	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

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TRVL-15- 136

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE AUG 06 2015
LOCATION FS-1 Closure Confirmation: Optional 5		TIME 0750
LOGBOOK NO./PAGE INF-N-507-31.71		
WELL NAME N/A	ORIGINAL	WELL ID N/A
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		ACTUAL DEPTH 0-12' <input type="checkbox"/> ft <input type="checkbox"/> m
		BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
SAMPLES COLLECTED		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX (N/A)

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

moist SANDY CLAY MIXTURE

### FIELD OBSERVATIONS

WEATHER see log book

FIELD COMMENTS CAP WAS HARD PACK GRAVEL

COPY

SUPPORT PERSONNEL see log book

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO (N/A)

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY K.C. Patterson/CHPRC DATE AUG 06 2015

INDEPENDENT REVIEW PRINT NAME SIGN NAME DATE

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1 OF 2	
		<b>DATE</b> AUG 06 2015	
<b>SAF NO.(S)</b> F15-048		<b>TIME</b> 0810	
<b>LOCATION</b> FS-1 Closure Confirmation: 1-10	<b>LOGBOOK NO./PAGE</b> HNF-N-507-31.71		
<b>WELL NAME</b> N/A	<b>ORIGINAL</b>	<b>WELL ID</b> N/A	<b>ACTUAL DEPTH</b> 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	<b>BOTTOM OF BOREHOLE (bgs)</b> (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		
<b>SAMPLES COLLECTED</b>			
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>	F.M. Hall/CHPRC

**SWRI** **F15-048-028**

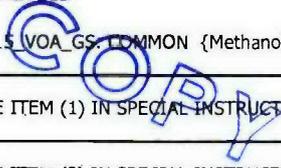
SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D43	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-029**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D44	5 / 40mL / aGs	B0152010B	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-030**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D45	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D45	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D45	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D45	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D45	1 / 120mL / G/P	0044152	Cool <=6C	7196_CR6: COMMON;
B32D45	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;



# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE AUG 06 2015
LOCATION FS-1 Closure Confirmation: 1-10		LOGBOOK NO./PAGE HNF-N-507- 31.71
WELL NAME N/A	<b>ORIGINAL</b>	WELL ID N/A
BOTTOM OF CASING (bgs) (N/A)	<input type="checkbox"/> ft <input type="checkbox"/> m	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF BOREHOLE (bgs) (N/A)		<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX (N/A)

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]  
*10/16/15  
 moist sand & clay*

### FIELD OBSERVATIONS

WEATHER *See logbook*

FIELD COMMENTS *Compact cap*

COPY

SUPPORT PERSONNEL *See logbook*

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO (N/A)

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY K.C. Patterson/CHPRC AUG 06 2015

INDEPENDENT REVIEW

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 0822
LOCATION FS-1 Closure Confirmation: 1-7	LOGBOOK NO./PAGE	HNF-N-507-31-71
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12' <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-019**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D34	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-020**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D35	5 / 40mL / aGs	B015201B	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-021**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D36	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON (Methanol);
B32D36	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D36	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D36	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D36	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32D36	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 0822
LOCATION FS-1 Closure Confirmation: 1-7	LOGBOOK NO./PAGE	HNF-N-507-31-71
WELL NAME N/A	ORIGINAL	WELL ID N/A
BOTTOM OF CASING (bgs) (N/A)	<input type="checkbox"/> ft <input type="checkbox"/> m	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
	BOTTOM OF BOREHOLE (bgs)	(N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR E.M. Hall/CHPRC

<b>FIELD INFORMATION</b>	
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER	
CONTAINER/DRUM/TOTE/BOX (N/A)	
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER	
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
DRY SAND	
<b>FIELD OBSERVATIONS</b>	
WEATHER	see logbook
FIELD COMMENTS	N/A
SUPPORT PERSONNEL	see logbook
SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
IS SRS PROVIDED AND COMPLETE	<input type="checkbox"/> YES <input type="checkbox"/> NO
RECORDED BY	K.C. Patterson/CHPRC
INDEPENDENT REVIEW	
PRINT NAME	SIGN NAME
PRINT NAME	SIGN NAME
	DATE
	DATE

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 0838
LOCATION FS-1 Closure Confirmation: 1-8	LOGBOOK NO./PAGE HNF-N-507-31.71	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI** F15-048-022

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32D37	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** F15-048-023

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32D38	5 / 40mL / aGs	B015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** F15-048-024

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32D39	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D39	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D39	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D39	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D39	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32D39	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 0838
LOCATION FS-1 Closure Confirmation: 1-8	LOGBOOK NO./PAGE HNF-N-507-31.71	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12' <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

<b>FIELD INFORMATION</b>		
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER		
CONTAINER/DRUM/TOTE/BOX (N/A)		
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER		
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]		
MOIST HARD PACK SAND.		
<b>FIELD OBSERVATIONS</b>		
WEATHER See log book		
FIELD COMMENTS		
N/A		
SUPPORT PERSONNEL See log book		
SAMPLES SURVEYED BY RCT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IS A BLUE CARD REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO BLUE CARD NO (N/A)		
IS SRS PROVIDED AND COMPLETE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
RECORDED BY K.C. Patterson/CHPRC		AUG 06 2015
PRINT NAME	SIGN NAME	DATE
INDEPENDENT REVIEW		
PRINT NAME	SIGN NAME	DATE

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 0850
LOCATION FS-1 Closure Confirmation: 1-5	LOGBOOK NO./PAGE HNF-N-507-31-71	
WELL NAME N/A	ORIGINAL	WELL ID N/A
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
		BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. HalvCHPRC

**SWRI F15-048-013**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D28	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) (Formate);

**GEL F15-048-014**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D29	5 / 40mL / aGs	B015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-015**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D30	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON (Methanol);
B32D30	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D30	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D30	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D30	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32D30	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 0850
LOCATION FS-1 Closure Confirmation: 1-5	LOGBOOK NO./PAGE HNF-N-507-31-7'	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12' <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

<b>FIELD INFORMATION</b>		
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER		
CONTAINER/DRUM/TOTE/BOX (N/A)		
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER		
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]  MOIST COMPACT SAND & CLAY		
<b>FIELD OBSERVATIONS</b>		
WEATHER see log book		
FIELD COMMENTS  N/A		
SUPPORT PERSONNEL see log book		
SAMPLES SURVEYED BY RCT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IS A BLUE CARD REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		BLUE CARD NO (N/A)
IS SRS PROVIDED AND COMPLETE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
RECORDED BY K.C. Patterson/CHPRC		DATE AUG 06 2015
PRINT NAME	SIGN NAME	DATE
INDEPENDENT REVIEW		
PRINT NAME	SIGN NAME	DATE

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1	<b>OF</b> 2
		<b>DATE</b> AUG 06 2015	
<b>SAF NO.(S)</b> F15-048		<b>TIME</b> 0905	
<b>LOCATION</b> FS-1 Closure Confirmation: 1-6	<b>LOGBOOK NO./PAGE</b>	HNF -N-507- <u>31.71</u>	
<b>WELL NAME</b> N/A	<b>ORIGINAL</b>	<b>WELL ID</b> N/A	<b>ACTUAL DEPTH</b> 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		<b>BOTTOM OF BOREHOLE (bgs)</b> (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>			
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>	F.M. Hall/CHPRC

**SWRI** **F15-048-016**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D31	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-017**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D32	5 / 40mL / aGs	D01520VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-018**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D33	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D33	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D33	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D33	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D33	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32D33	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 0905
LOCATION FS-1 Closure Confirmation: 1-6	LOGBOOK NO./PAGE HNF-N-507-31.71	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

FIELD INFORMATION	
WHERE ARE SAMPLES LOCATED AT THIS TIME?	<input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER
CONTAINER/DRUM/TOTE/BOX	(N/A)
SAMPLE MATRIX DESCRIPTION	<input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
mass soil & clay mix.	
FIELD OBSERVATIONS	
WEATHER	See log book
FIELD COMMENTS	Compact gravel 10" CAP
SUPPORT PERSONNEL	See log book
SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO BLUE CARD NO (N/A)
IS SRS PROVIDED AND COMPLETE	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
RECORDED BY	K.C. Patterson/CHPRC
INDEPENDENT REVIEW	

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# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
SAF NO.(S) F15-048		DATE AUG 06 2015
		TIME 0928
LOCATION FS-1 Closure Confirmation: Optional 4	LOGBOOK NO./PAGE	HNF-N507-3671
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-073**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F22	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-074**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F23	5 / 40mL / aGs	D015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-075**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F24	1 / 250mL / G	035302	Cool <=6C	8015_VOA_SS: COMMON {Methanol};
B32F24	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32F24	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32F24	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32F24	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32F24	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

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# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 0928
LOCATION FS-1 Closure Confirmation: Optional 4	LOGBOOK NO./PAGE	HNF-N-507-31-71
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs)	(N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

FIELD INFORMATION	
WHERE ARE SAMPLES LOCATED AT THIS TIME?	<input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER
CONTAINER/DRUM/TOTE/BOX	(N/A)
SAMPLE MATRIX DESCRIPTION	<input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
<i>ppg rule</i> MOIST sand + Clay mix	
FIELD OBSERVATIONS	
WEATHER	<i>See logbook</i>
FIELD COMMENTS	<i>Pick need Haver Compact Grave 8" deep</i>
SUPPORT PERSONNEL	<i>See logbook</i>
SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO BLUE CARD NO (N/A)
IS SRS PROVIDED AND COMPLETE	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
RECORDED BY	<div style="display: flex; justify-content: space-between;"> <div> <p>PRINT NAME _____</p> <p>SIGN NAME </p> </div> <div> <p>DATE AUG 06 2015</p> </div> </div>
INDEPENDENT REVIEW	<div style="display: flex; justify-content: space-between;"> <div> <p>PRINT NAME _____</p> <p>SIGN NAME _____</p> </div> <div> <p>DATE _____</p> </div> </div>

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A-6004-701 (REV 4)

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# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 0940
LOCATION FS-1 Closure Confirmation: 1-3	LOGBOOK NO./PAGE	HNF-N-507-31.71
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs)	(N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-007**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D22	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-008**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D23	5 / 40mL / aGs	B015201V B 0353 Pstly	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-009**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D24	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D24	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D24	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D24	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D24	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32D24	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 0940
LOCATION FS-1 Closure Confirmation: 1-3	LOGBOOK NO./PAGE	HNF-N507- 31.71
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs)	(N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

<b>FIELD INFORMATION</b>	
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER	
CONTAINER/DRUM/TOTE/BOX (N/A)	
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER	
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
MOIST compact sand.	
<b>FIELD OBSERVATIONS</b>	
WEATHER See logbook	
FIELD COMMENTS	
N/A	
SUPPORT PERSONNEL See logbook	
SAMPLES SURVEYED BY RCT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	(N/A)
IS A BLUE CARD REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	BLUE CARD NO _____
IS SRS PROVIDED AND COMPLETE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
RECORDED BY K.C. Patterson/CHPRC	AUG 06 2015
INDEPENDENT REVIEW	
PRINT NAME _____ SIGN NAME _____ DATE _____	
PRINT NAME _____ SIGN NAME _____ DATE _____	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 0954
LOCATION FS-1 Closure Confirmation: 1-1	LOGBOOK NO./PAGE	HNF-N-507- 31-71
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs)	(N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. HalvCHPRC

**SWRI F15-048-001**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D16	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-002**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D17	5 / 40mL / aGs	2015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-003**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D18	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D18	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D18	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D18	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D18	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32D18	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 0954
LOCATION FS-1 Closure Confirmation: 1-1	LOGBOOK NO./PAGE HNF -N-507- 31.71	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

FIELD INFORMATION	
WHERE ARE SAMPLES LOCATED AT THIS TIME?	<input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER
CONTAINER/DRUM/TOTE/BOX	(N/A)
SAMPLE MATRIX DESCRIPTION	<input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
MOIST sand.	
FIELD OBSERVATIONS	
WEATHER	See logbook
FIELD COMMENTS	N/A
SUPPORT PERSONNEL	See logbook
SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO BLUE CARD NO (N/A)
IS SRS PROVIDED AND COMPLETE	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
RECORDED BY	AUG 06 2015
PRINT NAME K.C. Patterson/CHPRC	SIGN NAME 
INDEPENDENT REVIEW	DATE
PRINT NAME	SIGN NAME
	DATE

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 1006
LOCATION FS-1 Closure Confirmation: Optional 3	LOGBOOK NO./PAGE HNF-N507-31.21	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-070**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32F19	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-071**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32F20	5 / 40mL / aGs	B015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-072**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32F21	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32F21	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32F21	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32F21	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32F21	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32F21	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

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# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE AUG 06 2015
LOCATION FS-1 Closure Confirmation: Optional 3		TIME 1006
LOGBOOK NO./PAGE HNF-N-507- 31.71		
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

<b>FIELD INFORMATION</b>	
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER	
CONTAINER/DRUM/TOTE/BOX (N/A)	
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER	
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)] MOIST COMPACT SAND + CLAY	
<b>FIELD OBSERVATIONS</b>	
WEATHER See logbook	
FIELD COMMENTS N/A used a <b>COPY</b> in COMPACT CAP	
SUPPORT PERSONNEL See Logbook	
SAMPLES SURVEYED BY RCT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
IS A BLUE CARD REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO BLUE CARD NO (N/A)	
IS SRS PROVIDED AND COMPLETE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
RECORDED BY K.C. Patterson/CHPRC	AUG 06 2015
PRINT NAME	SIGN NAME
INDEPENDENT REVIEW	DATE
PRINT NAME	SIGN NAME
	DATE

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A-6004-701 (REV 4)

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# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 1022
LOCATION FS-1 Closure Confirmation: 1-2	LOGBOOK NO./PAGE	HNF-N-507-31.71
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs)	(N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. HalvCHPRC

**SWRI F15-048-004**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D19	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-005**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D20	5 / 40mL / aGs	3015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-006**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D21	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D21	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D21	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D21	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D21	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32D21	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

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# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 1022
LOCATION FS-1 Closure Confirmation: 1-2	LOGBOOK NO./PAGE HNF-N507-31-71	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

<b>FIELD INFORMATION</b>		
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER		
CONTAINER/DRUM/TOTE/BOX (N/A)		
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER		
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)] MOIST SAND.		
<b>FIELD OBSERVATIONS</b>		
WEATHER See log book		
FIELD COMMENTS used a Rick n Compact Gravel Cap		
SUPPORT PERSONNEL See log book		
SAMPLES SURVEYED BY RCT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
IS A BLUE CARD REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	BLUE CARD NO (N/A)	
IS SRS PROVIDED AND COMPLETE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
RECORDED BY K.C. Patterson/CHPRC PRINT NAME	SIGNATURE 	DATE AUG 06 2015
INDEPENDENT REVIEW PRINT NAME	SIGNATURE	DATE

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# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
SAF NO.(S) F15-048		DATE AUG 06 2015
LOCATION FS-1 Closure Confirmation: Optional 1		TIME 1033
WELL NAME N/A	LOGBOOK NO./PAGE HNF-N-507-31-71	ORIGINAL
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF BOREHOLE (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m		
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI** F15-048-064

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32DK9	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** F15-048-066

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32DL1	5 / 40mL / aGs	Boi5201VP 035302 10 8-4-15	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** F15-048-068

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32DL3	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32DL3	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32DL3	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32DL3	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32DL3	1 / 120mL / G/P	00044152	Cool <=6C	7196_CR6: COMMON;
B32DL3	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples

PAGE 2 OF 2

DATE AUG 06 2015

SAF NO.(S) F15-048

TIME 1033

LOCATION FS-1 Closure Confirmation: Optional 1

LOGBOOK NO./PAGE

HNF-N-507-31.71

WELL NAME N/A

ORIGINAL

WELL ID N/A

ACTUAL DEPTH 0-12"  ft  m

BOTTOM OF CASING (bgs) (N/A)  ft  m

BOTTOM OF BOREHOLE (bgs) (N/A)  ft  m

### SAMPLES COLLECTED

TOTAL NUMBER OF BOTTLES 12

TOTAL NUMBER OF CHAINS 3

COLLECTOR

F.M. Hall/CHPRC

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX (N/A)

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

MOIST SAND.

### FIELD OBSERVATIONS

WEATHER See logbook

FIELD COMMENTS N/A

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SUPPORT PERSONNEL See logbook

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO

BLUE CARD NO

(N/A)

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY K.C. Patterson/CHPRC

PRINT NAME

SIGN NAME

DATE

AUG 06 2015

INDEPENDENT REVIEW PRINT NAME

SIGN NAME

DATE

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 1045
LOCATION FS-1 Closure Confirmation: Optional 2	LOGBOOK NO./PAGE HNF-N-507-31-71	
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12' <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) (N/A)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F.M. Hall/CHPRC

**SWRI F15-048-065**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32DL0	1 / 250mL / G/P	035302	Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-067**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32DL2	5 / 40mL / aGs	B015201VB	Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-069**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32DL4	1 / 250mL / G	035302	Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32DL4	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32DL4	1 / 250mL / aG	035302	Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32DL4	1 / 250mL / G/P	035302	Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32DL4	1 / 120mL / G/P	0004412	Cool <=6C	7196_CR6: COMMON;
B32DL4	1 / 60mL / G/P	00047927	Cool <=6C	9012_CYANIDE: COMMON;

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE AUG 06 2015
SAF NO.(S) F15-048		TIME 1045
LOCATION FS-1 Closure Confirmation: Optional 2	LOGBOOK NO./PAGE	HNF-N-507-31-71
WELL NAME N/A ORIGINAL	WELL ID N/A	ACTUAL DEPTH 0-12" <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) (N/A) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs)	(N/A) <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR F. M. Hall/CHPRC

<b>FIELD INFORMATION</b>	
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input checked="" type="checkbox"/> 6269 <input type="checkbox"/> OTHER	
CONTAINER/DRUM/TOTE/BOX (N/A)	
SAMPLE MATRIX DESCRIPTION <input checked="" type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER	
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
moist compact sand.	
<b>FIELD OBSERVATIONS</b>	
WEATHER See logbook	
FIELD COMMENTS	
used pick on compact Coated CAP.	
SUPPORT PERSONNEL See logbook	
SAMPLES SURVEYED BY RCT <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	BLUE CARD NO (N/A)
IS A BLUE CARD REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
IS SRS PROVIDED AND COMPLETE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
RECORDED BY K.C. Patterson/CHPRC	AUG 06 2015
PRINT NAME	SIGN NAME
INDEPENDENT REVIEW	DATE
PRINT NAME	SIGN NAME



**List of Traveler Documents**

	CK	NA		CK	NA
Traveler Review Sheet	✓		Sampling Matrix Well Access Evaluation FSR/GSR & COC/SAR/Labels Change Log Sheet Traveler Checklist	✓	
Bottle count	✓				✓
Transportation Authorization	✓			✓	
IH Documentation		✓		✓	
Priority List		✓		✓	
<b>Traveler Preparation Completeness, Content &amp; Accuracy Review – POC Name/Ph#: S. Lynch 373-5586</b>				<b>CK</b>	<b>N/A</b>
Are all appropriate Traveler elements present (Cover page/release sheet, sampling matrix, COC/SAR forms, FSR/GSRs, labels, change log, bottle count)?				✓	
• Cover page/release sheet complete with unique traveler number				✓	
• SAF numbers listed on release sheet title				✓	
• Sampling Matrix				✓	
• COC/SAR forms with associated GSR/FSR and sample container labels				✓	
• Change Log Sheet with Traveler number				✓	
• Are FSR/GSRs and COC/SARs stamped or printed with colored "original" mark?				✓	
• Soil samples, water samples, and field QC samples individually colored on the Sampling Matrix?				✓	
Are all cells in the Sampling Matrix correctly completed?				✓	
Does every sample interval/point listed on the Sampling Matrix have a corresponding COC/SAR form, GSR/FSR, sample container labels in the Traveler?				✓	
Is the method of shipment correct for the assigned laboratories?				✓	
Does the following COC/SAR form information match the SAF: SAF number, laboratories, turnaround times, sample preservation, container type and volume, special instructions, project designation, sampling CACN.?				✓	
Ensure all sample container labels are accounted for.				✓	
Are the Borehole ID and Well Number data fields on the associated FSR/GSRs complete and accurate?				✓	
Are all RADSCREEN sample numbers referenced via a 'Radioactive Tie' statement on applicable COC/SARs and are the HEIS numbers correct?					✓
<ul style="list-style-type: none"> <li>• assigned a unique HEIS number</li> <li>• placed on an individual COC/SAR</li> <li>• specified as 24 hr TAT</li> </ul>					✓
Are all sample interval COC/SAR forms printed/summarized on a single FSR/GSR?				✓	
For water samples, are field parameter sample HEIS Numbers entered on the FSR/GSR?					✓
<b>Sample Transportation Content &amp; Accuracy Review – POC Name/Ph: M.A. Baechler 373-4452</b>					
Print out and attach the transportation authorization.				✓	
Check sampling matrix for radscreen frequency.					✓
<b>Technical Content &amp; Accuracy Review POC Name/Ph: D. Toank 376-6427</b>					
If soil samples request VOA, are they VOA low? Do they have unique HEIS numbers and unique COC/SAR forms containing all pertinent comments?				✓	
Are all required contaminants of concern specified in sampling documents requested on applicable COC/SAR forms?				✓	
On all the sampling documents, are the required number and location of samples correctly captured?				✓	
Are the sampling documents or Quality Assurance Program Plan field QC requirements correctly specified? (i.e. Trip Blanks; transfer blanks, equipment blanks, duplicates, splits)				✓	
Shipping/Transportation guidance or SSME review signatures				✓	
Well Access Check:	Well Access List Date:	Initial:	Date Checked:	✓	✓
Review matrix to determine if it is in a logical order and captures the requirements of the sampling document				✓	
All necessary signatures on Traveler Release sheet?				✓	

**COPY**

TRVL-15- 136

### **FS-1 Closure Sample Instructions**

- **Prior to collecting a sample clear gravel from the location to expose underlying soil. Gravel is approximately 1-6" thick across the entire FS-1 Area.**
- **Once the gravel has been cleared collect the 5 40ml VOA bottles directly from the underlying soil.**
- **Using a clean sieve and a clean stainless steel bowl, sieve soil into the stainless steel bowl until enough sample material to fill the remaining sample bottles has been collected.**
- **Homogenized sample material in the stainless steel bowl and then fill the remaining sample bottles.**
- **The 250ml VOA bottle should be hard packed.**
- **The sample depth for each location should include the gravel and the soil removed.**

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## CHPRC FORMAL PRE-JOB BRIEFING CHECKLIST

Document No.: TRVL-15-136

Task Description: FS-1 Outdoor Container Storage Area - Soil Samples

FWS: Hammons

Date: 8/5/2015

The items in this box are the minimum items to be discussed during a formal Pre-Job Brief.

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Discuss scope of work to be performed                      | <input checked="" type="checkbox"/> Discuss work place conditions/environment |
| <input checked="" type="checkbox"/> Discuss individual work assignments/roles/responsibilities | <input checked="" type="checkbox"/> Discuss Hazards, Controls, and PPE        |

As appropriate to the work activity discuss other applicable topics (refer to topics below and topics in Appendix A of PRC-PRO-WKM-14047)

### Define Work:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Procedure type and compliance expectations    | <input checked="" type="checkbox"/> Discuss coordination required with other groups and activities that have a potential to affect personnel performing the work activity |
| <input type="checkbox"/> Precautions/limitations/initial conditions/prerequisites | <input type="checkbox"/> Hold Points and oversight requirements   |
| <input type="checkbox"/> Discuss applicable permits                               | <input checked="" type="checkbox"/> First Aid/CPR Provider(s) identified & available, if required   |
| <input checked="" type="checkbox"/> Housekeeping                                  | <input type="checkbox"/> Discuss any Critical Steps identified for today's activities   |

### Hazards and Controls:

- Discuss hazards & controls related to work package and work environment, both Skill Based & Beyond Skill Based as appropriate
  - Discuss/review any hazard controls that reside within permits and not in the work instructions
  - Waste minimization/disposal/storage requirements
  - Technical Safety Requirements (TSR)/Limiting Condition of Operations (LCO), TSR/LCO time restrictions, impacts to equipment operability
  - Criticality Posting Specification (CPS) and postings
- Discuss Lock and Tag requirements, boundaries, AWL placement, Safe to Work Check (DOE - 0336, 5.9)

### Industrial Safety and Health:

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> Discuss any unique postings in or near the work area | <input checked="" type="checkbox"/> Locations of spill, first aid, AED, & eyewash stations/kits          |
| <input type="checkbox"/> Discuss chemical hazards to be encountered & MSDS/SDS           | <input checked="" type="checkbox"/> Emergency phone #'s, 373-0911, 373-3800, other number, if applicable |
| <input checked="" type="checkbox"/> Heat/Cold stress/strain concerns - Work/Rest times   | <input type="checkbox"/> Discuss scaffold rating, Maximum Intended Load (MIL), if applicable             |

### Emergency Preparedness:

- Response to upset or off-normal conditions, contingency plans, staging areas, communications systems and rally points
- Alarm and casualty response actions

### Integrate applicable Human Performance (HPI) techniques into briefing:

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>• Peer Checks</li><li>• Lessons learned from similar activities</li><li>• STOP WORK Authority</li></ul> | <ul style="list-style-type: none"><li>• Self-Checking - Stop, Think, Act, Review (S.T.A.R.)</li><li>• SAFER Dialogue</li><li>• A Questioning Attitude and Stop when Unsure concepts</li></ul> |
|---|---|

Radiological Work: Yes  No

- Discuss Radiological Work Permit (RWP)
- Identify specific actions or activities that will (or have potential to) create a change in radiological conditions when initiated or

Beryllium Work: Yes  No

- Discuss Beryllium Work Permit (BWP)

### Comments or other areas discussed:

Check-in with Shift Manager in MO-720 prior to sampling.  
Vest required for entry.  
CACN is 303757.

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- Summary - Ask one final question: "Do they clearly understand their job responsibilities and are they qualified for the work assigned?"



S&GRP Work Authorization Process for Sampling Activities

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SGRP-PRO-SMP-50133

Effective Date: 06/25/15

Appendix C – NCO Traveler Review Checklist

Traveler Number:	TRVL-15-136	Checklist Review Date:	7/31/15
------------------	-------------	------------------------	---------

A Traveler may contain the following types of documents:		
Documents	✓ or N/A	Comments/Issues:
Traveler Checklist	✓	
Traveler Cover/Release Sheet	✓	
Transportation Authorization	✓	
Special Sampling Directions	N/A	NEED sampling instructions for DEPTH, AND VOA's
Analysis Priority List	N/A	
Chain of Custody (COC)	✓	
Label(s)	✓	
Field Sampling Report(s) (FSR)	✓	
Change Log Sheet	✓	
Sample Bottle Report / Bottle Count Sheet	✓	
Industrial Hygiene Sample Plan or equivalent	N/A	
Sampling Matrix	✓	

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Completed By: Kevin Patterson   
 Print Sign

S&GRP Work Authorization Process for Sampling Activities

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Appendix A – S&GRP Field Sampling Field Work Supervisor Hazards Review Checklist

(Page 1 of 2)

Traveler # TRVL-15-1310 Work Description FS-1 Outdoor Container Storage Area

Enter  in box in Review Criteria column if it applies to work task being performed. If it applies, entry in the Sat/Unsat column boxes is required. In cases where the Review Criteria does not apply, leave the box blank. Entry into the boxes in Sat/Unsat column is not required.

Review Criteria	Sat (Yes)/Unsat (No) <input checked="" type="checkbox"/>	Comments
<input checked="" type="checkbox"/> <b>Worksite Vehicle/Vessel Ingress &amp; Egress:</b> <ul style="list-style-type: none"> <li>Roads are adequately accessible for use?</li> <li>Boat ramps are adequately accessible for use?</li> <li>Buildings are accessible? (locks, keys, doors, etc.)</li> <li>Road Barriers</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	Check-in w/ MD-720 Shift Manager prior to collecting samples.
<input type="checkbox"/> <b>Falls (Portable Ladders, Roof, (PRC-PRO-SH-40323 &amp; PRC-RD-SH-8801)</b> <ul style="list-style-type: none"> <li>Ladders selection approved by supervisor</li> <li>Training completed.</li> <li>Roof access approved</li> <li>Inspect general ladder condition before use,</li> <li>Proper ladder size</li> <li>Proper angle/placement of ladders</li> <li>Spotter assigned</li> <li>Roof work is at least 15 feet away from edge</li> <li>Work within plane of the ladder</li> <li>Maintain 3 point contact when ascending or descending a ladder</li> <li>Work over 6 feet-Conventional fall protection used: (list)</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	N/A
<input type="checkbox"/> <b>Falls (Use of Scaffolding Aerial Lift, etc. (PRC-RD-SH-8801)</b> <ul style="list-style-type: none"> <li>Scaffold User Inspection before use</li> <li>Aerial Lift training</li> <li>Scaffold user Training completed</li> <li>Fall Hazard Recognition Training Complete</li> <li>Scaffold user(s) confirm that Inspection Tag is current, complete/understood</li> <li>Fall hazards previously identified, evaluated/protective controls implemented (List)</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	N/A 
<input type="checkbox"/> <b>Moving/Falling objects from height:</b> <ul style="list-style-type: none"> <li>Tether small objects</li> <li>Use rope</li> <li>Canvas bag</li> <li>Barricade around potential fall area</li> <li>Hard hats</li> <li>Rigid railing</li> <li>Cover over opening</li> <li>Barricade tape</li> <li>Warning signs</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	N/A
<input type="checkbox"/> <b>Non-Permitted Confined Space</b> <ul style="list-style-type: none"> <li>Activity is within the current hazard identification form, Site Form A-6004-727</li> </ul> Note: A current inventory of existing non-permit confined space (NPCCS) is available for each facility/operation with completed form A-6001-798 which outlines what activities can be conducted within each NPCCS.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	N/A
<input type="checkbox"/> <b>Noise: ≥85dba or Posted</b> <ul style="list-style-type: none"> <li>Follow area posting (Contacted IH for Review of any questionable noise)</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	N/A
<input type="checkbox"/> <b>Lack of Adequate Lighting</b> <ul style="list-style-type: none"> <li>Change work to daytime</li> <li>Temporary lighting (Light stand or flashlight, etc.)</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	N/A
<input type="checkbox"/> <b>Rotating/Moving Equipment, Pinch points, or flying objects</b> <ul style="list-style-type: none"> <li>Lock Out/Tag per DOE-0336</li> <li>Machine guards in place, block parts against motion</li> <li>Position Hand/Body away from moving parts</li> <li>Be aware of rotating equipment</li> <li>Remove loose clothing, gloves, long hair and jewelry</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	N/A
<input checked="" type="checkbox"/> <b>Exposure to chemicals/chemical vapors where exposure is &lt; PEL (Examples: Acids, Paints, Glues, Solvents, breaching lines)</b> <ul style="list-style-type: none"> <li>MSDS reviewed and controls in place</li> <li>Have proper containers &amp; labels</li> <li>Safety Showers and Eye Wash Stations identified</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	Wear gloves while collecting samples.

S&GRP Work Authorization Process for Sampling Activities

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Appendix A – S&GRP Field Sampling Field Work Supervisor Hazards Review Checklist  
(Page 2 of 2)

Review Criteria	Sat (Yes)/Unsat (No) <input checked="" type="checkbox"/>	Comments
<input type="checkbox"/> Exposure to chemicals/chemical vapors where exposure is < PEL (Examples: Acids, Paints, Glues, Solvents, breaching lines) <ul style="list-style-type: none"> <li>Fume Hoods, Glove boxes, etc</li> <li>Use of existing Ventilation/Engineering control</li> <li>Spill prevention/mitigation and applicable procedures requirements followed</li> <li>Use compatible equipment/PPE defined by MSDS or previous IH analysis</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	N/A
<input type="checkbox"/> Beryllium Work: <ul style="list-style-type: none"> <li>The work is in a Beryllium Controlled Facility as defined by PRC-PRO-SD-6155 and DOE-0342</li> <li>Current Beryllium Work Permit</li> </ul> Note: Contact IH for the current BWP for the specific activity and location.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	N/A
<input type="checkbox"/> Airborne dust/particulates: <ul style="list-style-type: none"> <li>Nuisance/Dust Mask</li> <li>Other PPE as previously approved by IH for like activities</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	N/A
<input type="checkbox"/> Potential Contact with Hazardous Waste Materials: <ul style="list-style-type: none"> <li>IH Assessment</li> <li>Spill prevention/mitigations</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	No IHT Req'd
<input type="checkbox"/> Radiological Work/Industrial Hygiene/Safety: <ul style="list-style-type: none"> <li>Assign RCT</li> <li>RWP</li> <li>Assign IH</li> <li>Safety Review</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	No RCT Req'd
<input checked="" type="checkbox"/> Adjacent Activity – Identify any hazards that may impact planned activity: <ul style="list-style-type: none"> <li>Hazards present already controlled</li> <li>Worker briefing</li> <li>Adjacent activity suspended during this work</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	Sampling in this area has been Released.
<input checked="" type="checkbox"/> Adverse Weather: (Lightning, High Winds/Precip) PRC-PRO-SH- 28034 <ul style="list-style-type: none"> <li>Wear appropriate clothing during rain and appropriate eye protection, (e.g; safety glasses with side shields or safety goggles)</li> <li>Communicate adverse weather conditions</li> </ul> Note: Minimized of motor vehicles/vessels and equipment where possible during periods of torrential rains and hail storms. All outdoor work activities are suspended when lightning is detected by the HMS Within 10-miles, 50-miles for crane operations.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	Wear goggles for winds 7 mph.
<input checked="" type="checkbox"/> Thermal Conditions: (Heat & Cold) <ul style="list-style-type: none"> <li>Provide water/fluids</li> <li>Provide adjacent thermal recovery (cool down/warm up) area</li> <li>Use misters in the affected area</li> <li>For cold: Dress for the conditions</li> </ul> Note: If the potential for heat stress exists, contact Industrial Hygiene – Follow PRC-PRO-SH-121	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	Stay hydrated. Use vehicle for Cooldown Area.
<input checked="" type="checkbox"/> Potential for animal, insects or snakes: <ul style="list-style-type: none"> <li>Be alert to possible animals/snakes/insects</li> <li>Inspect work areas for indication of hives, webs, or nests</li> <li>Do a thorough inspection of clothing or PPE prior to its use</li> <li>Medical emergency provisions for employees with severe allergies to bee stings or bug bites</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	Be aware of surroundings.
<input checked="" type="checkbox"/> Emergency Response: <ul style="list-style-type: none"> <li>Emergency response access routes identified and understood?</li> <li>Emergency response personnel notified of work being performed in remote areas?</li> <li>Take cover location identified and understood?</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	Take cover in Mo -
<input type="checkbox"/> Well Access: <ul style="list-style-type: none"> <li>Web Site Well Access List reviewed for accuracy against wells being sampled?</li> <li>Well Labels reviewed for accuracy?</li> <li>IH support required for well access?</li> <li>Rad-Con support required for well access?</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	N/A
<input checked="" type="checkbox"/> Checklist Reviews: <ul style="list-style-type: none"> <li>S&amp;GRP NCO Review Checklist reviewed for accuracy and completion.</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	

Completion of FWS Hazards Review Checklist signifies that all identified hazards, issues/concerns have been resolved and mitigated.

FWS Hazards Review Completed By: Jessie Hammons Signature: [Signature] Date: 7/31/15

S&GRP Work Authorization Process for Sampling Activities

Published Date: 06/25/15

SGRP-PRO-SMP-50133

Effective Date: 06/25/15

Print Name

Appendix B – S&GRP Field Sampling Activities Authorization Authority/Delegate Review Checklist

Traveler # TRVL15-136 Work Description FS-1 Outdoor Containers Storage Area

Review Criteria	Sat (Yes)/Unsat (No) <input checked="" type="checkbox"/>	Comments
<input checked="" type="checkbox"/> <b>Documents:</b> <ul style="list-style-type: none"> <li>Traveler contains all of the required documents listed in SMR List of Traveler Documents?</li> <li>Well Access List (specific list) is included in traveler?</li> <li>S&amp;GRP Review Checklists Appendixes A and B are included in traveler.</li> <li>RadCon requirements have been addressed and included in traveler.</li> <li>IH requirements have been addressed and included in traveler.</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	
<input checked="" type="checkbox"/> <b>S&amp;GRP Checklists Review:</b> <ul style="list-style-type: none"> <li>Appendix A - FS-FWS Review Checklist reviewed for issues or concerns, signed, and approved.</li> <li>Appendix C – NCO Traveler Review Checklist included in traveler reviewed for issues or concerns, signed, and approved.</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	
<input checked="" type="checkbox"/> <b>Hazards Identification/Mitigation:</b> <ul style="list-style-type: none"> <li>All identified/potential hazards have been evaluated and mitigated at the time of this review?</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	Safety Vest Required

Reviewed By Jennifer Hammons  
 Print Name

Signature J.P. Hammons

Date 7/31/15

**COPY**

**SAF\_NUM F15-048**  
**BOTTLE REPORT**

**SOIL**

**NUMBER OF BOTTLES**

56  
140  
28  
28  
56  
28

**BOTTLE TYPE**

aG 250mL  
aGs 40mL  
G 250mL  
G/P 120mL  
G/P 250mL  
G/P 60mL

**PRESERVATION**

Cool <=6C  
Cool <-7C and >-20C  
Cool <=6C  
Cool <=6C  
Cool <=6C  
Cool <=6C

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**336**

**COPY**

**TRM-15-136**

## Sample Shipping Authorization Form

Project Coordinator	Project Location or Description	Survey or SAF Number	CACN	Sample Media	ASBESTOS		RADIOLOGICAL		Comments
					Friable <sup>1</sup>	Type <sup>2</sup>	RSR Number	Rad Tie Sample Number	
Dave Todak	FS-1 Outdoor Container Storage Area	F15-048	303757	Soil	N/A	N/A	N/A	N/A	

**Note:** This form must accompany all sample deliveries to the 6269 5-Bay. Samples submitted without this form will not be accepted. Approvals are required from the Sample Shipping SME and IH PC as applicable prior to delivering samples. 1 - Yes / No 2 - e.g., white, blue, brown (if known)

**Transportation / Shipping instructions:** Samples associated with this project are authorized to be transported / shipped as non-regulated material to on- and offsite laboratories and shipping facilities. RCT surveys of samples are not anticipated to be required for transportation. If RCT survey results are available and above background, please contact Mike Baechler (373-4452 / 539-3117) for guidance prior to transport.

Shipment authorization basis: *Rad survey info. provided by project*

**APPROVALS**

M. A. Baechler *M.A. Baechler 7/30/15*

N/A

Sample Shipping SME (print and sign)/Date

IH Project Coordinator (print and sign)/Date

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TM-15-136

Sample Locations	SAF	Media	Type	Date Collected	SWRI		GEL													
					Separate COC	Separate COC	Methanol	SVOA	PCBs	Metals	Mercury	Hex Chrome	Cyanide							
														Combined COC						
														30-day	30 day	30 day				
FS-1 Closure Confirmation: 1-1	F15-048	SOIL	Grab		B32D16	B32D17						B32D18								
FS-1 Closure Confirmation: 1-2	F15-048	SOIL	Grab		B32D19	B32D20						B32D21								
FS-1 Closure Confirmation: 1-3	F15-048	SOIL	Grab		B32D22	B32D23						B32D24								
FS-1 Closure Confirmation: 1-4	F15-048	SOIL	Grab		B32D25	B32D26						B32D27								
FS-1 Closure Confirmation: 1-5	F15-048	SOIL	Grab		B32D28	B32D29						B32D30								
FS-1 Closure Confirmation: 1-6	F15-048	SOIL	Grab		B32D31	B32D32						B32D33								
FS-1 Closure Confirmation: 1-7	F15-048	SOIL	Grab		B32D34	B32D35						B32D36								
FS-1 Closure Confirmation: 1-8	F15-048	SOIL	Grab		B32D37	B32D38						B32D39								
FS-1 Closure Confirmation: 1-9	F15-048	SOIL	Grab		B32D40	B32D41						B32D42								
FS-1 Closure Confirmation: 1-10	F15-048	SOIL	Grab		B32D43	B32D44						B32D45								
FS-1 Closure Confirmation: 1-11	F15-048	SOIL	Grab		B32D46	B32D47						B32D48								
FS-1 Closure Confirmation: 1-12	F15-048	SOIL	Grab		B32D49	B32D50						B32D51								
FS-1 Closure Confirmation: 1-13	F15-048	SOIL	Grab		B32D52	B32D53						B32D54								
FS-1 Closure Confirmation: 1-13 Duplicate	F15-048	SOIL	DUP		B32D55	B32D56						B32D57								
FS-1 Closure Confirmation: 1-14	F15-048	SOIL	Grab		B32D58	B32D59						B32D60								
FS-1 Closure Confirmation: 1-15	F15-048	SOIL	Grab		B32D61	B32D62						B32D63								
FS-1 Closure Confirmation: 1-16	F15-048	SOIL	Grab		B32D64	B32D65						B32D66								
FS-1 Closure Confirmation: 1-17	F15-048	SOIL	Grab		B32D67	B32D68						B32D69								
FS-1 Closure Confirmation: 1-18	F15-048	SOIL	Grab		B32D70	B32D71						B32D72								
FS-1 Closure Confirmation: 1-19	F15-048	SOIL	Grab		B32D73	B32D74						B32D75								
FS-1 Closure Confirmation: 1-20	F15-048	SOIL	Grab		B32D76	B32D77						B32D78								
FS-1 Closure Confirmation: Optional 1	F15-048	SOIL	Grab		B32DK9	B32DL1						B32DL3								
FS-1 Closure Confirmation: Optional 2	F15-048	SOIL	Grab		B32DL0	B32DL2						B32DL4								

COPY

DUP = Duplicate

LOCATION	ACT_INT	EST_INT	MATRIX	METHOD	SWRI	GEL	COC	COMMENTS
FS-1 Closure Confirmation: 1-1			SOIL		B32D16	B32D17(VOA) B32D18	F15-048-001(SWRI) F15-048-002(GEL) F15-048-003(GEL)	
FS-1 Closure Confirmation: 1-10			SOIL		B32D43	B32D44(VOA) B32D45	F15-048-028(SWRI) F15-048-029(GEL) F15-048-030(GEL)	
FS-1 Closure Confirmation: 1-11			SOIL		B32D46	B32D47(VOA) B32D48	F15-048-031(SWRI) F15-048-032(GEL) F15-048-033(GEL)	
FS-1 Closure Confirmation: 1-12			SOIL		B32D49	B32D50(VOA) B32D51	F15-048-034(SWRI) F15-048-035(GEL) F15-048-036(GEL)	
FS-1 Closure Confirmation: 1-13			SOIL		B32D52	B32D53(VOA) B32D54	F15-048-037(SWRI) F15-048-038(GEL) F15-048-039(GEL)	
FS-1 Closure Confirmation: 1-13 Duplicate			SOIL		B32D55	B32D56(VOA) B32D57	F15-048-040(SWRI) F15-048-041(GEL) F15-048-042(GEL)	
FS-1 Closure Confirmation: 1-14			SOIL		B32D58	B32D59(VOA) B32D60	F15-048-043(SWRI) F15-048-044(GEL) F15-048-045(GEL)	
FS-1 Closure Confirmation: 1-15			SOIL		B32D61	B32D62(VOA) B32D63	F15-048-046(SWRI) F15-048-047(GEL) F15-048-048(GEL)	
FS-1 Closure Confirmation: 1-16			SOIL		B32D64	B32D65(VOA) B32D66	F15-048-049(SWRI) F15-048-050(GEL) F15-048-051(GEL)	
FS-1 Closure Confirmation: 1-17			SOIL		B32D67	B32D68(VOA) B32D69	F15-048-052(SWRI) F15-048-053(GEL) F15-048-054(GEL)	
FS-1 Closure Confirmation: 1-18			SOIL		B32D70	B32D71(VOA) B32D72	F15-048-055(SWRI) F15-048-056(GEL) F15-048-057(GEL)	
FS-1 Closure Confirmation: 1-19			SOIL		B32D73	B32D74(VOA) B32D75	F15-048-058(SWRI) F15-048-059(GEL) F15-048-060(GEL)	
FS-1 Closure Confirmation: 1-2			SOIL		B32D19	B32D20(VOA) B32D21	F15-048-004(SWRI) F15-048-005(GEL) F15-048-006(GEL)	
FS-1 Closure Confirmation: 1-20			SOIL		B32D76	B32D77(VOA) B32D78	F15-048-061(SWRI) F15-048-062(GEL) F15-048-063(GEL)	

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TRVL-15-136

LOCATION	ACT_INT	EST_INT	MATRIX	METHOD	SWRI	GEL	COC	COMMENTS
FS-1 Closure Confirmation: 1-3			SOIL		B32D22	B32D23(VOA) B32D24	F15-048-007(SWRI) F15-048-008(GEL) F15-048-009(GEL)	
FS-1 Closure Confirmation: 1-4			SOIL		B32D25	B32D26(VOA) B32D27	F15-048-010(SWRI) F15-048-011(GEL) F15-048-012(GEL)	
FS-1 Closure Confirmation: 1-5			SOIL		B32D28	B32D29(VOA) B32D30	F15-048-013(SWRI) F15-048-014(GEL) F15-048-015(GEL)	
FS-1 Closure Confirmation: 1-6			SOIL		B32D31	B32D32(VOA) B32D33	F15-048-016(SWRI) F15-048-017(GEL) F15-048-018(GEL)	
FS-1 Closure Confirmation: 1-7			SOIL		B32D34	B32D35(VOA) B32D36	F15-048-019(SWRI) F15-048-020(GEL) F15-048-021(GEL)	
FS-1 Closure Confirmation: 1-8			SOIL		B32D37	B32D38(VOA) B32D39	F15-048-022(SWRI) F15-048-023(GEL) F15-048-024(GEL)	
FS-1 Closure Confirmation: 1-9			SOIL		B32D40	B32D41(VOA) B32D42	F15-048-025(SWRI) F15-048-026(GEL) F15-048-027(GEL)	
FS-1 Closure Confirmation: Optional 1			SOIL		B32DK9	B32DL1(VOA) B32DL3	F15-048-064(SWRI) F15-048-066(GEL) F15-048-068(GEL)	
FS-1 Closure Confirmation: Optional 2			SOIL		B32DL0	B32DL2(VOA) B32DL4	F15-048-065(SWRI) F15-048-067(GEL) F15-048-069(GEL)	
FS-1 Closure Confirmation: Optional 3			SOIL		B32F19	B32F20(VOA) B32F21(VOA)	F15-048-070(SWRI) F15-048-071(GEL) F15-048-072(GEL)	
FS-1 Closure Confirmation: Optional 4			SOIL		B32F22	B32F23(VOA) B32F24	F15-048-073(SWRI) F15-048-074(GEL) F15-048-075(GEL)	
FS-1 Closure Confirmation: Optional 5			SOIL		B32F25	B32F26(VOA) B32F27	F15-048-076(SWRI) F15-048-077(GEL) F15-048-078(GEL)	
FS-1 Closure Confirmation: Optional 6			SOIL		B32F28	B32F29(VOA) B32F30	F15-048-079(SWRI) F15-048-080(GEL) F15-048-081(GEL)	
FS-1 Closure Confirmation: Optional 7			SOIL		B32F31	B32F32(VOA) B32F33	F15-048-082(SWRI) F15-048-083(GEL) F15-048-084(GEL)	

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TRM-15-136

Sample Locations	SAF	Media	Type	Date Collected	SWRI	GEL							
					Anions	VOAs	Methanol	SVOA	PCBs	Metals	Mercury	Hex Chrome	Cyanide
					Separate COC	Separate COC	Combined COC						
					30-day	30 day	30 day						
FS-1 Closure Confirmation: 1-1	F15-048	SOIL	Grab		B32D16	B32D17						B32D18	
FS-1 Closure Confirmation: 1-2	F15-048	SOIL	Grab		B32D19	B32D20						B32D21	
FS-1 Closure Confirmation: 1-3	F15-048	SOIL	Grab		B32D22	B32D23						B32D24	
FS-1 Closure Confirmation: 1-4	F15-048	SOIL	Grab		B32D25	B32D26						B32D27	
FS-1 Closure Confirmation: 1-5	F15-048	SOIL	Grab		B32D28	B32D29						B32D30	
FS-1 Closure Confirmation: 1-6	F15-048	SOIL	Grab		B32D31	B32D32						B32D33	
FS-1 Closure Confirmation: 1-7	F15-048	SOIL	Grab		B32D34	B32D35						B32D36	
FS-1 Closure Confirmation: 1-8	F15-048	SOIL	Grab		B32D37	B32D38						B32D39	
FS-1 Closure Confirmation: 1-9	F15-048	SOIL	Grab		B32D40	B32D41						B32D42	
FS-1 Closure Confirmation: 1-10	F15-048	SOIL	Grab		B32D43	B32D44						B32D45	
FS-1 Closure Confirmation: 1-11	F15-048	SOIL	Grab		B32D46	B32D47						B32D48	
FS-1 Closure Confirmation: 1-12	F15-048	SOIL	Grab		B32D49	B32D50						B32D51	
FS-1 Closure Confirmation: 1-13	F15-048	SOIL	Grab		B32D52	B32D53						B32D54	
FS-1 Closure Confirmation: 1-13 Duplicate	F15-048	SOIL	DUP		B32D55	B32D56						B32D57	
FS-1 Closure Confirmation: 1-14	F15-048	SOIL	Grab		B32D58	B32D59						B32D60	
FS-1 Closure Confirmation: 1-15	F15-048	SOIL	Grab		B32D61	B32D62						B32D63	
FS-1 Closure Confirmation: 1-16	F15-048	SOIL	Grab		B32D64	B32D65						B32D66	
FS-1 Closure Confirmation: 1-17	F15-048	SOIL	Grab		B32D67	B32D68						B32D69	
FS-1 Closure Confirmation: 1-18	F15-048	SOIL	Grab		B32D70	B32D71						B32D72	
FS-1 Closure Confirmation: 1-19	F15-048	SOIL	Grab		B32D73	B32D74						B32D75	
FS-1 Closure Confirmation: 1-20	F15-048	SOIL	Grab		B32D76	B32D77						B32D78	
FS-1 Closure Confirmation: Optional 1	F15-048	SOIL	Grab		B32DK9	B32DL1						B32DL3	
FS-1 Closure Confirmation: Optional 2	F15-048	SOIL	Grab		B32DL0	B32DL2						B32DL4	
FS-1 Closure Confirmation: Optional 3	F15-048	SOIL	Grab		B32F19	B32F20						B32F21	
FS-1 Closure Confirmation: Optional 4	F15-048	SOIL	Grab		B32F22	B32F23						B32F24	
FS-1 Closure Confirmation: Optional 5	F15-048	SOIL	Grab		B32F25	B32F26						B32F27	
FS-1 Closure Confirmation: Optional 6	F15-048	SOIL	Grab		B32F28	B32F29						B32F30	
FS-1 Closure Confirmation: Optional 7	F15-048	SOIL	Grab		B32F31	B32F32						B32F33	

DUP = Duplicate

COPY

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-1	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI** **F15-048-001**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D16	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-002**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D17	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-003**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D18	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D18	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D18	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D18	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D18	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D18	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE
		TIME
SAF NO.(S) F15-048		
LOCATION FS-1 Closure Confirmation: 1-1	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

COPY

ORIGINAL

<b>FIELD INFORMATION</b>	
WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input type="checkbox"/> 6269 <input type="checkbox"/> OTHER	
CONTAINER/DRUM/TOTE/BOX	
SAMPLE MATRIX DESCRIPTION <input type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER	
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	
<b>FIELD OBSERVATIONS</b>	
WEATHER	
FIELD COMMENTS	
<b>SUPPORT PERSONNEL</b>	
SAMPLES SURVEYED BY RCT <input type="checkbox"/> YES <input type="checkbox"/> NO	
IS A BLUE CARD REQUIRED <input type="checkbox"/> YES <input type="checkbox"/> NO	BLUE CARD NO _____
IS SRS PROVIDED AND COMPLETE <input type="checkbox"/> YES <input type="checkbox"/> NO	
RECORDED BY	DATE
PRINT NAME _____	SIGN NAME _____
INDEPENDENT REVIEW	DATE
PRINT NAME _____	SIGN NAME _____

CH2MHill Plateau Remediation Company F15-048-001  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D16 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-1  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

CH2MHill Plateau Remediation Company F15-048-002  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D17 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-1  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-002  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D17 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-1  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-003  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D18 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-1  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

CH2MHill Plateau Remediation Company F15-048-003  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D18 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-1  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-002  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D17 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-1  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-002  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D17 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-1  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-002  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D17 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-1  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-003  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D18 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-1  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-003  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D18 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-1  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-003  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D18 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-1  
 ANALYSIS: 7196\_CR6: COMMON;

CH2MHill Plateau Remediation Company F15-048-003  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D18 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-1  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

COPY

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-001	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-1		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

**ORIGINAL**

COPY

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C
		HOLDING TIME	28 Days/48 Hours
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	250mL
		SPECIAL HANDLING AND/OR STORAGE N/A	SAMPLE ANALYSIS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B32D16	SOIL		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

CH2MHILL Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-002	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION FS-1 Closure Confirmation: 1-1		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	30 Days / 30 Days
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX* A=Air DL=Drum L=Liquid DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C	
		HOLDING TIME	14 Days	
		TYPE OF CONTAINER	aGs	
		NO. OF CONTAINER(S)	5	
		VOLUME	40mL	
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B32D17	SOIL			

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						F15-048-003	PAGE 1 OF 1
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-1		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples				<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>				<b>BILL OF LADING/AIR BILL NO.</b>			
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=-6C	Cool <=-6C	Cool <=-6C	Cool <=-6C	Cool <=-6C	Cool <=-6C
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>						
B32D18	SOIL								

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>			<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>			<b>DISPOSED BY</b>	<b>DATE/TIME</b>

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-2	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI** **F15-048-004**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D19	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-005**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D20	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-006**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D21	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D21	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D21	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D21	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D21	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D21	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-2	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

### FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME _____	SIGN NAME _____	DATE _____
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INDEPENDENT REVIEW

PRINT NAME _____	SIGN NAME _____	DATE _____
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CH2MHill Plateau Remediation Company F15-048-004  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D19 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-2  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-005  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D20 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-2  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-005  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D20 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-2  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-005  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D20 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-2  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-005  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D20 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-2  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-005  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D20 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-2  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-006  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D21 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-2  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-006  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D21 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-2  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-006  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D21 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-2  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-006  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D21 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-2  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-006  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D21 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-2  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-006  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D21 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-2  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-004

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-2		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		

**ORIGINAL**

COPY

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	
		<b>HOLDING TIME</b>	28 Days/48 Hours	
		<b>TYPE OF CONTAINER</b>	G/P	
		<b>NO. OF CONTAINER(S)</b>	1	
		<b>VOLUME</b>	250mL	
		<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A	
<b>SAMPLE ANALYSIS</b>	9056_ANIONS_IC: COMMON (Add-on) (Formate);			
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32D19	SOIL			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-005	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-2		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C
		HOLDING TIME	14 Days
		TYPE OF CONTAINER	aGs
		NO. OF CONTAINER(S)	5
		VOLUME	40mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B32D20	SOIL		

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

**SPECIAL INSTRUCTIONS**  
 TRVL-15-136  
 (1) 5035/8260\_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260\_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

CH2MHIII Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					F15-048-006		PAGE 1 OF 1	
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H		<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-2		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples				<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>		<b>30 Days / 30 Days</b>
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS		<b>ORIGINAL</b>
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>				<b>BILL OF LADING/AIR BILL NO.</b>				
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
			<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
			<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P
			<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1
			<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;
<b>SAMPLE NO.</b>		<b>MATRIX*</b>		<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>					
B32D21		SOIL								

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	<b>TRVL-15-136</b> (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-3	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI** **F15-048-007**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D22	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-008**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D23	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-009**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D24	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D24	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D24	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D24	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D24	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D24	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 2 <b>OF</b> 2
		<b>DATE</b>
<b>SAF NO.(S)</b> F15-048		<b>TIME</b>
<b>LOCATION</b> FS-1 Closure Confirmation: 1-3	<b>LOGBOOK NO./PAGE</b>	
<b>WELL NAME</b> N/A	<b>WELL ID</b> N/A	<b>ACTUAL DEPTH</b> <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	<b>BOTTOM OF BOREHOLE (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>

### FIELD INFORMATION

<b>WHERE ARE SAMPLES LOCATED AT THIS TIME?</b> <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input type="checkbox"/> 6269 <input type="checkbox"/> OTHER
<b>CONTAINER/DRUM/TOTE/BOX</b>
<b>SAMPLE MATRIX DESCRIPTION</b> <input type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER
<b>FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]</b>

### FIELD OBSERVATIONS

<b>WEATHER</b>
<b>FIELD COMMENTS</b>

<b>SUPPORT PERSONNEL</b>			
<b>SAMPLES SURVEYED BY RCT</b>	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
<b>IS A BLUE CARD REQUIRED</b>	<input type="checkbox"/> YES	<input type="checkbox"/> NO	<b>BLUE CARD NO</b> _____
<b>IS SRS PROVIDED AND COMPLETE</b>	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
<b>RECORDED BY</b>	PRINT NAME _____	SIGN NAME _____	DATE _____
<b>INDEPENDENT REVIEW</b>	PRINT NAME _____	SIGN NAME _____	DATE _____

CH2MHill Plateau Remediation Company F15-048-007  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D22 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-3  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-008  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D23 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-3  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-008  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D23 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-3  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-008  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D23 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-3  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-008  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D23 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-3  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-008  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D23 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-3  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-009  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D24 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-3  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-009  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D24 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-3  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-009  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D24 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-3  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-009  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D24 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-3  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY



CH2MHill Plateau Remediation Company F15-048-009  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D24 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-3  
 ANALYSIS: 7196\_CR6: COMMON;

CH2MHill Plateau Remediation Company F15-048-009  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D24 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-3  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

CH2MHIII Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-007	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-3		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	<del>ORIGINAL</del>
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C
		<b>HOLDING TIME</b>	28 Days/48 Hours
		<b>TYPE OF CONTAINER</b>	G/P
		<b>NO. OF CONTAINER(S)</b>	1
		<b>VOLUME</b>	250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056_ANIONS, IC: COMMON (Add-on) {Format};
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32D22	SOIL		

COPY

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-008	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-3		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C	
		<b>HOLDING TIME</b>	14 Days	
		<b>TYPE OF CONTAINER</b>	aGs	
		<b>NO. OF CONTAINER(S)</b>	5	
		<b>VOLUME</b>	40mL	
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A	<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32D23	SOIL			

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

TRVL-15-136  
(1) 5035/8260\_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260\_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						F15-048-009	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D		TELEPHONE NO. 376-6427		PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-3		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples				SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.		ACTUAL SAMPLE DEPTH		COA 303757		METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.				BILL OF LADING/AIR BILL NO.			
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>						
B32D24	SOIL								

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1 <b>OF</b> 2
		<b>DATE</b>
<b>SAF NO.(S)</b> F15-048		<b>TIME</b>
<b>LOCATION</b> FS-1 Closure Confirmation: 1-4	<b>LOGBOOK NO./PAGE</b>	
<b>WELL NAME</b> N/A	<b>WELL ID</b> N/A	<b>ACTUAL DEPTH</b> <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	<b>BOTTOM OF BOREHOLE (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>

COPY ORIGINAL

**SWRI** **F15-048-010**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D25	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-011**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D26	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-012**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D27	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D27	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D27	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D27	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D27	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D27	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE
LOCATION FS-1 Closure Confirmation: 1-4	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

### FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME _____	SIGN NAME _____	DATE _____
------------------	-----------------	------------

INDEPENDENT REVIEW

PRINT NAME _____	SIGN NAME _____	DATE _____
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CH2MHill Plateau Remediation Company F15-048-010  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D25 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-4  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

CH2MHill Plateau Remediation Company F15-048-011  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D26 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-4  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

COPY

CH2MHill Plateau Remediation Company F15-048-011  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D26 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-4  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-011  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D26 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-4  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-011  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D26 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-4  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-011  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D26 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-4  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-012  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D27 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-4  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

CH2MHill Plateau Remediation Company F15-048-012  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D27 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-4  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

COPY

CH2MHill Plateau Remediation Company F15-048-012  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D27 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-4  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-012  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D27 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-4  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

COPY



CH2MHill Plateau Remediation Company F15-048-012  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D27 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-4  
 ANALYSIS: 7196\_CR6: COMMON;

CH2MHill Plateau Remediation Company F15-048-012  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D27 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-4  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

COPY

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-010

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-4		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>		

**ORIGINAL**

COPY

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C
		<b>HOLDING TIME</b>	28 Days/48 Hours
		<b>TYPE OF CONTAINER</b>	G/P
		<b>NO. OF CONTAINER(S)</b>	1
		<b>VOLUME</b>	250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056_ANIONS_IC: COMMON (Add-on) {Format};
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32D25	SOIL		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

GRIFFIN Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-011	PAGE 1 OF 1
COLLECTOR	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION FS-1 Closure Confirmation: 1-4	PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>	30 Days / 30 Days
ICE CHEST NO.	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C
		<b>HOLDING TIME</b>	14 Days
		<b>TYPE OF CONTAINER</b>	aGs
		<b>NO. OF CONTAINER(S)</b>	5
		<b>VOLUME</b>	40mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A	<b>SAMPLE ANALYSIS</b>
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32D26	SOIL		

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

CH2MHIII Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						F15-048-012	PAGE 1 OF 1	
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days	
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-4		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples				<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>		
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>		
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>				<b>BILL OF LADING/AIR BILL NO.</b>				
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
			<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
			<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P
			<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1
			<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON (Methanol);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>							
B32D27	SOIL									

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	<b>TRVL-15-136</b> (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>			<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>			<b>DISPOSED BY</b>	<b>DATE/TIME</b>

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-5	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI F15-048-013**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D28	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-014**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D29	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-015**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D30	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D30	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D30	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D30	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D30	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D30	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE
LOCATION FS-1 Closure Confirmation: 1-5	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

COPY

ORIGINAL

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX \_\_\_\_\_

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

\_\_\_\_\_

\_\_\_\_\_

### FIELD OBSERVATIONS

WEATHER \_\_\_\_\_

FIELD COMMENTS \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY \_\_\_\_\_

PRINT NAME \_\_\_\_\_ SIGN NAME \_\_\_\_\_ DATE \_\_\_\_\_

INDEPENDENT REVIEW \_\_\_\_\_

PRINT NAME \_\_\_\_\_ SIGN NAME \_\_\_\_\_ DATE \_\_\_\_\_



CH2MHill Plateau Remediation Company F15-048-013  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D28 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-5  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Format};

CH2MHill Plateau Remediation Company F15-048-014  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D29 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-5  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-014  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D29 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-5  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-014  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D29 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-5  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-014  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D29 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-5  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-014  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D29 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-5  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-015  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D30 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-5  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

CH2MHill Plateau Remediation Company F15-048-015  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D30 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-5  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-015  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D30 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-5  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-015  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D30 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-5  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS



CH2MHill Plateau Remediation Company F15-048-015  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D30 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-5  
 ANALYSIS: 7196\_CR6: COMMON;

CH2MHill Plateau Remediation Company F15-048-015  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D30 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-5  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

COPY

COLLECTOR		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-013	PAGE 1 OF 1
SAMPLING LOCATION FS-1 Closure Confirmation: 1-5		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO.		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples	SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>		
SHIPPED TO Southwest Research Institute		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		
POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION	Cool <=6C	COPY		
SPECIAL HANDLING AND/OR STORAGE N/A		HOLDING TIME	28 Days/48 Hours			
		TYPE OF CONTAINER	G/P			
		NO. OF CONTAINER(S)	1			
		VOLUME	250mL			
		SAMPLE ANALYSIS	9056_ANIONS_IC: COMMON (Add-on) (Format);			

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B32D28	SOIL		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-014	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-5		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C	
		<b>HOLDING TIME</b>	14 Days	
		<b>TYPE OF CONTAINER</b>	aGs	
		<b>NO. OF CONTAINER(S)</b>	5	
		<b>VOLUME</b>	40mL	
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A	<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32D29	SOIL			

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-015

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H		<b>DATA TURNAROUND</b> 30 Days / 30 Days	
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-5		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples				<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>			
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS		<b>ORIGINAL</b>	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>				<b>BILL OF LADING/AIR BILL NO.</b>					
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
			<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days	
			<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P	
			<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1	
			<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL	
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON (Methanol);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;		
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>								
B32D30	SOIL										

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-6	LOGBOOK NO./PAGE	
WELL NAME N/A	<b>ORIGINAL</b>	WELL ID N/A      ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI** **F15-048-016**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D31	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-017**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D32	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-018**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D33	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D33	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D33	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D33	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D33	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D33	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-6	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

COPY

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

### FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME _____	SIGN NAME _____	DATE _____
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INDEPENDENT REVIEW

PRINT NAME _____	SIGN NAME _____	DATE _____
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CH2MHill Plateau Remediation Company F15-048-016  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D31 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-6  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

CH2MHill Plateau Remediation Company F15-048-017  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D32 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-6  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-017  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D32 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-6  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-017  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D32 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-6  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-017  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D32 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-6  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-017  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D32 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-6  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-018  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D33 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-6  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

CH2MHill Plateau Remediation Company F15-048-018  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D33 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-6  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-018  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D33 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-6  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-018  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D33 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-6  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-018  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D33 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-6  
 ANALYSIS: 7196\_CR6: COMMON;

CH2MHill Plateau Remediation Company F15-048-018  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D33 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-6  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

<b>CH2MHill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			<b>F15-048-016</b>	<b>PAGE 1 OF 1</b>
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-6		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	
		<b>HOLDING TIME</b>	28 Days/48 Hours	
		<b>TYPE OF CONTAINER</b>	G/P	
		<b>NO. OF CONTAINER(S)</b>	1	
		<b>VOLUME</b>	250mL	
		<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	<b>SAMPLE ANALYSIS</b>	9056 ANIONS IC: COMMON (Add-on) {Formate};
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32D31	SOIL			

COPY

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

CH2M HILL Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-017	PAGE 1 OF 1
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-6		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		
<b>MATRIX*</b> A=Air DL=Drum L=Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C	COPY		
		<b>HOLDING TIME</b>	14 Days			
		<b>TYPE OF CONTAINER</b>	aGs			
		<b>NO. OF CONTAINER(S)</b>	5			
		<b>VOLUME</b>	40mL			
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS			
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32D32	SOIL					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F15-048-018	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D		TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H
SAMPLING LOCATION FS-1 Closure Confirmation: 1-6		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples			SAF NO. F15-048	DATA TURNAROUND 30 Days / 30 Days	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.			BILL OF LADING/AIR BILL NO.		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=-6C	Cool <=-6C	Cool <=-6C	Cool <=-6C	Cool <=-6C	Cool <=-6C
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL
		<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON (Methano);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>						
B32D33	SOIL								

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

**SPECIAL INSTRUCTIONS**

TRVL-15-136  
 (1) 8270\_SVOA\_GCMS: COMMON {Pentachlorophenol};  
 8270\_SVOA\_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene};  
 8270\_SVOA\_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols};  
 (2) 8082\_PCB\_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};  
 (3) 6010\_METALS\_ICP: COMMON {Barium, Cadmium, Silver};  
 6010\_METALS\_ICP: COMMON (Add-on) {Lead, Vanadium};  
 7471\_MERCURY\_CV: COMMON (SOLIDS);

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-7	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI F15-048-019**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D34	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-020**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D35	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-021**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D36	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D36	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D36	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D36	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D36	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D36	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-7	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

### FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME _____	SIGN NAME _____	DATE _____
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INDEPENDENT REVIEW

PRINT NAME _____	SIGN NAME _____	DATE _____
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CH2MHill Plateau Remediation Company F15-048-019  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D34 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-7  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

CH2MHill Plateau Remediation Company F15-048-020  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D35 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-7  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-020  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D35 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-7  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-020  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D35 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-7  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-020  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D35 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-7  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-020  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D35 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-7  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-021  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D36 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-7  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

CH2MHill Plateau Remediation Company F15-048-021  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D36 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-7  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-021  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D36 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-7  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-021  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D36 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-7  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-021  
COLLECTOR: BOTTLE: G/P 120mL  
SAMP NUM: B32D36 LAB: **GEL**  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-7  
ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-021  
COLLECTOR: BOTTLE: G/P 60mL  
SAMP NUM: B32D36 LAB: **GEL**  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-7  
ANALYSIS: 9012\_CYANIDE: COMMON;

COPY



CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-019	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-7		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <del>ORIGINAL</del>	
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C
		HOLDING TIME	28 Days/48 Hours
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		SAMPLE ANALYSIS	9056_ANIONS_IC: COMMON (Add-on) (Formate);
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B32D34	SOIL		

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

CH2MHIII Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-020	PAGE 1 OF 1
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-7		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C	<b>COPY</b>		
		<b>HOLDING TIME</b>	14 Days			
		<b>TYPE OF CONTAINER</b>	aGs			
		<b>NO. OF CONTAINER(S)</b>	5			
		<b>VOLUME</b>	40mL			
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS			
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32D35	SOIL					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F15-048-021	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-7		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757		METHOD OF SHIPMENT FEDERAL EXPRESS <b>-ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.			

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
		<b>HOLDING TIME</b>	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		<b>TYPE OF CONTAINER</b>	G	aG	aG	G/P	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>	1	1	1	1	1	1
		<b>VOLUME</b>	250mL	250mL	250mL	250mL	120mL	60mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	<b>SAMPLE ANALYSIS</b>	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>					
B32D36	SOIL							

COPY

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1 <b>OF</b> 2
<b>SAF NO.(S)</b> F15-048		<b>DATE</b>
<b>LOCATION</b> FS-1 Closure Confirmation: 1-8		<b>TIME</b>
<b>WELL NAME</b> N/A		<b>LOGBOOK NO./PAGE</b>
<b>BOTTOM OF CASING (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m		<b>WELL ID</b> N/A
<b>BOTTOM OF BOREHOLE (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m		<b>ACTUAL DEPTH</b> <input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
<b>TOTAL NUMBER OF BOTTLES</b> 12 <b>TOTAL NUMBER OF CHAINS</b> 3 <b>COLLECTOR</b>		

**SWRI** **F15-048-022**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D37	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-023**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D38	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-024**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D39	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D39	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D39	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D39	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D39	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D39	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE
LOCATION FS-1 Closure Confirmation: 1-8		TIME
LOGBOOK NO./PAGE		
WELL NAME N/A	<b>ORIGINAL</b>	WELL ID N/A
ACTUAL DEPTH		<input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs)		<input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF BOREHOLE (bgs)		<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?	<input type="checkbox"/> WSCF	<input type="checkbox"/> 222-S	<input type="checkbox"/> MO-413	<input type="checkbox"/> MO-745	<input type="checkbox"/> 6269	<input type="checkbox"/> OTHER
CONTAINER/DRUM/TOTE/BOX						
SAMPLE MATRIX DESCRIPTION	<input type="checkbox"/> SOIL	<input type="checkbox"/> SLUDGE	<input type="checkbox"/> RESIN	<input type="checkbox"/> GAC	<input type="checkbox"/> FILTER PAPER	<input type="checkbox"/> OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]						

### FIELD OBSERVATIONS

WEATHER
FIELD COMMENTS

<b>SUPPORT PERSONNEL</b>			
SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES	<input type="checkbox"/> NO	BLUE CARD NO _____
IS SRS PROVIDED AND COMPLETE	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
RECORDED BY	PRINT NAME _____	SIGN NAME _____	DATE _____
INDEPENDENT REVIEW	PRINT NAME _____	SIGN NAME _____	DATE _____

CH2MHill Plateau Remediation Company F15-048-022  
COLLECTOR: BOTTLE: G/P 250mL  
SAMP NUM: B32D37 LAB: SWRI  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-8  
ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) (Formate);

CH2MHill Plateau Remediation Company F15-048-023  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D38 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-8  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-023  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D38 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-8  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-023  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D38 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-8  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-023  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D38 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-8  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-023  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D38 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-8  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-024  
COLLECTOR: BOTTLE: G 250mL  
SAMP NUM: B32D39 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-8  
ANALYSIS: 8015\_VOA\_GS: COMMON (Methanol);

CH2MHill Plateau Remediation Company F15-048-024  
COLLECTOR: BOTTLE: aG 250mL  
SAMP NUM: B32D39 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-8  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-024  
COLLECTOR: BOTTLE: aG 250mL  
SAMP NUM: B32D39 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-8  
ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

CH2MHill Plateau Remediation Company F15-048-024  
COLLECTOR: BOTTLE: G/P 250mL  
SAMP NUM: B32D39 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-8  
ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS



CH2MHill Plateau Remediation Company F15-048-024  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D39 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-8  
 ANALYSIS: 7196\_CR6: COMMON;

CH2MHill Plateau Remediation Company F15-048-024  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D39 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-8  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

COPY

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-022	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-8		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b> Cool <=6C	
		<b>HOLDING TIME</b> 28 Days/48 Hours	
		<b>TYPE OF CONTAINER</b> G/P	
		<b>NO. OF CONTAINER(S)</b> 1	
		<b>VOLUME</b> 250mL	
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	<b>SAMPLE ANALYSIS</b> 9056_ANIONS_IC: COMMON (Add-on) (Formate);	
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32D37	SOIL		

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-023	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-8		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C
		<b>HOLDING TIME</b>	14 Days
		<b>TYPE OF CONTAINER</b>	aGs
		<b>NO. OF CONTAINER(S)</b>	5
		<b>VOLUME</b>	40mL
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32D38	SOIL		

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	RECEIVED BY	TITLE		DATE/TIME
<b>FINAL SAMPLE DISPOSITION</b>	DISPOSAL METHOD	DISPOSED BY		DATE/TIME

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					F15-048-024	PAGE 1 OF 1		
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D			PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days		
SAMPLING LOCATION FS-1 Closure Confirmation: 1-8		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples			SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>			
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH		COA 303757		METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>		
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.			BILL OF LADING/AIR BILL NO.					
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days	
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P	
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1	
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL	
		<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON; 9012_CYANIDE: COMMON;
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>							
B32D39	SOIL									

COPY

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DATE/TIME</b>		
		<b>DISPOSED BY</b>	<b>DATE/TIME</b>	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-9	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI F15-048-025**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D40	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL F15-048-026**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D41	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL F15-048-027**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D42	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D42	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D42	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D42	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D42	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D42	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-9	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

### FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME _____	SIGN NAME _____	DATE _____
------------------	-----------------	------------

INDEPENDENT REVIEW

PRINT NAME _____	SIGN NAME _____	DATE _____
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CH2MHill Plateau Remediation Company F15-048-025  
COLLECTOR: BOTTLE: G/P 250mL  
SAMP NUM: B32D40 LAB: SWRI  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-9  
ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Format};

COPY

CH2MHill Plateau Remediation Company F15-048-026  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D41 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-9  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-026  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D41 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-9  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-026  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D41 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-9  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-026  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D41 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-9  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-026  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D41 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-9  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-027  
COLLECTOR: BOTTLE: G 250mL  
SAMP NUM: B32D42 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-9  
ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-027  
COLLECTOR: BOTTLE: aG 250mL  
SAMP NUM: B32D42 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-9  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-027  
COLLECTOR: BOTTLE: aG 250mL  
SAMP NUM: B32D42 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-9  
ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-027  
COLLECTOR: BOTTLE: G/P 250mL  
SAMP NUM: B32D42 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-9  
ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY



CH2M Hill Plateau Remediation Company F15-048-027  
COLLECTOR: BOTTLE: G/P 120mL  
SAMP NUM: B32D42 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-9  
ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2M Hill Plateau Remediation Company F15-048-027  
COLLECTOR: BOTTLE: G/P 60mL  
SAMP NUM: B32D42 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-9  
ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

CH2MHHI Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-025	PAGE 1 OF 1
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-9		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=-6C			
		<b>HOLDING TIME</b>	28 Days/48 Hours			
		<b>TYPE OF CONTAINER</b>	G/P			
		<b>NO. OF CONTAINER(S)</b>	1			
		<b>VOLUME</b>	250mL			
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056_ANIONS_IC: COMMON (Add-on) (Formate);			
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32D40	SOIL					

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

<b>CH2MHill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			<b>F15-048-026</b>	<b>PAGE 1 OF 1</b>
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-9		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		

**ORIGINAL**

COPY

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C
		<b>HOLDING TIME</b>	14 Days
		<b>TYPE OF CONTAINER</b>	aGs
		<b>NO. OF CONTAINER(S)</b>	5
		<b>VOLUME</b>	40mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32D41	SOIL		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

TRVL-15-136  
(1) 5035/8260\_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260\_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						F15-048-027	PAGE 1 OF 1	
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days	
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-9		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples				<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>		
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	<b>ORIGINAL</b>	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>				<b>BILL OF LADING/AIR BILL NO.</b>				
<b>MATRIX*</b> A=Air DL=Drum L=Liquids DS=Drum S=Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
			<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
			<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P
			<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1
			<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON (Methanol);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>							
B32D42	SOIL									

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	<b>TRVL-15-136</b> (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-10	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI** **F15-048-028**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D43	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-029**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D44	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-030**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D45	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D45	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D45	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D45	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D45	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D45	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-10	LOGBOOK NO./PAGE	
WELL NAME N/A	ORIGINAL	WELL ID N/A
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m		ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m		BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m
SAMPLES COLLECTED		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?	<input type="checkbox"/> WSCF	<input type="checkbox"/> 222-S	<input type="checkbox"/> MO-413	<input type="checkbox"/> MO-745	<input type="checkbox"/> 6269	<input type="checkbox"/> OTHER
CONTAINER/DRUM/TOTE/BOX						
SAMPLE MATRIX DESCRIPTION	<input type="checkbox"/> SOIL	<input type="checkbox"/> SLUDGE	<input type="checkbox"/> RESIN	<input type="checkbox"/> GAC	<input type="checkbox"/> FILTER PAPER	<input type="checkbox"/> OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]						

### FIELD OBSERVATIONS

WEATHER
FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES	<input type="checkbox"/> NO
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES	<input type="checkbox"/> NO
IS SRS PROVIDED AND COMPLETE	<input type="checkbox"/> YES	<input type="checkbox"/> NO

RECORDED BY	PRINT NAME _____	SIGN NAME _____	DATE _____
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INDEPENDENT REVIEW	PRINT NAME _____	SIGN NAME _____	DATE _____
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CH2MHill Plateau Remediation Company F15-048-028  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D43 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-10  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-029  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D44 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-10  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-029  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D44 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-10  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-029  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D44 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-10  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-029  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D44 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-10  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-029  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D44 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-10  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-030  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D45 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-10  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-030  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D45 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-10  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-030  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D45 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-10  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-030  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D45 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-10  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-030  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D45 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-10  
 ANALYSIS: 7196\_CR6: COMMON;

CH2MHill Plateau Remediation Company F15-048-030  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D45 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-10  
 ANALYSIS: 9012\_CYANIDE: COMMON;

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-028	PAGE 1 OF 1
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-10		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	<b>COPY</b>		
		<b>HOLDING TIME</b>	28 Days/48 Hours			
		<b>TYPE OF CONTAINER</b>	G/P			
		<b>NO. OF CONTAINER(S)</b>	1			
		<b>VOLUME</b>	250mL			
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056_ANIONS IC: COMMON (Add-on) {Format};			
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32D43	SOIL					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-029	PAGE 1 OF 1
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-10		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C	COPY		
		<b>HOLDING TIME</b>	14 Days			
		<b>TYPE OF CONTAINER</b>	aGs			
		<b>NO. OF CONTAINER(S)</b>	5			
		<b>VOLUME</b>	40mL			
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A				
<b>SAMPLE ANALYSIS</b>		SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32D44	SOIL					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D			<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D			<b>F15-048-030</b>		<b>PAGE 1 OF 1</b>	
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-10		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples				<b>SAF NO.</b> F15-048		<b>PRICE CODE</b> 8H		<b>DATA TURNAROUND</b> 30 Days / 30 Days			
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>			<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS				
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>				<b>BILL OF LADING/AIR BILL NO.</b>							
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.				<b>PRESERVATION</b>	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C		
					<b>HOLDING TIME</b>	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days		
					<b>TYPE OF CONTAINER</b>	G	aG	aG	G/P	G/P	G/P		
					<b>NO. OF CONTAINER(S)</b>	1	1	1	1	1	1		
					<b>VOLUME</b>	250mL	250mL	250mL	250mL	120mL	60mL		
					<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A						<b>SAMPLE ANALYSIS</b>	8015_VOA_GS: COMMON {Methanol};
<b>SAMPLE NO.</b>		<b>MATRIX*</b>		<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>								
B32D45		SOIL											

**ORIGINAL**

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

**SPECIAL INSTRUCTIONS**  
 TRVL-15-136  
 (1) 8270\_SVOA\_GCMS: COMMON {Pentachlorophenol};  
 8270\_SVOA\_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene};  
 8270\_SVOA\_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols};  
 (2) 8082\_PCB\_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};  
 (3) 6010\_METALS\_ICP: COMMON {Barium, Cadmium, Silver};  
 6010\_METALS\_ICP: COMMON (Add-on) {Lead, Vanadium};  
 7471\_MERCURY\_CV: COMMON (SOLIDS);

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-11	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI** **F15-048-031**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32D46	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-032**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32D47	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-033**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32D48	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D48	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D48	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D48	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D48	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D48	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-11	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?	<input type="checkbox"/> WSCF	<input type="checkbox"/> 222-S	<input type="checkbox"/> MO-413	<input type="checkbox"/> MO-745	<input type="checkbox"/> 6269	<input type="checkbox"/> OTHER
CONTAINER/DRUM/TOTE/BOX						
SAMPLE MATRIX DESCRIPTION	<input type="checkbox"/> SOIL	<input type="checkbox"/> SLUDGE	<input type="checkbox"/> RESIN	<input type="checkbox"/> GAC	<input type="checkbox"/> FILTER PAPER	<input type="checkbox"/> OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]						

### FIELD OBSERVATIONS

WEATHER
FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES	<input type="checkbox"/> NO	BLUE CARD NO _____
IS SRS PROVIDED AND COMPLETE	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
RECORDED BY	PRINT NAME _____	SIGN NAME _____	DATE _____
INDEPENDENT REVIEW	PRINT NAME _____	SIGN NAME _____	DATE _____

CH2MHill Plateau Remediation Company F15-048-031  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D46 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-11  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-032  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D47 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-11  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-032  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D47 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-11  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-033  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D48 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-11  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-033  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D48 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-11  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-032  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D47 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-11  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-032  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D47 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-11  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-032  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D47 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-11  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-033  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D48 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-11  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-033  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D48 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-11  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2M Hill Plateau Remediation Company F15-048-033  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D48 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-11  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2M Hill Plateau Remediation Company F15-048-033  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D48 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-11  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-031

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-11		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>		

COPY

<b>MATRIX*</b> A=Air DL=Drum L=Liquids DS=Drum S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C
		<b>HOLDING TIME</b>		28 Days/48 Hours
		<b>TYPE OF CONTAINER</b>		G/P
		<b>NO. OF CONTAINER(S)</b>		1
		<b>VOLUME</b>		250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b> 9056 ANIONS IC: COMMON (Add-on) (Formate);		
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32D46	SOIL			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

**CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>F15-048-032</b>	<b>PAGE 1 OF 1</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-11		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>			<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS		
<b>BILL OF LADING/AIR BILL NO.</b>							

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C
	<b>HOLDING TIME</b>	14 Days	
	<b>TYPE OF CONTAINER</b>	aGs	
	<b>NO. OF CONTAINER(S)</b>	5	
	<b>VOLUME</b>	40mL	
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B32D47	SOIL		

COPY

ORIGINAL

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

<b>LABORATORY SECTION</b>	RECEIVED BY	TITLE	DATE/TIME
<b>FINAL SAMPLE DISPOSITION</b>	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

PRINTED ON 7/30/2015

FSR ID = FSR2510

TRVL NUM = TRVL-15-136

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					F15-048-033		PAGE 1 OF 1	
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H		<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-11		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples				<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>		<b>30 Days / 30 Days</b>
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>		
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>				<b>BILL OF LADING/AIR BILL NO.</b>				
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
			<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
			<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P
			<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1
			<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>							
B32D48	SOIL									

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>			<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>			<b>DISPOSED BY</b>	<b>DATE/TIME</b>

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-12	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI** **F15-048-034**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D49	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-035**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D50	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-036**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D51	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D51	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D51	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D51	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D51	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D51	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-12	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

### FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME	SIGN NAME	DATE
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INDEPENDENT REVIEW

PRINT NAME	SIGN NAME	DATE
------------	-----------	------

CH2MHill Plateau Remediation Company F15-048-034  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D49 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-12  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-035  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D50 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-12  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-035  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D50 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-12  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-036  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D51 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-12  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-036  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D51 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-12  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-035  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D50 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-12  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-035  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D50 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-12  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-035  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D50 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-12  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-036  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D51 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-12  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-036  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D51 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-12  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY



CH2MHill Plateau Remediation Company F15-048-036  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D51 LAB: **GEL**  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-12  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-036  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D51 LAB: **GEL**  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-12  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

COLLECTOR		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-034	PAGE 1 OF 1
SAMPLING LOCATION FS-1 Closure Confirmation: 1-12		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO.		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
SHIPPED TO Southwest Research Institute		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		
POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION	Cool <=-6C	COPY		
SPECIAL HANDLING AND/OR STORAGE N/A		HOLDING TIME	28 Days/48 Hours			
		TYPE OF CONTAINER	G/P			
		NO. OF CONTAINER(S)	1			
		VOLUME	250mL			
		SAMPLE ANALYSIS	9056_ANIONS_IC: COMMON (Add-on) (Format);			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D49	SOIL					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

PRINTED ON 7/30/2015

FSR ID = FSR2511

TRVL NUM = TRVL-15-136

A-6003-618 (REV 2)

COLLECTOR		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-035	PAGE 1 OF 1
SAMPLING LOCATION FS-1 Closure Confirmation: 1-12		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO.		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
SHIPPED TO GEL Laboratories, LLC		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		
POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION Cool <-7C and >-20C	HOLDING TIME 14 Days	TYPE OF CONTAINER aGs	NO. OF CONTAINER(S) 5	
SPECIAL HANDLING AND/OR STORAGE N/A		VOLUME 40mL	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D50	SOIL					

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME

PRINTED ON 7/30/2015

FSR ID = FSR2511

TRVL NUM = TRVL-15-136

A-6003-618 (REV 2)

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H		<b>DATA TURNAROUND</b> 30 Days / 30 Days			
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-12		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples				<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>					
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS		<b>ORIGINAL</b>			
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>				<b>BILL OF LADING/AIR BILL NO.</b>							
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C			
			<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days			
			<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P			
			<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1			
			<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL			
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;				
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>										
B32D51	SOIL												

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-13	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI** **F15-048-037**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D52	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-038**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D53	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-039**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D54	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D54	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D54	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D54	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D54	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D54	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE
LOCATION FS-1 Closure Confirmation: 1-13		TIME
LOGBOOK NO./PAGE		
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

COPY ORIGINAL

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

### FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME _____	SIGN NAME _____	DATE _____
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INDEPENDENT REVIEW

PRINT NAME _____	SIGN NAME _____	DATE _____
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CH2MHill Plateau Remediation Company F15-048-037  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D52 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-038  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D53 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-038  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D53 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-039  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D54 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-039  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D54 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-038  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D53 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-038  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D53 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-038  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D53 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-039  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D54 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-039  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D54 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-039  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D54 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-039  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D54 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

Cruzmont Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F15-048-037	PAGE 1 OF 1	
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-13		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>	<b>30 Days / 30 Days</b>
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>			
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b>		Cool <=6C			
			<b>HOLDING TIME</b>		28 Days/48 Hours			
			<b>TYPE OF CONTAINER</b>		G/P			
			<b>NO. OF CONTAINER(S)</b>		1			
			<b>VOLUME</b>		250mL			
	<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>		9056_ANIONS_IC: COMMON (Add-on) (Format);			
<b>SAMPLE NO.</b>		<b>MATRIX*</b>		<b>SAMPLE DATE</b>		<b>SAMPLE TIME</b>		
B32D52		SOIL						

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

COLLECTOR		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-038	PAGE 1 OF 1
SAMPLING LOCATION FS-1 Closure Confirmation: 1-13		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO.		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
SHIPPED TO GEL Laboratories, LLC		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION Cool <-7C and >-20C	BILL OF LADING/AIR BILL NO.	
SPECIAL HANDLING AND/OR STORAGE N/A		HOLDING TIME 14 Days	TYPE OF CONTAINER aGs			
		NO. OF CONTAINER(S) 5	VOLUME 40mL			
		SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D53	SOIL					

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME

PRINTED ON 7/30/2015

FSR ID = FSR2512

TRVL NUM = TRVL-15-136

A-6003-618 (REV 2)

<b>CH2MHIII Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>				<b>F15-048-039</b>	<b>PAGE 1 OF 1</b>
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-13		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WT=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
		<b>HOLDING TIME</b>	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		<b>TYPE OF CONTAINER</b>	G	aG	aG	G/P	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>	1	1	1	1	1	1
		<b>VOLUME</b>	250mL	250mL	250mL	250mL	120mL	60mL
		<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	<b>SAMPLE ANALYSIS</b>	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;

COPY

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B32D54	SOIL							

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

**SPECIAL INSTRUCTIONS**  
TRVL-15-136  
(1) 8270\_SVOA\_GCMS: COMMON {Pentachlorophenol};  
8270\_SVOA\_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene};  
8270\_SVOA\_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols};  
(2) 8082\_PCB\_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};  
(3) 6010\_METALS\_ICP: COMMON {Barium, Cadmium, Silver};  
6010\_METALS\_ICP: COMMON (Add-on) {Lead, Vanadium};  
7471\_MERCURY\_CV: COMMON (SOLIDS);

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
SAF NO.(S) F15-048		DATE
LOCATION FS-1 Closure Confirmation: 1-13 Duplicate		LOGBOOK NO./PAGE
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI** **F15-048-040**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D55	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-041**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D56	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-042**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D57	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D57	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D57	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D57	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D57	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D57	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-13 Duplicate	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

### FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME _____	SIGN NAME _____	DATE _____
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INDEPENDENT REVIEW

PRINT NAME _____	SIGN NAME _____	DATE _____
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CH2MHill Plateau Remediation Company F15-048-040  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D55 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13 Duplicate  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-041  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D56 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13 Duplicate  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-041  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D56 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13 Duplicate  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-041  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D56 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13 Duplicate  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-041  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D56 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13 Duplicate  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-041  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D56 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13 Duplicate  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-042  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D57 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13 Duplicate  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-042  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D57 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13 Duplicate  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-042  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D57 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13 Duplicate  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-042  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D57 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13 Duplicate  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-042  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D57 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13 Duplicate  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-042  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D57 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-13 Duplicate  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-040	PAGE 1 OF 1
COLLECTOR	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
AMPLING LOCATION S-1 Closure Confirmation: 1-13 Duplicate	PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>	
CHEST NO.	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757		METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

ATRIX* =Air L=Drum quids S=Drum lids =Liquid =Oil =Soil E=Sediment =Tissue =Vegetation /=Water /I=Wipe =Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	
		<b>HOLDING TIME</b>	28 Days/48 Hours	
		<b>TYPE OF CONTAINER</b>	G/P	
		<b>NO. OF CONTAINER(S)</b>	1	
		<b>VOLUME</b>	250mL	
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A	<b>SAMPLE ANALYSIS</b>	9056_ANIONS, IC: COMMON (Add-on) {Formate};
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
332D55	SOIL			

COPY

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

COLLECTOR		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-041	PAGE 1 OF 1
FS-1 Closure Confirmation: 1-13 Duplicate		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Outdoor Container Storage Area - Soil Samples		PROJECT DESIGNATION		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C	<div style="color: red; font-size: 2em; opacity: 0.5;">COPY</div>		
		HOLDING TIME	14 Days			
		TYPE OF CONTAINER	aGs			
		NO. OF CONTAINER(S)	5			
		VOLUME	40mL			
	SPECIAL HANDLING AND/OR STORAGE	N/A	SAMPLE ANALYSIS			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D56	SOIL					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2M HILL Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					F15-048-042	PAGE 1 OF 1
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-13 Duplicate		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples				<b>SAF NO.</b> F15-048		
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>			
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON (Methanol);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
		7196_CR6: COMMON;	9012_CYANIDE: COMMON;					
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>					
B32D57	SOIL							

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-14	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
SAMPLES COLLECTED		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI** **F15-048-043**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32D58	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-044**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32D59	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-045**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPER	LOT NO.	PRESERVATION	ANALYSIS
B32D60	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D60	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D60	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D60	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D60	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D60	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-14	LOGBOOK NO./PAGE	
WELL NAME N/A	<del>ORIGINAL</del>	WELL ID N/A
		ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME? <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input type="checkbox"/> 6269 <input type="checkbox"/> OTHER
CONTAINER/DRUM/TOTE/BOX
SAMPLE MATRIX DESCRIPTION <input type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

### FIELD OBSERVATIONS

WEATHER
FIELD COMMENTS

<b>SUPPORT PERSONNEL</b>			
SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES	<input type="checkbox"/> NO	BLUE CARD NO _____
IS SRS PROVIDED AND COMPLETE	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
RECORDED BY	PRINT NAME _____	SIGN NAME _____	DATE _____
INDEPENDENT REVIEW	PRINT NAME _____	SIGN NAME _____	DATE _____

CH2MHill Plateau Remediation Company F15-048-043  
COLLECTOR: BOTTLE: G/P 250mL  
SAMP NUM: B32D58 LAB: SWRI  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-14  
ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-044  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D59 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-14  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-044  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D59 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-14  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-045  
COLLECTOR: BOTTLE: G 250mL  
SAMP NUM: B32D60 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-14  
ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-045  
COLLECTOR: BOTTLE: aG 250mL  
SAMP NUM: B32D60 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-14  
ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-044  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D59 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-14  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-044  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D59 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-14  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-044  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D59 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-14  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-045  
COLLECTOR: BOTTLE: aG 250mL  
SAMP NUM: B32D60 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-14  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-045  
COLLECTOR: BOTTLE: G/P 250mL  
SAMP NUM: B32D60 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-14  
ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY



CH2MHill Plateau Remediation Company F15-048-045  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D60 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-14  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-045  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D60 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-14  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

COLLECTOR		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-043	PAGE 1 OF 1
SAMPLING LOCATION FS-1 Closure Confirmation: 1-14		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO.		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C		COPY	
		HOLDING TIME	28 Days/48 Hours			
		TYPE OF CONTAINER	G/P			
		NO. OF CONTAINER(S)	1			
		VOLUME	250mL			
	SPECIAL HANDLING AND/OR STORAGE	N/A				
SPECIAL ANALYSIS		9056 ANIONS IC: COMMON (Add-on) {Formate};				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D58	SOIL					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

PRINTED ON 7/30/2015

FSR ID = FSR2514

TRVL NUM = TRVL-15-136

A-6003-618 (REV 2)

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>F15-048-044</b>	<b>PAGE 1 OF 1</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-14		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757	<b>AIR QUALITY</b> <input type="checkbox"/>	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>		

COPY

<b>MATRIX*</b> A=Air DL=Drum L=Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C	
		<b>HOLDING TIME</b>	14 Days	
		<b>TYPE OF CONTAINER</b>	aGs	
		<b>NO. OF CONTAINER(S)</b>	5	
		<b>VOLUME</b>	40mL	
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A	<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32D59	SOIL			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

**SPECIAL INSTRUCTIONS**  
 TRVL-15-136  
 (1) 5035/8260\_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260\_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};

Lynchburg Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					F15-048-045	PAGE 1 OF 1
COLLECTOR	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D			PRICE CODE 8H	DATA TURNAROUND	
SAMPLING LOCATION FS-1 Closure Confirmation: 1-14	PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF. NO. F15-048		AIR QUALITY <input type="checkbox"/>	30 Days / 30 Days		
ICE CHEST NO.	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>			
SHIPPED TO GEL Laboratories, LLC	OFFSITE PROPERTY NO.			BILL OF LADING/AIR BILL NO.				

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL
		<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON (Methanol);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>						
B32D60	SOIL								

COPY

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1 <b>OF</b> 2
		<b>DATE</b>
<b>SAF NO.(S)</b> F15-048		<b>TIME</b>
<b>LOCATION</b> FS-1 Closure Confirmation: 1-15	<b>LOGBOOK NO./PAGE</b>	
<b>WELL NAME</b> N/A	<b>WELL ID</b> N/A	<b>ACTUAL DEPTH</b> <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	<b>BOTTOM OF BOREHOLE (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>

**SWRI** **F15-048-046**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D61	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-047**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D62	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-048**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D63	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D63	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D63	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D63	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D63	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D63	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2	OF 2
SAF NO.(S) F15-048		DATE	
LOCATION FS-1 Closure Confirmation: 1-15		TIME	
WELL NAME N/A		LOGBOOK NO./PAGE	
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m		WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
		BOTTOM OF BOREHOLE (bgs)	<input type="checkbox"/> ft <input type="checkbox"/> m
SAMPLES COLLECTED			
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR	

## FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

## FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

### RECORDED BY

PRINT NAME \_\_\_\_\_ SIGN NAME \_\_\_\_\_ DATE \_\_\_\_\_

### INDEPENDENT REVIEW

PRINT NAME \_\_\_\_\_ SIGN NAME \_\_\_\_\_ DATE \_\_\_\_\_

CH2MHill Plateau Remediation Company F15-048-046  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D61 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-15  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-047  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D62 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-15  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-047  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D62 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-15  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-048  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D63 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-15  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-048  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D63 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-15  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-047  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D62 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-15  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-047  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D62 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-15  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-047  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D62 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-15  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-048  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D63 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-15  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-048  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D63 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-15  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY



CH2MHill Plateau Remediation Company F15-048-048  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D63 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-15  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-048  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D63 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-15  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

COLLECTOR		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-046	PAGE 1 OF 1
FS-1 Closure Confirmation: 1-15		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO.		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
SHIPPED TO Southwest Research Institute		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		
<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION	Cool <=6C	<div style="color: red; font-size: 2em; transform: rotate(90deg); opacity: 0.5;">COPY</div>		
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		HOLDING TIME	28 Days/48 Hours			
		TYPE OF CONTAINER	G/P			
		NO. OF CONTAINER(S)	1			
		VOLUME	250mL			
		SAMPLE ANALYSIS	9056_ANIONS, IC: COMMON (Add-on) {Formate};			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D61	SOIL					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME

PRINTED ON 7/30/2015

FSR ID = FSR2515

TRVL NUM = TRVL-15-136

A-6003-618 (REV 2)

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-047

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-15		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C
		<b>HOLDING TIME</b>	14 Days
		<b>TYPE OF CONTAINER</b>	aGs
		<b>NO. OF CONTAINER(S)</b>	5
		<b>VOLUME</b>	40mL
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32D62	SOIL		

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

TRVL-15-136  
 (1) 5035/8260\_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260\_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-048

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D			<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D			<b>PRICE CODE</b> 8H		<b>DATA TURNAROUND</b> 30 Days / 30 Days		
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-15		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples					<b>SAF NO.</b> F15-048			<b>AIR QUALITY</b> <input type="checkbox"/>				
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>			<b>ACTUAL SAMPLE DEPTH</b>			<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>				
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>					<b>BILL OF LADING/AIR BILL NO.</b>							
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.					<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
							<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
							<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P
							<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1
							<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL
		<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A					<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;
<b>SAMPLE NO.</b>		<b>MATRIX*</b>		<b>SAMPLE DATE</b>		<b>SAMPLE TIME</b>								
B32D63		SOIL												

COPY

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>				<b>SPECIAL INSTRUCTIONS</b>					
<b>RELINQUISHED BY/REMOVED FROM</b>		<b>DATE/TIME</b>		<b>RECEIVED BY/STORED IN</b>		<b>DATE/TIME</b>		TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);			
<b>RELINQUISHED BY/REMOVED FROM</b>		<b>DATE/TIME</b>		<b>RECEIVED BY/STORED IN</b>		<b>DATE/TIME</b>					
<b>RELINQUISHED BY/REMOVED FROM</b>		<b>DATE/TIME</b>		<b>RECEIVED BY/STORED IN</b>		<b>DATE/TIME</b>					
<b>RELINQUISHED BY/REMOVED FROM</b>		<b>DATE/TIME</b>		<b>RECEIVED BY/STORED IN</b>		<b>DATE/TIME</b>					
<b>RELINQUISHED BY/REMOVED FROM</b>		<b>DATE/TIME</b>		<b>RECEIVED BY/STORED IN</b>		<b>DATE/TIME</b>					
<b>RELINQUISHED BY/REMOVED FROM</b>		<b>DATE/TIME</b>		<b>RECEIVED BY/STORED IN</b>		<b>DATE/TIME</b>					
<b>RELINQUISHED BY/REMOVED FROM</b>		<b>DATE/TIME</b>		<b>RECEIVED BY/STORED IN</b>		<b>DATE/TIME</b>					
<b>LABORATORY SECTION</b>		<b>RECEIVED BY</b>				<b>TITLE</b>					
<b>FINAL SAMPLE DISPOSITION</b>		<b>DISPOSAL METHOD</b>				<b>DISPOSED BY</b>					
						<b>DATE/TIME</b>					
						<b>DATE/TIME</b>					

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1 OF 2
		<b>DATE</b>
<b>SAF NO.(S)</b> F15-048		<b>TIME</b>
<b>LOCATION</b> FS-1 Closure Confirmation: 1-16	<b>LOGBOOK NO./PAGE</b>	
<b>WELL NAME</b> N/A	<b>WELL ID</b> N/A	<b>ACTUAL DEPTH</b> <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	<b>BOTTOM OF BOREHOLE (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>

**SWRI** **F15-048-049**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D64	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-050**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D65	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-051**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D66	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D66	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D66	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D66	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D66	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D66	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-16	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-5  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

### FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME \_\_\_\_\_ SIGN NAME \_\_\_\_\_ DATE \_\_\_\_\_

INDEPENDENT REVIEW

PRINT NAME \_\_\_\_\_ SIGN NAME \_\_\_\_\_ DATE \_\_\_\_\_

CH2MHill Plateau Remediation Company F15-048-049  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D64 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-16  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-050  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D65 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-16  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-050  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D65 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-16  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-050  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D65 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-16  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-050  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D65 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-16  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-050  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D65 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-16  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-051  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D66 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-16  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-051  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D66 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-16  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-051  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D66 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-16  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-051  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D66 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-16  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-051  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D66 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-16  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-051  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D66 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-16  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

COLLECTOR		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F15-048-049	PAGE 1 OF 1		
SAMPLING LOCATION FS-1 Closure Confirmation: 1-16		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days			
ICE CHEST NO.		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples	SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT FEDERAL EXPRESS				
SHIPPED TO Southwest Research Institute		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	BILL OF LADING/AIR BILL NO.				
OFFSITE PROPERTY NO.		<p style="text-align: center;"><b>ORIGINAL</b></p> <p style="text-align: center; color: red; font-size: 2em; opacity: 0.5;">COPY</p>							
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.							<b>PRESERVATION</b>	Cool <=6C
								<b>HOLDING TIME</b>	28 Days/48 Hours
								<b>TYPE OF CONTAINER</b>	G/P
								<b>NO. OF CONTAINER(S)</b>	1
								<b>VOLUME</b>	250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A	<b>SAMPLE ANALYSIS</b>	9056_ANTONS_IC: COMMON (Add-on) (Formate);						
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>						
B32D64	SOIL								

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

PRINTED ON 7/30/2015

FSR ID = FSR2516

TRVL NUM = TRVL-15-136

A-6003-618 (REV 2)

COLLECTOR		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-050	PAGE 1 OF 1
FS-1 Closure Confirmation: 1-16		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO.		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C			
		<b>HOLDING TIME</b>	14 Days			
		<b>TYPE OF CONTAINER</b>	aGs			
		<b>NO. OF CONTAINER(S)</b>	5			
		<b>VOLUME</b>	40mL			
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS			
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32D65	SOIL					

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H		<b>DATA TURNAROUND</b> 30 Days / 30 Days	
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-16		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples				<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>			
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS		<b>ORIGINAL</b>	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>				<b>BILL OF LADING/AIR BILL NO.</b>					
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
			<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days	
			<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P	
			<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1	
			<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL	
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;	
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>								
B32D66	SOIL										

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>			<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>			<b>DISPOSED BY</b>	<b>DATE/TIME</b>

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-17	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI** **F15-048-052**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D67	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-053**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D68	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-054**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D69	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D69	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D69	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D69	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D69	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D69	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE
LOCATION FS-1 Closure Confirmation: 1-17		TIME
LOGBOOK NO./PAGE		
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

### FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

**SUPPORT PERSONNEL**

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME _____	SIGN NAME _____	DATE _____
------------------	-----------------	------------

INDEPENDENT REVIEW

PRINT NAME _____	SIGN NAME _____	DATE _____
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CH2MHill Plateau Remediation Company F15-048-052  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D67 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-17  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-053  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D68 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-17  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-053  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D68 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-17  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-054  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D69 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-17  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-054  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D69 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-17  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-053  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D68 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-17  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-053  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D68 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-17  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-053  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D68 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-17  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-054  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D69 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-17  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-054  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D69 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-17  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY



CH2MHill Plateau Remediation Company F15-048-054  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D69 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-17  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-054  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D69 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-17  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-052

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-17		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>-ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b>	Cool <=6C		COPY	
			<b>HOLDING TIME</b>	28 Days/48 Hours			
			<b>TYPE OF CONTAINER</b>	G/P			
			<b>NO. OF CONTAINER(S)</b>	1			
			<b>VOLUME</b>	250mL			
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		9056 ANIONS IC: COMMON (Add-on) {Formate};			
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>				
B32D67	SOIL						

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

COLLECTOR		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F15-048-053	PAGE 1 OF 1
SAMPLING LOCATION FS-1 Closure Confirmation: 1-17		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO.		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>		
SHIPPED TO GEL Laboratories, LLC		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS		<b>ORIGINAL</b>
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION Cool < -7C and > -20C	BILL OF LADING/AIR BILL NO.		
SPECIAL HANDLING AND/OR STORAGE N/A		HOLDING TIME 14 Days					
		TYPE OF CONTAINER aGs					
		NO. OF CONTAINER(S) 5					
		VOLUME 40mL					
		SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS					
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B32D68	SOIL						

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-054

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H		<b>DATA TURNAROUND</b> 30 Days / 30 Days	
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-17		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples				<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>			
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>			
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>				<b>BILL OF LADING/AIR BILL NO.</b>					

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL
		<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>						
B32D69	SOIL								

COPY

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1 <b>OF</b> 2
		<b>DATE</b>
<b>SAF NO.(S)</b> F15-048		<b>TIME</b>
<b>LOCATION</b> FS-1 Closure Confirmation: 1-18	<b>LOGBOOK NO./PAGE</b>	
<b>WELL NAME</b> N/A	<b>WELL ID</b> N/A	<b>ACTUAL DEPTH</b> <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	<b>BOTTOM OF BOREHOLE (bgs)</b>	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>

**SWRI** **F15-048-055**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D70	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-056**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D71	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-057**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D72	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D72	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D72	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D72	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D72	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D72	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE
LOCATION FS-1 Closure Confirmation: 1-18		LOGBOOK NO./PAGE
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

### FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME \_\_\_\_\_ SIGN NAME \_\_\_\_\_ DATE \_\_\_\_\_

INDEPENDENT REVIEW

PRINT NAME \_\_\_\_\_ SIGN NAME \_\_\_\_\_ DATE \_\_\_\_\_

CH2MHill Plateau Remediation Company F15-048-055  
COLLECTOR: BOTTLE: G/P 250mL  
SAMP NUM: B32D70 LAB: SWRI  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-18  
ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-056  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D71 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-18  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-056  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D71 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-18  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-057  
COLLECTOR: BOTTLE: G 250mL  
SAMP NUM: B32D72 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-18  
ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-057  
COLLECTOR: BOTTLE: aG 250mL  
SAMP NUM: B32D72 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-18  
ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-056  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D71 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-18  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-056  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D71 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-18  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-056  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32D71 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-18  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-057  
COLLECTOR: BOTTLE: aG 250mL  
SAMP NUM: B32D72 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-18  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-057  
COLLECTOR: BOTTLE: G/P 250mL  
SAMP NUM: B32D72 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: 1-18  
ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-057  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D72 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-18  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-057  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D72 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-18  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

CH2MHILL Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-055	PAGE 1 OF 1
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-18		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=-6C			
		<b>HOLDING TIME</b>	28 Days/48 Hours			
		<b>TYPE OF CONTAINER</b>	G/P			
		<b>NO. OF CONTAINER(S)</b>	1			
		<b>VOLUME</b>	250mL			
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A				
	<b>SAMPLE ANALYSIS</b>	9056_ANIONS_IC; COMMON (Add-on) (Format);				
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32D70	SOIL					

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

COLLECTOR		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-056	PAGE 1 OF 1
SAMPLING LOCATION FS-1 Closure Confirmation: 1-18		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO.		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples	SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>		
SHIPPED TO GEL Laboratories, LLC		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>-ORIGINAL</b>	
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		
POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION Cool <-7C and >-20C	HOLDING TIME 14 Days	TYPE OF CONTAINER 8Gs		
SPECIAL HANDLING AND/OR STORAGE N/A		NO. OF CONTAINER(S) 5	VOLUME 40mL	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D71	SOIL					

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

COLLECTOR		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					F15-048-057	PAGE 1 OF 1			
FS-1 Closure Confirmation: 1-18		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D			PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days			
ICE CHEST NO.		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>					
SHIPPED TO GEL Laboratories, LLC		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757			METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>			
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
SPECIAL HANDLING AND/OR STORAGE N/A		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.							
		HOLDING TIME		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days		
		TYPE OF CONTAINER		G	aG	aG	G/P	G/P	G/P		
		NO. OF CONTAINER(S)		1	1	1	1	1	1		
		VOLUME		250mL	250mL	250mL	250mL	120mL	60mL		
		SAMPLE ANALYSIS		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME								
B32D72	SOIL										

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1 <b>OF</b> 2
		<b>DATE</b>
<b>SAF NO.(S)</b> F15-048		<b>TIME</b>
<b>LOCATION</b> FS-1 Closure Confirmation: 1-19	<b>LOGBOOK NO./PAGE</b>	
<b>WELL NAME</b> N/A	<b>WELL ID</b> N/A	<b>ACTUAL DEPTH</b> <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	<b>BOTTOM OF BOREHOLE (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>

**SWRI** **F15-048-058**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D73	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-059**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D74	.5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-060**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D75	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D75	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D75	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D75	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D75	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D75	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-19	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

### FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME _____	SIGN NAME _____	DATE _____
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INDEPENDENT REVIEW

PRINT NAME _____	SIGN NAME _____	DATE _____
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CH2MHill Plateau Remediation Company F15-048-058  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D73 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-19  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-059  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D74 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-19  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-059  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D74 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-19  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-059  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D74 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-19  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-059  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D74 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-19  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-059  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D74 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-19  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-060  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D75 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-19  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-060  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D75 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-19  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-060  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D75 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-19  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-060  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D75 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-19  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-060  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D75 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-19  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-060  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D75 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-19  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

Collector		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-058	PAGE 1 OF 1
SAMPLING LOCATION FS-1 Closure Confirmation: 1-19		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO.		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C		COPY	
		HOLDING TIME	28 Days/48 Hours			
		TYPE OF CONTAINER	G/P			
		NO. OF CONTAINER(S)	1			
		VOLUME	250mL			
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		SAMPLE ANALYSIS	9056_AMIONS IC: COMMON (Add-on) {Formate};			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D73	SOIL					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME

UNZMIII Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-059	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-19		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C	COPY		
		<b>HOLDING TIME</b>	14 Days			
		<b>TYPE OF CONTAINER</b>	aGs			
		<b>NO. OF CONTAINER(S)</b>	5			
		<b>VOLUME</b>	40mL			
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A				
<b>SAMPLE ANALYSIS</b>		SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32D74	SOIL					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F15-048-060	PAGE 1 OF 1
COLLECTOR	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D
SAMPLING LOCATION FS-1 Closure Confirmation: 1-19	PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples	SAF NO. F15-048	PRICE CODE 8H AIR QUALITY <input type="checkbox"/>
ICE CHEST NO.	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757
SHIPPED TO GEL Laboratories, LLC	OFFSITE PROPERTY NO.	BILL OF LADING/AIR BILL NO.	
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C
		HOLDING TIME	14 Days
		TYPE OF CONTAINER	G
		NO. OF CONTAINER(S)	1
		VOLUME	250mL
	SPECIAL HANDLING AND/OR STORAGE N/A	SAMPLE ANALYSIS	8015_VOA_GS: COMMON (Methanol);
			SEE ITEM (1) IN SPECIAL INSTRUCTIONS
			SEE ITEM (2) IN SPECIAL INSTRUCTIONS
			SEE ITEM (3) IN SPECIAL INSTRUCTIONS
			7196_CR6: COMMON;
			9012_CYANIDE: COMMON;
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B32D75	SOIL		

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
LABORATORY SECTION	RECEIVED BY	TITLE		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		
			DATE/TIME	
			DATE/TIME	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: 1-20	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

**SWRI** **F15-048-061**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D76	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-062**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D77	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-063**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32D78	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32D78	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32D78	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32D78	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32D78	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32D78	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE
LOCATION FS-1 Closure Confirmation: 1-20		LOGBOOK NO./PAGE
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX \_\_\_\_\_

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

\_\_\_\_\_

\_\_\_\_\_

### FIELD OBSERVATIONS

WEATHER \_\_\_\_\_

FIELD COMMENTS \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME \_\_\_\_\_ SIGN NAME \_\_\_\_\_ DATE \_\_\_\_\_

INDEPENDENT REVIEW

PRINT NAME \_\_\_\_\_ SIGN NAME \_\_\_\_\_ DATE \_\_\_\_\_

CH2MHill Plateau Remediation Company F15-048-061  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D76 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-20  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-062  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D77 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-20  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-062  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D77 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-20  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-062  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D77 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-20  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-062  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D77 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-20  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-062  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32D77 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-20  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-063  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32D78 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-20  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-063  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D78 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-20  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-063  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32D78 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-20  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-063  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32D78 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-20  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2M Hill Plateau Remediation Company F15-048-063  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32D78 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-20  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2M Hill Plateau Remediation Company F15-048-063  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32D78 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: 1-20  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

CAMPBELL PLATEAU Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-061	PAGE 1 OF 1
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-20		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C			
		<b>HOLDING TIME</b>	28 Days/48 Hours			
		<b>TYPE OF CONTAINER</b>	G/P			
		<b>NO. OF CONTAINER(S)</b>	1			
		<b>VOLUME</b>	250mL			
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056_ANTONS_IC: COMMON (Add-on) (Formate);			
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32D76	SOIL					

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

COLLECTOR		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-062	PAGE 1 OF 1
SAMPLING LOCATION FS-1 Closure Confirmation: 1-20		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO.		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
SHIPPED TO GEL Laboratories, LLC		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION Cool <-7C and >-20C		
SPECIAL HANDLING AND/OR STORAGE N/A		HOLDING TIME 14 Days		TYPE OF CONTAINER aGs		
		NO. OF CONTAINER(S) 5		VOLUME 40mL		
		SAMPLE ANALYSIS		SEE ITEM (1) IN SPECIAL INSTRUCTIONS		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D77	SOIL					

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-063

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H		<b>DATA TURNAROUND</b> 30 Days / 30 Days			
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-20		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples				<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>					
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS		<b>ORIGINAL</b>			
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>				<b>BILL OF LADING/AIR BILL NO.</b>							
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C		
			<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days			
			<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P			
			<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1			
			<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL			
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;			
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>										
B32D78	SOIL												

COPY

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1 <b>OF</b> 2
<b>SAF NO.(S)</b> F15-048		<b>DATE</b>
<b>LOCATION</b> FS-1 Closure Confirmation: Optional 1		<b>TIME</b>
<b>WELL NAME</b> N/A	<b>LOGBOOK NO./PAGE</b>	<b>ACTUAL DEPTH</b> <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	<b>WELL ID</b> N/A	<b>BOTTOM OF BOREHOLE (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m

COPY ORIGINAL

### SAMPLES COLLECTED

<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>
-----------------------------------	---------------------------------	------------------

<b>SWRI</b> <span style="float: right;"><b>F15-048-064</b></span>				
SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32DK9	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

<b>GEL</b> <span style="float: right;"><b>F15-048-066</b></span>				
SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32DL1	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

<b>GEL</b> <span style="float: right;"><b>F15-048-068</b></span>				
SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32DL3	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32DL3	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32DL3	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32DL3	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32DL3	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32DL3	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: Optional 1	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?	<input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input type="checkbox"/> 6269 <input type="checkbox"/> OTHER
CONTAINER/DRUM/TOTE/BOX	
SAMPLE MATRIX DESCRIPTION	<input type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]	

### FIELD OBSERVATIONS

WEATHER
FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES <input type="checkbox"/> NO
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES <input type="checkbox"/> NO
IS SRS PROVIDED AND COMPLETE	<input type="checkbox"/> YES <input type="checkbox"/> NO
BLUE CARD NO	_____
RECORDED BY	PRINT NAME _____ SIGN NAME _____ DATE _____
INDEPENDENT REVIEW	PRINT NAME _____ SIGN NAME _____ DATE _____

CH2MHill Plateau Remediation Company F15-048-064  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32DK9 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 1  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-066  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32DL1 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 1  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-066  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32DL1 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 1  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-066  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32DL1 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 1  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-066  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32DL1 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 1  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-066  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32DL1 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 1  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-068  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32DL3 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 1  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-068  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32DL3 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 1  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-068  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32DL3 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 1  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-068  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32DL3 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 1  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-068  
COLLECTOR: BOTTLE: G/P 120mL  
SAMP NUM: B32DL3 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: Optional 1  
ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-068  
COLLECTOR: BOTTLE: G/P 60mL  
SAMP NUM: B32DL3 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: Optional 1  
ANALYSIS: 9012\_CYANIDE: COMMON;

COPY



CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-064

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 1		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C
		<b>HOLDING TIME</b>	28 Days/48 Hours
		<b>TYPE OF CONTAINER</b>	G/P
		<b>NO. OF CONTAINER(S)</b>	1
		<b>VOLUME</b>	250mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	<b>SAMPLE ANALYSIS</b>	9056_ANIONS IC: COMMON (Add-on) {Format};
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32DK9	SOIL		

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-066	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 1		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C
		<b>HOLDING TIME</b>	14 Days
		<b>TYPE OF CONTAINER</b>	aGs
		<b>NO. OF CONTAINER(S)</b>	5
		<b>VOLUME</b>	40mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32DL1	SOIL		

COPY

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

<b>CH2MHill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>				<b>F15-048-068</b>	<b>PAGE 1 OF 1</b>
<b>COLLECTOR</b>	<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days	
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 1	<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>		
<b>ICE CHEST NO.</b>	<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>		
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
		<b>HOLDING TIME</b>	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		<b>TYPE OF CONTAINER</b>	G	aG	aG	G/P	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>	1	1	1	1	1	1
		<b>VOLUME</b>	250mL	250mL	250mL	250mL	120mL	60mL
		<b>SPECIAL HANDLING AND/OR STORAGE</b>	<b>SAMPLE ANALYSIS</b>	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>					
B32DL3	SOIL							

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

**SPECIAL INSTRUCTIONS**  
TRVL-15-136  
(1) 8270\_SVOA\_GCMS: COMMON {Pentachlorophenol};  
8270\_SVOA\_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene};  
8270\_SVOA\_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols};  
(2) 8082\_PCB\_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};  
(3) 6010\_METALS\_ICP: COMMON {Barium, Cadmium, Silver};  
6010\_METALS\_ICP: COMMON (Add-on) {Lead, Vanadium};  
7471\_MERCURY\_CV: COMMON (SOLIDS);

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1 <b>OF</b> 2
		<b>DATE</b>
<b>SAF NO.(S)</b> F15-048		<b>TIME</b>
<b>LOCATION</b> FS-1 Closure Confirmation: Optional 2	<b>LOGBOOK NO./PAGE</b>	
<b>WELL NAME</b> N/A	<b>WELL ID</b> N/A	<b>ACTUAL DEPTH</b> <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	<b>BOTTOM OF BOREHOLE (bgs)</b>	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>

**SWRI** **F15-048-065**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32DL0	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-067**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32DL2	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-069**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32DL4	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32DL4	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32DL4	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32DL4	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32DL4	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32DL4	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE
LOCATION FS-1 Closure Confirmation: Optional 2		TIME
LOGBOOK NO./PAGE		
WELL NAME N/A	<del>ORIGINAL</del>	WELL ID N/A
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m		ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m		
SAMPLES COLLECTED		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

## FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

## FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME _____	SIGN NAME _____	DATE _____
------------------	-----------------	------------

INDEPENDENT REVIEW

PRINT NAME _____	SIGN NAME _____	DATE _____
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CH2MHill Plateau Remediation Company F15-048-065  
COLLECTOR: BOTTLE: G/P 250mL  
SAMP NUM: B32DL0 LAB: SWRI  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: Optional 2  
ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-067  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32DL2 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: Optional 2  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-067  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32DL2 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: Optional 2  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-067  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32DL2 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: Optional 2  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-067  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32DL2 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: Optional 2  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-067  
COLLECTOR: BOTTLE: aGs 40mL  
SAMP NUM: B32DL2 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <-7C and >-20C  
PLACE SAMPLED: FS-1 Closure Confirmation: Optional 2  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-069  
COLLECTOR: BOTTLE: G 250mL  
SAMP NUM: B32DL4 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: Optional 2  
ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-069  
COLLECTOR: BOTTLE: aG 250mL  
SAMP NUM: B32DL4 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: Optional 2  
ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-069  
COLLECTOR: BOTTLE: aG 250mL  
SAMP NUM: B32DL4 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: Optional 2  
ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-069  
COLLECTOR: BOTTLE: G/P 250mL  
SAMP NUM: B32DL4 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: Optional 2  
ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-069  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32DL4 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 2  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-069  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32DL4 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 2  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

Collector		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-065	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 2		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	COPY		
		<b>HOLDING TIME</b>	28 Days/48 Hours			
		<b>TYPE OF CONTAINER</b>	G/P			
		<b>NO. OF CONTAINER(S)</b>	1			
		<b>VOLUME</b>	250mL			
	<b>SPECIAL HANDLING AND/OR STORAGE</b>					
	<b>SAMPLE ANALYSIS</b>	9056_ANIONS_IC: COMMON (Add-on) (Formate);				
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32DL0	SOIL					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

PRINTED ON 7/30/2015

FSR ID = FSR2951

TRVL NUM = TRVL-15-136

A-6003-618 (REV 2)

CH2MHIII Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-067	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 2		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C	
		HOLDING TIME	14 Days	
		TYPE OF CONTAINER	aGs	
		NO. OF CONTAINER(S)	5	
		VOLUME	40mL	
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B32DL2	SOIL			

COPY

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME

<b>CH2M Hill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>				<b>F15-048-069</b>	<b>PAGE 1 OF 1</b>	
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 2		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	<b>ORIGINAL</b>
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>			

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL
		<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>						
B32DL4	SOIL								

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1 <b>OF</b> 2
		<b>DATE</b>
<b>SAF NO.(S)</b> F15-048	<b>TIME</b>	
<b>LOCATION</b> FS-1 Closure Confirmation: Optional 3	<b>LOGBOOK NO./PAGE</b>	
<b>WELL NAME</b> N/A	ORIGINAL	<b>WELL ID</b> N/A <b>ACTUAL DEPTH</b> <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	<b>BOTTOM OF BOREHOLE (bgs)</b>	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>

**SWRI** **F15-048-070**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F19	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-071**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F20	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-072**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F21	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32F21	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32F21	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32F21	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32F21	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32F21	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

COPY

TRVL- 15- 136

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 2 <b>OF</b> 2
		<b>DATE</b>
<b>SAF NO.(S)</b> F15-048		<b>TIME</b>
<b>LOCATION</b> FS-1 Closure Confirmation: Optional 3	<b>LOGBOOK NO./PAGE</b>	
<b>WELL NAME</b> N/A	<b>WELL ID</b> N/A	<b>ACTUAL DEPTH</b> <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	<b>BOTTOM OF BOREHOLE (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>

### FIELD INFORMATION

<b>WHERE ARE SAMPLES LOCATED AT THIS TIME?</b> <input type="checkbox"/> WSCF <input type="checkbox"/> 222-S <input type="checkbox"/> MO-413 <input type="checkbox"/> MO-745 <input type="checkbox"/> 6269 <input type="checkbox"/> OTHER
<b>CONTAINER/DRUM/TOTE/BOX</b>
<b>SAMPLE MATRIX DESCRIPTION</b> <input type="checkbox"/> SOIL <input type="checkbox"/> SLUDGE <input type="checkbox"/> RESIN <input type="checkbox"/> GAC <input type="checkbox"/> FILTER PAPER <input type="checkbox"/> OTHER
<b>FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]</b>

### FIELD OBSERVATIONS

<b>WEATHER</b>
<b>FIELD COMMENTS</b>
COPY

### SUPPORT PERSONNEL

<b>SAMPLES SURVEYED BY RCT</b>	<input type="checkbox"/> YES <input type="checkbox"/> NO
<b>IS A BLUE CARD REQUIRED</b>	<input type="checkbox"/> YES <input type="checkbox"/> NO
<b>IS SRS PROVIDED AND COMPLETE</b>	<input type="checkbox"/> YES <input type="checkbox"/> NO
<b>BLUE CARD NO</b>	_____
<b>RECORDED BY</b>	_____
<b>INDEPENDENT REVIEW</b>	_____
<b>PRINT NAME</b>	<b>SIGN NAME</b>
<b>PRINT NAME</b>	<b>SIGN NAME</b>
<b>DATE</b>	<b>DATE</b>

TRVL 15- 136

CH2MHill Plateau Remediation Company F15-048-070  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32F19 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 3  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-071  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F20 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 3  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-071  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F20 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 3  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-072  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32F21 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 3  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-072  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32F21 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 3  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-071  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F20 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 3  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-071  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F20 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 3  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-071  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F20 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 3  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-072  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32F21 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 3  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-072  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32F21 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 3  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-072  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32F21 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 3  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-072  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32F21 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 3  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-070

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 3		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>		

COPY

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C
		<b>HOLDING TIME</b>	28 Days/48 Hours
		<b>TYPE OF CONTAINER</b>	G/P
		<b>NO. OF CONTAINER(S)</b>	1
		<b>VOLUME</b>	250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>	9056_ANIONS_ IC: COMMON (Add-on) (Formate);
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32F19	SOIL		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

Lynchburg Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F15-048-071	PAGE 1 OF 1		
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H <b>AIR QUALITY</b> <input type="checkbox"/>	<b>DATA TURNAROUND</b> 30 Days / 30 Days	
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 3		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048				
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	<b>ORIGINAL</b>
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>				
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b>		Cool <-7C and >-20C				
			<b>HOLDING TIME</b>		14 Days				
			<b>TYPE OF CONTAINER</b>		aGs				
			<b>NO. OF CONTAINER(S)</b>		5				
			<b>VOLUME</b>		40mL				
	<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>		SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
<b>SAMPLE NO.</b>		<b>MATRIX*</b>		<b>SAMPLE DATE</b>		<b>SAMPLE TIME</b>			
B32F20		SOIL							

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>			<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>			<b>DISPOSED BY</b>	<b>DATE/TIME</b>

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-072

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D			<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 3		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048			<b>AIR QUALITY</b> <input type="checkbox"/>
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>			

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL
		<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON (Methanol);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>						
B32F21	SOIL								

COPY

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 1 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: Optional 4	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

COPY

ORIGINAL

**SWRI** **F15-048-073**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F22	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-074**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F23	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-075**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F24	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32F24	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32F24	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32F24	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32F24	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32F24	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

TRVL 15- 136

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE
LOCATION FS-1 Closure Confirmation: Optional 4		LOGBOOK NO./PAGE
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

COPY

ORIGINAL

**SAMPLES COLLECTED**

TOTAL NUMBER OF BOTTLES 12    TOTAL NUMBER OF CHAINS 3    COLLECTOR

**FIELD INFORMATION**

WHERE ARE SAMPLES LOCATED AT THIS TIME?     WSCF     222-S     MO-413     MO-745     6269     OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION     SOIL     SLUDGE     RESIN     GAC     FILTER PAPER     OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

**FIELD OBSERVATIONS**

WEATHER

FIELD COMMENTS

**SUPPORT PERSONNEL**

SAMPLES SURVEYED BY RCT     YES     NO

IS A BLUE CARD REQUIRED     YES     NO    BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE     YES     NO

RECORDED BY

PRINT NAME	SIGN NAME	DATE
------------	-----------	------

INDEPENDENT REVIEW

PRINT NAME	SIGN NAME	DATE
------------	-----------	------

TRVL-15-136



CH2MHill Plateau Remediation Company F15-048-073  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32F22 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 4  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-074  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F23 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 4  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-074  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F23 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 4  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-074  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F23 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 4  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-074  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F23 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 4  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-074  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F23 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 4  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-075  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32F24 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 4  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-075  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32F24 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 4  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-075  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32F24 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 4  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-075  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32F24 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 4  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-075  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32F24 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 4  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-075  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32F24 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 4  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-073	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 4		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C
		<b>HOLDING TIME</b>	28 Days/48 Hours
		<b>TYPE OF CONTAINER</b>	G/P
		<b>NO. OF CONTAINER(S)</b>	1
		<b>VOLUME</b>	250mL
		<b>SPECIAL HANDLING AND/OR STORAGE</b>	<b>SAMPLE ANALYSIS</b>
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32F22	SOIL		

COPY

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-074

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 4		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>		

**ORIGINAL**

COPY

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <-7C and >-20C
		<b>HOLDING TIME</b>		14 Days
		<b>TYPE OF CONTAINER</b>		aGs
		<b>NO. OF CONTAINER(S)</b>		5
		<b>VOLUME</b>		40mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>	
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32F23	SOIL			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

**SPECIAL INSTRUCTIONS**  
 TRVL-15-136  
 (1) 5035/8260\_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260\_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F15-048-075	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 4		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA 303757		METHOD OF SHIPMENT FEDERAL EXPRESS	<del>ORIGINAL</del>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.			

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		<b>HOLDING TIME</b>	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days	
		<b>TYPE OF CONTAINER</b>	G	aG	aG	G/P	G/P	G/P	
		<b>NO. OF CONTAINER(S)</b>	1	1	1	1	1	1	
		<b>VOLUME</b>	250mL	250mL	250mL	250mL	120mL	60mL	
		<b>SPECIAL HANDLING AND/OR STORAGE</b>	<b>SAMPLE ANALYSIS</b>	8015_VOA_GS: COMMON (Methanol);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>						
B32F24	SOIL								

COPY

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1 <b>OF</b> 2
<b>SAF NO.(S)</b> F15-048		<b>DATE</b>
<b>LOCATION</b> FS-1 Closure Confirmation: Optional 5		<b>LOGBOOK NO./PAGE</b>
<b>WELL NAME</b> N/A	<b>WELL ID</b> N/A	<b>ACTUAL DEPTH</b> <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	<b>BOTTOM OF BOREHOLE (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>

COPY

ORIGINAL

**SWRI** **F15-048-076**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F25	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-077**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F26	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-078**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F27	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32F27	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32F27	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32F27	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32F27	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32F27	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

TRM-15- 136

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE
LOCATION FS-1 Closure Confirmation: Optional 5		TIME
LOGBOOK NO./PAGE		
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs)	<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

COPY

ORIGINAL

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?	<input type="checkbox"/> WSCF	<input type="checkbox"/> 222-S	<input type="checkbox"/> MO-413	<input type="checkbox"/> MO-745	<input type="checkbox"/> 6269	<input type="checkbox"/> OTHER
CONTAINER/DRUM/TOTE/BOX						
SAMPLE MATRIX DESCRIPTION	<input type="checkbox"/> SOIL	<input type="checkbox"/> SLUDGE	<input type="checkbox"/> RESIN	<input type="checkbox"/> GAC	<input type="checkbox"/> FILTER PAPER	<input type="checkbox"/> OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]						

### FIELD OBSERVATIONS

WEATHER
FIELD COMMENTS

<b>SUPPORT PERSONNEL</b>			
SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES	<input type="checkbox"/> NO	BLUE CARD NO _____
IS SRS PROVIDED AND COMPLETE	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
RECORDED BY	PRINT NAME _____	SIGN NAME _____	DATE _____
INDEPENDENT REVIEW	PRINT NAME _____	SIGN NAME _____	DATE _____

CH2MHill Plateau Remediation Company F15-048-076  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32F25 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 5  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-077  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F26 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 5  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-077  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F26 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 5  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-078  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32F27 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 5  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-078  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32F27 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 5  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-077  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F26 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 5  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-077  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F26 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 5  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-077  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F26 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 5  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-078  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32F27 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 5  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-078  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32F27 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 5  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-078  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32F27 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 5  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-078  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32F27 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 5  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-076

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 5		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		

COPY

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C
		<b>HOLDING TIME</b>	28 Days/48 Hours
		<b>TYPE OF CONTAINER</b>	G/P
		<b>NO. OF CONTAINER(S)</b>	1
		<b>VOLUME</b>	250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>	9056_ANIONS_ IC: COMMON (Add-on) (Formate);
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32F25	SOIL		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F15-048-077	PAGE 1 OF 1
COLLECTOR		COMPANY CONTACT TODAK, D		TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 5		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples			SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO.		FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.			BILL OF LADING/AIR BILL NO.		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION		Cool <-7C and >-20C		
			HOLDING TIME		14 Days		
			TYPE OF CONTAINER		aGs		
			NO. OF CONTAINER(S)		5		
			VOLUME		40mL		
SPECIAL HANDLING AND/OR STORAGE			SAMPLE ANALYSIS		SEE ITEM (1) IN SPECIAL INSTRUCTIONS		
SAMPLE NO.		MATRIX*		SAMPLE DATE	SAMPLE TIME		
B32F26		SOIL					

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2M HILL Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						F15-048-078	PAGE 1 OF 1	
COLLECTOR		COMPANY CONTACT TODAK, D		TELEPHONE NO. 376-6427		PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days	
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 5		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples				SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO.		FIELD LOGBOOK NO.		ACTUAL SAMPLE DEPTH		COA 303757		METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>		
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO.				BILL OF LADING/AIR BILL NO.				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
			HOLDING TIME		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
			TYPE OF CONTAINER		G	aG	aG	G/P	G/P	G/P
			NO. OF CONTAINER(S)		1	1	1	1	1	1
			VOLUME		250mL	250mL	250mL	250mL	120mL	60mL
	SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS		8015_VOA_GS: COMMON (Methanol);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME							
B32F27	SOIL									

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1	<b>OF</b> 2
		<b>DATE</b>	
<b>SAF NO.(S)</b> F15-048		<b>TIME</b>	
<b>LOCATION</b> FS-1 Closure Confirmation: Optional 6		<b>LOGBOOK NO./PAGE</b>	
<b>WELL NAME</b> N/A	<b>ORIGINAL</b>	<b>WELL ID</b> N/A	<b>ACTUAL DEPTH</b> <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	<b>BOTTOM OF BOREHOLE (bgs)</b>		<input type="checkbox"/> ft <input type="checkbox"/> m
<b>SAMPLES COLLECTED</b>			
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>	

**SWRI** **F15-048-079**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F28	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-080**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F29	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-081**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F30	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32F30	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32F30	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32F30	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32F30	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32F30	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

TRVL- 15- 136

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
		DATE
SAF NO.(S) F15-048		TIME
LOCATION FS-1 Closure Confirmation: Optional 6	LOGBOOK NO./PAGE	
WELL NAME N/A	WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?	<input type="checkbox"/> WSCF	<input type="checkbox"/> 222-S	<input type="checkbox"/> MO-413	<input type="checkbox"/> MO-745	<input type="checkbox"/> 6269	<input type="checkbox"/> OTHER
CONTAINER/DRUM/TOTE/BOX						
SAMPLE MATRIX DESCRIPTION	<input type="checkbox"/> SOIL	<input type="checkbox"/> SLUDGE	<input type="checkbox"/> RESIN	<input type="checkbox"/> GAC	<input type="checkbox"/> FILTER PAPER	<input type="checkbox"/> OTHER
FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]						

### FIELD OBSERVATIONS

WEATHER
FIELD COMMENTS

<b>SUPPORT PERSONNEL</b>			
SAMPLES SURVEYED BY RCT	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
IS A BLUE CARD REQUIRED	<input type="checkbox"/> YES	<input type="checkbox"/> NO	BLUE CARD NO _____
IS SRS PROVIDED AND COMPLETE	<input type="checkbox"/> YES	<input type="checkbox"/> NO	
RECORDED BY	PRINT NAME _____	SIGN NAME _____	DATE _____
INDEPENDENT REVIEW	PRINT NAME _____	SIGN NAME _____	DATE _____

TSM-15-136



CH2MHill Plateau Remediation Company F15-048-079  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32F28 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 6  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-080  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F29 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 6  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-080  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F29 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 6  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-080  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F29 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 6  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-080  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F29 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 6  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-080  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F29 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 6  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-081  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32F30 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 6  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-081  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32F30 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 6  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-081  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32F30 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 6  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-081  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32F30 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 6  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-081  
 COLLECTOR: BOTTLE: G/P 120mL  
 SAMP NUM: B32F30 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 6  
 ANALYSIS: 7196\_CR6: COMMON;

COPY

CH2MHill Plateau Remediation Company F15-048-081  
 COLLECTOR: BOTTLE: G/P 60mL  
 SAMP NUM: B32F30 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 6  
 ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-079

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 6		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>		

~~ORIGINAL~~

COPY

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C
		<b>HOLDING TIME</b>		28 Days/48 Hours
		<b>TYPE OF CONTAINER</b>		G/P
		<b>NO. OF CONTAINER(S)</b>		1
		<b>VOLUME</b>		250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>		
		9056_ANIONS_IC: COMMON (Add-on) (Formate);		
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32F28	SOIL			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

COLUMBIAN Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-080	PAGE 1 OF 1
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 6		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		
<b>MATRIX*</b> A=Air DL=Drum L=Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b>	Cool <-7C and >-20C	<b>COPY</b>	
			<b>HOLDING TIME</b>	14 Days		
			<b>TYPE OF CONTAINER</b>	aGs		
			<b>NO. OF CONTAINER(S)</b>	5		
			<b>VOLUME</b>	40mL		
	<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS		
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32F29	SOIL					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

PRINTED ON 8/4/2015

FSR ID = FSR3688

COLUMBIAN Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					F15-048-081	PAGE 1 OF 1		
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D				
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 6		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048		<b>PRICE CODE</b> 8H <b>AIR QUALITY</b> <input type="checkbox"/>	<b>DATA TURNAROUND</b> 30 Days / 30 Days		
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS		
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>					
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days	
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P	
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1	
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL	
<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON (Methanol);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;	
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>							
B32F30	SOIL									

COPY

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

<b>PROJECT(S)</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>PAGE</b> 1 <b>OF</b> 2
		<b>DATE</b>
<b>SAF NO.(S)</b> F15-048		<b>TIME</b>
<b>LOCATION</b> FS-1 Closure Confirmation: Optional 7	<b>LOGBOOK NO./PAGE</b>	
<b>WELL NAME</b> N/A	<b>WELL ID</b> N/A	<b>ACTUAL DEPTH</b> <input type="checkbox"/> ft <input type="checkbox"/> m
<b>BOTTOM OF CASING (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	<b>BOTTOM OF BOREHOLE (bgs)</b> <input type="checkbox"/> ft <input type="checkbox"/> m	
<b>SAMPLES COLLECTED</b>		
<b>TOTAL NUMBER OF BOTTLES</b> 12	<b>TOTAL NUMBER OF CHAINS</b> 3	<b>COLLECTOR</b>

COPY

ORIGINAL

**SWRI** **F15-048-082**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F31	1 / 250mL / G/P		Cool <=6C	9056_ANIONS_IC: COMMON (Add-on) {Formate};

**GEL** **F15-048-083**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F32	5 / 40mL / aGs		Cool <-7C and >-20C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

**GEL** **F15-048-084**

SAMPLE NO.	BOTTLE QTY/SIZE/TYPE	LOT NO.	PRESERVATION	ANALYSIS
B32F33	1 / 250mL / G		Cool <=6C	8015_VOA_GS: COMMON {Methanol};
B32F33	1 / 250mL / aG		Cool <=6C	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
B32F33	1 / 250mL / aG		Cool <=6C	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
B32F33	1 / 250mL / G/P		Cool <=6C	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
B32F33	1 / 120mL / G/P		Cool <=6C	7196_CR6: COMMON;
B32F33	1 / 60mL / G/P		Cool <=6C	9012_CYANIDE: COMMON;

TRVL 15- 136

# FIELD CHARACTERIZATION SOIL/OTHER SOLIDS SAMPLING REPORT

PROJECT(S) FS-1 Outdoor Container Storage Area - Soil Samples		PAGE 2 OF 2
SAF NO.(S) F15-048		DATE
LOCATION FS-1 Closure Confirmation: Optional 7		LOGBOOK NO./PAGE
WELL NAME N/A	<del>ORIGINAL</del> WELL ID N/A	ACTUAL DEPTH <input type="checkbox"/> ft <input type="checkbox"/> m
BOTTOM OF CASING (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	BOTTOM OF BOREHOLE (bgs) <input type="checkbox"/> ft <input type="checkbox"/> m	
SAMPLES COLLECTED		
TOTAL NUMBER OF BOTTLES 12	TOTAL NUMBER OF CHAINS 3	COLLECTOR

### FIELD INFORMATION

WHERE ARE SAMPLES LOCATED AT THIS TIME?  WSCF  222-S  MO-413  MO-745  6269  OTHER

CONTAINER/DRUM/TOTE/BOX

SAMPLE MATRIX DESCRIPTION  SOIL  SLUDGE  RESIN  GAC  FILTER PAPER  OTHER

FURTHER SAMPLE MATRIX EXPLANATION/DESCRIPTION [NOTE ANY ODOR, COLOR, TEXTURE (E.G., SLIMY, OILY, GRANULAR, ETC.)]

### FIELD OBSERVATIONS

WEATHER

FIELD COMMENTS

### SUPPORT PERSONNEL

SAMPLES SURVEYED BY RCT  YES  NO

IS A BLUE CARD REQUIRED  YES  NO BLUE CARD NO \_\_\_\_\_

IS SRS PROVIDED AND COMPLETE  YES  NO

RECORDED BY

PRINT NAME _____	SIGN NAME _____	DATE _____
------------------	-----------------	------------

INDEPENDENT REVIEW

PRINT NAME _____	SIGN NAME _____	DATE _____
------------------	-----------------	------------

PRINTED BY LCSUMNER ON 08/04/2015 06:19 FSR ID = FSR3689

A-6004-701 (REV 4)

TRVL-15- 136



CH2MHill Plateau Remediation Company F15-048-082  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32F31 LAB: SWRI  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 7  
 ANALYSIS: 9056\_ANIONS\_IC: COMMON (Add-on) {Formate};

COPY

CH2MHill Plateau Remediation Company F15-048-083  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F32 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 7  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-083  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F32 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 7  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-084  
 COLLECTOR: BOTTLE: G 250mL  
 SAMP NUM: B32F33 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 7  
 ANALYSIS: 8015\_VOA\_GS: COMMON {Methanol};

COPY

CH2MHill Plateau Remediation Company F15-048-084  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32F33 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 7  
 ANALYSIS: SEE ITEM (2) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-083  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F32 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 7  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-083  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F32 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 7  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-083  
 COLLECTOR: BOTTLE: aGs 40mL  
 SAMP NUM: B32F32 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <-7C and >-20C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 7  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-084  
 COLLECTOR: BOTTLE: aG 250mL  
 SAMP NUM: B32F33 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 7  
 ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-084  
 COLLECTOR: BOTTLE: G/P 250mL  
 SAMP NUM: B32F33 LAB: GEL  
 DATE SAMPLED: / / TIME:  
 PRES: Cool <=6C  
 PLACE SAMPLED: FS-1 Closure Confirmation: Optional 7  
 ANALYSIS: SEE ITEM (3) IN SPECIAL INSTRUCTIONS

COPY

CH2MHill Plateau Remediation Company F15-048-084  
COLLECTOR: BOTTLE: G/P 120mL  
SAMP NUM: B32F33 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: Optional 7  
ANALYSIS: 7196\_CR6: COMMON;

CH2MHill Plateau Remediation Company F15-048-084  
COLLECTOR: BOTTLE: G/P 60mL  
SAMP NUM: B32F33 LAB: GEL  
DATE SAMPLED: / / TIME:  
PRES: Cool <=6C  
PLACE SAMPLED: FS-1 Closure Confirmation: Optional 7  
ANALYSIS: 9012\_CYANIDE: COMMON;

COPY

COPY

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F15-048-082

PAGE 1 OF 1

<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 7		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>		<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b>			<b>BILL OF LADING/AIR BILL NO.</b>		

**ORIGINAL**

COPY

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=-6C
		<b>HOLDING TIME</b>		28 Days/48 Hours
		<b>TYPE OF CONTAINER</b>		G/P
		<b>NO. OF CONTAINER(S)</b>		1
		<b>VOLUME</b>		250mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>	
		9056 ANIONS, IC: COMMON (Add-on) (Formate);		
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32F31	SOIL			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

COLUMBIAN PLATEAU Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-083	PAGE 1 OF 1
<b>COLLECTOR</b>		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 7		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b>		<b>FIELD LOGBOOK NO.</b>	<b>ACTUAL SAMPLE DEPTH</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b>		<b>BILL OF LADING/AIR BILL NO.</b>		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool < -7C and > -20C	<b>COPY</b>		
		<b>HOLDING TIME</b>	14 Days			
		<b>TYPE OF CONTAINER</b>	aGs			
		<b>NO. OF CONTAINER(S)</b>	5			
		<b>VOLUME</b>	40mL			
<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS			
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32F32	SOIL					

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

COLLECTOR		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					F15-048-084	PAGE 1 OF 1	
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 7		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D			PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days	
ICE CHEST NO.		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>			
SHIPPED TO GEL Laboratories, LLC		FIELD LOGBOOK NO.		ACTUAL SAMPLE DEPTH		METHOD OF SHIPMENT FEDERAL EXPRESS			
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.				COPY	
POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C		
		HOLDING TIME		14 Days	14/40 Days	1 yr/1 yr	6 Months		
		TYPE OF CONTAINER		G	aG	aG	G/P		G/P
		NO. OF CONTAINER(S)		1	1	1	1		1
		VOLUME		250mL	250mL	250mL	250mL		120mL
SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS		
				7196_CR6: COMMON;	9012_CYANIDE: COMMON;				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME						
B32F33	SOIL								

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	



**CH2M HILL PLATEAU REMEDIATION COMPANY  
RADIOLOGICAL SURVEY REPORT (Submitted for Approval)**

**RSR No.**  
SW-1200718

Date 3/28/2012	Start/Stop Time 0700 / 1600	Area/Location 200W / N/A / N/A / TRENCH 34 staging area	RWP/Rev. SWP-001 REV. 8
-------------------	--------------------------------	--	----------------------------

<b>Purpose of Survey:</b> <input type="checkbox"/> Material Release Number: N/A Released to: N/A <input type="checkbox"/> Ram Shipment: N/A <input checked="" type="checkbox"/> Required Task: PRC-PRO-RP-40197 <input type="checkbox"/> Job Coverage: N/A <input checked="" type="checkbox"/> Verification survey $\alpha = <D$ <D=No increase in audible count rate N/A Inches/Sec.      1 Inches Away N/A Count Time (Sec.)      80 % Surveyed N/A # of Static Counts      400 Square Feet <input checked="" type="checkbox"/> Verification survey $\beta\gamma = <D$ <D=No increase in audible count rate N/A Inches/Sec.      2 Inches Away N/A Count Time (Sec.)      80 % Surveyed N/A # of Static Counts      400 Square Feet <input type="checkbox"/> Other: N/A	<b>Description of Work / Comments:</b> Down posting of trench 34 staging area  Comments: Performed downposting of staging area southeast of trench 34, per PRC-PRO-RP-40197 <div style="text-align: right; font-style: italic;">           ac 34            9-6-13         </div>
---	---

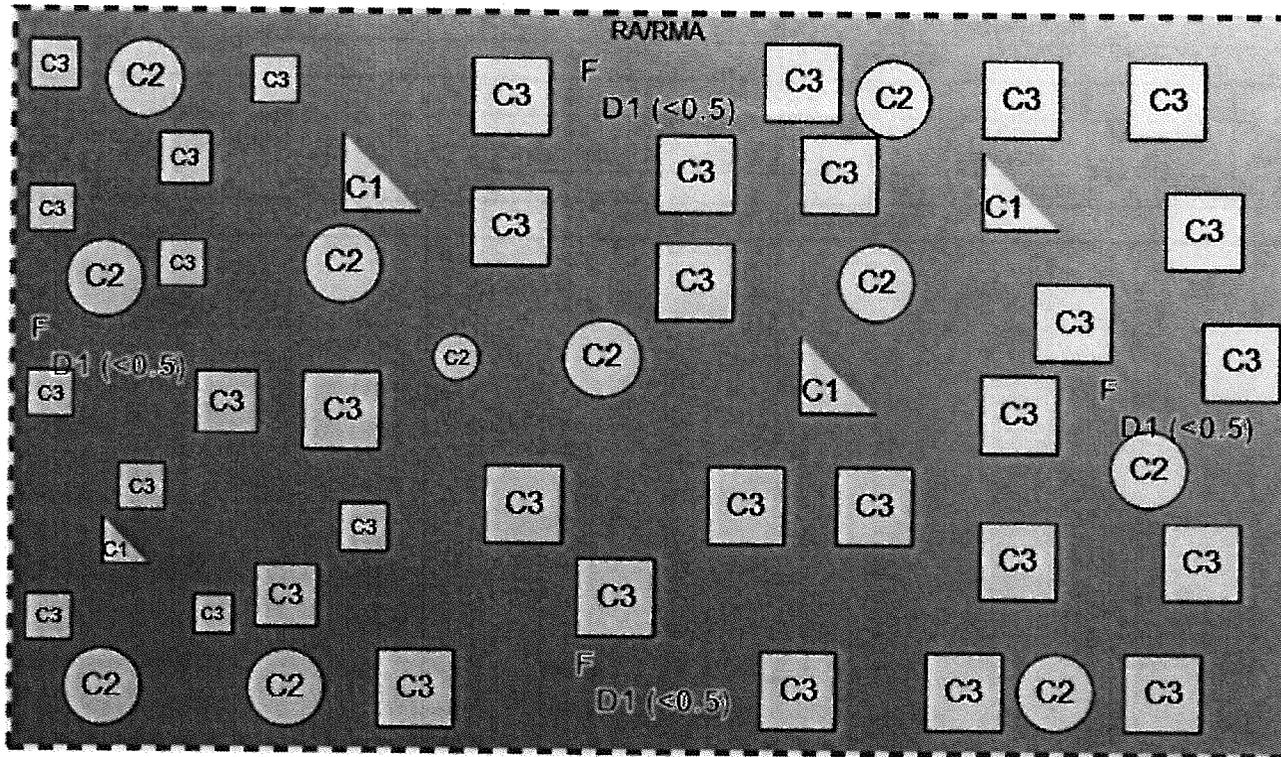
**Dose Rate Measurements**

No.	Description	Note <sup>1</sup> : F = Field ( $\geq 30$ cm) C = Contact ( $\leq 1$ cm)							
		Dist. (cm) Note <sup>1</sup>	WO mR/hr	WC mR/hr	CF Non- Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	DOSE RATE STAGING AREA	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

**Contamination Measurements**

No.	Description	† Manually Calculated by RCT												
		Background cpm		Direct Gross cpm/100 cm <sup>2</sup>		Total dpm/100 cm <sup>2</sup>		Correction Factor		Removable				
		$\beta\gamma$	$\alpha$	$\beta\gamma$	$\alpha$	$\beta\gamma$	$\alpha$	$\beta\gamma$	$\alpha$	Type	$\beta\gamma$	$\alpha$	$\beta\gamma$	$\alpha$
C1	LAW 's	50	0	50	0	<5000	<500	10	6	LAW	50	0	<D/LAW	<D/LAW
C2	TECHNICAL SMEARS	50	0	N/A	N/A	N/A	N/A	10	6	Smear	50	0	<1000	<20
C3	DIRECTS	50	0	50	0	<5000	<500	10	6	N/A	N/A	N/A	N/A	N/A

Map/Sketch



*act 3/1 9-6-13*

*act 3/1 9-6-13*

Map Name: TRENCH 31, staging area

Map Description: Down posting survey of staging area southeast of trench 31

Legend	# Direct Measurement	▲ Air Sample	⊕ Smear	∣# LAW	◆ Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	0# Other Measurement
----- (designation inside) ----- Radiological Area Boundary							Note: Dose Rates in mrem/hr unless otherwise noted.			

**CH2M HILL PLATEAU REMEDIATION COMPANY  
RADIOLOGICAL SURVEY REPORT (Submitted for Approval)**

**RSR No.**  
SW-1200718

Page 3 of 3

**Instruments**

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
Eberline E-600 w/NRD	CMEBD-1716	DTEBL-0091	N/A
RO-20	ICEB4-1557	N/A	N/A
GM	CMEBB-0176	DTEB9-0491	0.10
PAM	ACBC1-0067	DTHN3-1041	0.16

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are  $\leq 10$  times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

**History**

2012-03-28 14:14:12 - hampton, anthony - Submitted  
 2012-04-17 10:14:04 - hampton, anthony - Submitted: Exigent data on job coverage  
 2012-04-18 08:52:59 - Taylor, Rob - Rejected: Your Map name and comments indicate Trench 31, but your description indicates trench 34  
 2012-04-24 23:11:35 - hampton, anthony - Submitted: required task information needed

**ATTACHMENT B**  
**FS-1 CLOSURE LABORATORY RESULTS**  
**(827 Pages)**



September 01, 2015

Mr. Scot Fitzgerald  
CH2MHill Plateau Remediation Company  
MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352

Re: CHPRC SAF F15-048  
Work Order: 378728  
SDG: GEL378728

Dear Mr. Fitzgerald:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on August 07, 2015. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4505.

Sincerely,

*Chelsea Seagle*  
Chelsea Seagle for  
Heather Shaffer  
Project Manager

Purchase Order: 303757 - 8H  
Chain of Custody: F15-048-003, F15-048-006, F15-048-009, F15-048-012, F15-048-015, F15-048-018,  
F15-048-021, F15-048-024, F15-048-027, F15-048-030, F15-048-033, F15-048-036, F15-048-039,  
F15-048-042, F15-048-045, F15-048-048, F15-048-051, F15-048-054, F15-048-057, F15-048-060,  
F15-048-063, F15-048-068, F15-048-069, F15-048-072, F15-048-075, F15-048-078, F15-048-081 and  
F15-048-084  
Enclosures



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# Case Narrative

**General Narrative  
for  
CH2MHill Plateau Remediation Company  
CHPRC SAF F15-048  
SDG: GEL378728**

**September 01, 2015**

**Laboratory Identification:**

GEL Laboratories LLC  
2040 Savage Road  
Charleston, South Carolina 29407  
(843) 556-8171

**Summary**

**Sample receipt**

The sample(s) arrived at GEL Laboratories, LLC, Charleston, South Carolina on August 07, 2015, for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

**Items of Note** All efforts were made by the lab to meet any short hold times. Samples that were analyzed outside of the initial hold time but still within 2X hold time will be noted in the lab case narrative and DER

**Sample Identification**

The laboratory received the following samples:

<b><u>Laboratory Identification</u></b>	<b><u>Sample Description</u></b>
378728001	B32D69
378728002	B32D72
378728003	B32D75
378728004	B32D78
378728005	B32F33
378728006	B32D18
378728007	B32D21
378728008	B32D24
378728009	B32D27
378728010	B32D30
378728011	B32D33
378728012	B32D36
378728013	B32D39
378728014	B32D42
378728015	B32D45
378728016	B32D48
378728017	B32D51
378728018	B32D54
378728019	B32D57
378728020	B32D60
378728021	B32D63
378728022	B32D66

378728023	B32DL3
378728024	B32DL4
378728025	B32F21
378728026	B32F24
378728027	B32F27
378728028	B32F30

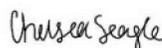
### **Case Narrative**

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

### **Data Package**

The enclosed data package contains the following sections: General Narrative, Chain of Custody and Supporting Documentation, and data from the following fractions: Alcohols, GC Semivolatile PCB, GC/MS Semivolatile, General Chemistry and Metals.

This package, to the best of my knowledge, is in compliance with the SOW, both technically and for completeness, including a full description of, explanation of, and corrective actions for, any and all deviations, from either the analyses requested or the case narrative requested. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager (or designee) and the laboratory's client services representative as verified by their signatures on this report.

  
Chelsea Seagle for  
Heather Shaffer  
Project Manager

# **Chain of Custody and Supporting Documentation**

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>					F15-048-036	PAGE 1 OF 1
COLLECTOR F.W. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND	
SAMPLING LOCATION FS-1 Closure Confirmation: 1-12		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	30 Days / 30 Days		
ICE CHEST NO. <b>GWS-152</b>		FIELD LOGBOOK NO. HNF-N-507- <u>31-67</u>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>			
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>		BILL OF LADING/AIR BILL NO. <b>7742 2498 5074</b>				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		HOLDING TIME	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		TYPE OF CONTAINER	G	aG	aG	G/P	G/P	G/P
		NO. OF CONTAINER(S)	1	1	1	1	1	1
		VOLUME	250mL	250mL	250mL	250mL	120mL	60mL
SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON; 9012_CYANIDE: COMMON;	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B32D51	SOIL	AUG 05 2015	1347	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.W. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0605	RECEIVED BY/STORED IN E.L. Kauer/CHPRC	DATE/TIME AUG 06 2015 0605		
RELINQUISHED BY/REMOVED FROM E.L. Kauer/CHPRC	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME AUG 06 2015	RECEIVED BY/STORED IN Mr. Knowlton	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <sup>78lbs</sup> <sub>378708</sub>					F15-048-039	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-13		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048		<b>PRICE CODE</b> 8H <b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b> GWS-152		<b>FIELD LOGBOOK NO.</b> HNF-N-507-31-67		<b>ACTUAL SAMPLE DEPTH</b> 0-12"		<b>COA</b> 303757		
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b> 5867			<b>BILL OF LADING/AIR BILL NO.</b> 7742 2498 5074			
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b>	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
			<b>HOLDING TIME</b>	14 Days	14/40 Days	1 yr/1 yr	6 Months	
			<b>TYPE OF CONTAINER</b>	G	aG	aG	G/P	G/P
			<b>NO. OF CONTAINER(S)</b>	1	1	1	1	1
			<b>VOLUME</b>	250mL	250mL	250mL	250mL	120mL
			<b>SAMPLE ANALYSIS</b>	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON; 9012_CYANIDE: COMMON;
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A								
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>					
B32D54	SOIL	AUG 05 2015	1322	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412	<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0805	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0805		
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1408	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN M. Kinlaw	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>				F15-048-009	PAGE 1 OF 1	
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days	
SAMPLING LOCATION FS-1 Closure Confirmation: 1-3		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. <b>GWS-535</b>		FIELD LOGBOOK NO. <b>HNF-N-507-31-71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>		
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5871</b>		BILL OF LADING/AIR BILL NO. <b>7742 2880 9719</b>				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		HOLDING TIME	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		TYPE OF CONTAINER	G	aG	aG	G/P	G/P	G/P
		NO. OF CONTAINER(S)	1	1	1	1	1	1
		VOLUME	250mL	250mL	250mL	250mL	120mL	60mL
SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON; 9012_CYANIDE: COMMON;	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B32D24	SOIL	AUG 06 2015	0940	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 1110	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 140	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN M. Kinsler	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					F15-048-012	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-4		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048		<b>PRICE CODE</b> 8H	
<b>ICE CHEST NO.</b> GWS-104		<b>FIELD LOGBOOK NO.</b> HNF-N-507-31-67		<b>ACTUAL SAMPLE DEPTH</b> 0-12"		<b>AIR QUALITY</b> <input type="checkbox"/>		
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b> 5867			<b>BILL OF LADING/AIR BILL NO.</b> 7742 2498 5166			
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	
			<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	
			<b>TYPE OF CONTAINER</b>		G	aG	aG	
			<b>NO. OF CONTAINER(S)</b>		1	1	1	
			<b>VOLUME</b>		250mL	250mL	250mL	
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>					
B32D27	SOIL	AUG 05 2015	1148	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0805	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0805		
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN M. Euston	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>					F15-048-068	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days	
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 1		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. <b>GWS-535</b>		FIELD LOGBOOK NO. <b>HNF-N507-31.71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>		
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5871</b>		BILL OF LADING/AIR BILL NO. <b>7742 2880 9719</b>				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		HOLDING TIME		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days
		TYPE OF CONTAINER		G	aG	aG	G/P	G/P
		NO. OF CONTAINER(S)		1	1	1	1	1
		VOLUME		250mL	250mL	250mL	250mL	120mL
SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	
SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS		7196_CR6: COMMON;	9012_CYANIDE: COMMON;			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B32DL3	SOIL	AUG 06 2015	1033	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 06 2015		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN m.kauer	DATE/TIME 8-7-15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>					F15-048-069	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 2		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048		<b>PRICE CODE</b> 8H <b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b> <b>6WS-535</b>		<b>FIELD LOGBOOK NO.</b> <b>HNF-N507-31-71</b>		<b>ACTUAL SAMPLE DEPTH</b> <b>0-12"</b>		<b>COA</b> 303757		
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b> <b>5871</b>			<b>BILL OF LADING/AIR BILL NO.</b> <b>7742 2880 9719</b>			
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL
		<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>					
B32DL4	SOIL	AUG 0 6 2015	1045	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 0 6 2015	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 0 6 2015	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 0 6 2015	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 0 6 2015		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME AUG 0 6 2015	RECEIVED BY/STORED IN FEDEX	DATE/TIME AUG 0 6 2015		
RELINQUISHED BY/REMOVED FROM (Drux)	DATE/TIME AUG 0 6 2015	RECEIVED BY/STORED IN Porkowski	DATE/TIME 8-7-15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378228</b>					F15-048-075	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D			PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 4		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048			AIR QUALITY <input type="checkbox"/>	30 Days / 30 Days
ICE CHEST NO. <b>6ws-535</b>		FIELD LOGBOOK NO. <b>HNF-N-507-3671</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>		COA 303757		METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5871</b>			BILL OF LADING/AIR BILL NO. <b>7742 2880 9719</b>			
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.  <b>SPECIAL HANDLING AND/OR STORAGE</b>	<b>PRESERVATION</b>	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days	
<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P	
<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1	
<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL	
<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON (Methanol);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;	
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>					
B32F24	SOIL	AUG 06 2015	0928	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 1100	RECEIVED BY/STORED IN E.L. Kader	DATE/TIME AUG 06 2015 1100	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kader	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 06 2015		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>					F15-048-081	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D			PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 6		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048			AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>GLS-104</b>		FIELD LOGBOOK NO. <b>HNF-N-507-3L-67</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757			METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>		BILL OF LADING/AIR BILL NO. <b>7742 24985166</b>				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
		HOLDING TIME	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		TYPE OF CONTAINER	G	aG	aG	G/P	G/P	G/P
		NO. OF CONTAINER(S)	1	1	1	1	1	1
		VOLUME	250mL	250mL	250mL	250mL	120mL	60mL
SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B32F30	SOIL	AUG 05 2015	1304	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0805	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0805		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME	RECEIVED BY/STORED IN M. Kuster	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>				F15-048-048	PAGE 1 OF 1		
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days		
SAMPLING LOCATION FS-1 Closure Confirmation: 1-15		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>			
ICE CHEST NO. <b>GWS-104</b>		FIELD LOGBOOK NO. <b>HNF-N-507-31.67</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>			
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>		BILL OF LADING/AIR BILL NO. <b>7742 2498 5166</b>					
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		HOLDING TIME	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days	
		TYPE OF CONTAINER	G	aG	aG	G/P	G/P	G/P	
		NO. OF CONTAINER(S)	1	1	1	1	1	1	
		VOLUME	250mL	250mL	250mL	250mL	120mL	60mL	
SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME						
B32D63	SOIL	AUG 05 2015	1235	✓	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0800	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0800		
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1700	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 06 2015 1700		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN M. Kinlaw	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>				F15-048-051	PAGE 1 OF 1	
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND	
SAMPLING LOCATION FS-1 Closure Confirmation: 1-16		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>	30 Days / 30 Days	
ICE CHEST NO. <b>GWS-104</b>		FIELD LOGBOOK NO. HNF-N-507- <u>31-67</u>	ACTUAL SAMPLE DEPTH 0-12"		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>		
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>		BILL OF LADING/AIR BILL NO. <b>7742 2498 5466</b>				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		HOLDING TIME	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		TYPE OF CONTAINER	G	aG	aG	G/P	G/P	G/P
		NO. OF CONTAINER(S)	1	1	1	1	1	1
		VOLUME	250mL	250mL	250mL	250mL	120mL	60mL
SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON; 9012_CYANIDE: COMMON;	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B32D66	SOIL	AUG 05 2015	1223	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0805	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0805		
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1100	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN M. Kuster	DATE/TIME 8-7-15 0920		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>					F15-048-045	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-14		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048		<b>PRICE CODE</b> 8H <b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b> GWS-104		<b>FIELD LOGBOOK NO.</b> HNF-N-507-31-67		<b>ACTUAL SAMPLE DEPTH</b> 0-12"		<b>COA</b> 303757		
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b> 5867			<b>BILL OF LADING/AIR BILL NO.</b> 7742 2498 5166			
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>					
B32D60	SOIL	AUG 05 2015	1251	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
F.M. Hall/CHPRC	AUG 05 2015 1412	SSU-1	AUG 05 2015 1412		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
SSU-1	AUG 06 2015 0805	E.L. Kauer	AUG 06 2015 0805		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
E.L. Kauer	AUG 06 2015 1200	CHPRC			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
FEDEX		FEDEX			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>					F15-048-042	PAGE 1 OF 1		
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D		TELEPHONE NO. 376-6427		PROJECT COORDINATOR TODAK, D				
SAMPLING LOCATION FS-1 Closure Confirmation: 1-13 Duplicate		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples			SAF NO. F15-048		PRICE CODE 8H AIR QUALITY <input type="checkbox"/>	DATA TURNAROUND 30 Days / 30 Days		
ICE CHEST NO. <b>GWS-464</b>		FIELD LOGBOOK NO. <b>HNF-N507-31-17</b>		ACTUAL SAMPLE DEPTH <b>0-12"</b>		COA 303757		METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>		
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>			BILL OF LADING/AIR BILL NO. <b>7742 2498 4803</b>					
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
			HOLDING TIME		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
			TYPE OF CONTAINER		G	aG	aG	G/P	G/P	G/P
			NO. OF CONTAINER(S)		1	1	1	1	1	1
			VOLUME		250mL	250mL	250mL	250mL	120mL	60mL
SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME							
B32D57	SOIL	AUG 05 2015	1322	✓	✓	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0805	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0805		
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 06 2015 0805		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME AUG 06 2015 0805		
RELINQUISHED BY/REMOVED FROM FedEx	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN M. Kinstan	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b> <sup>761bs</sup>					F15-048-078	PAGE 1 OF 1	
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days		
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 5		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>			
ICE CHEST NO. <b>GWS-463</b>		FIELD LOGBOOK NO. HNF-N-507-31-71	ACTUAL SAMPLE DEPTH 0-12'		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>			
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>		BILL OF LADING/AIR BILL NO. <b>7742 2498 4939</b>					
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		HOLDING TIME	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days	
		TYPE OF CONTAINER	G	aG	aG	G/P	G/P	G/P	
		NO. OF CONTAINER(S)	1	1	1	1	1	1	
		VOLUME	250mL	250mL	250mL	250mL	120mL	60mL	
SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME						
B32F27	SOIL	AUG 06 2015	0750	✓	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0915	RECEIVED BY/STORED IN E.L. Kauer CHPRC	DATE/TIME AUG 06 2015 0915	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kauer CHPRC	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN M. Kinslow JFK	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	



CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>				F15-048-006	PAGE 1 OF 1		
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days		
SAMPLING LOCATION FS-1 Closure Confirmation: 1-2		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>				
ICE CHEST NO. <b>6WS-330</b>	FIELD LOGBOOK NO. HNF-N-507- <u>3671</u>	ACTUAL SAMPLE DEPTH <b>0-12"</b>		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS		<b>ORIGINAL</b>		
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5870</b>		BILL OF LADING/AIR BILL NO. <b>7742 2661 4385</b>					
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C		
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL
		<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON; 9012_CYANIDE: COMMON;
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>						
B32D21	SOIL	AUG 0 6 2015	1022	✓	✓	✓	✓		

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 0 6 2015	RECEIVED BY/STORED IN L.D. Wall	DATE/TIME AUG 0 6 2015	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);
RELINQUISHED BY/REMOVED FROM L.D. Wall	DATE/TIME AUG 0 6 2015	RECEIVED BY/STORED IN FEDEX	DATE/TIME AUG 0 6 2015	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN M. Kraslow	DATE/TIME 8-7-15 0940	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	RECEIVED BY	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	DISPOSAL METHOD	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378725</b>					F15-048-072	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days	
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 3		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. <b>6W5-330</b>		FIELD LOGBOOK NO. <b>HNF-N-507-31-71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>		
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5870</b>		BILL OF LADING/AIR BILL NO. <b>7742 2661 4385</b>				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		HOLDING TIME	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		TYPE OF CONTAINER	G	aG	aG	G/P	G/P	G/P
		NO. OF CONTAINER(S)	1	1	1	1	1	1
		VOLUME	250mL	250mL	250mL	250mL	120mL	60mL
SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON; 9012_CYANIDE: COMMON;	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B32F21	SOIL	AUG 06 2015	1006	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 1110	RECEIVED BY/STORED IN L.D. Wall	DATE/TIME AUG 06 2015 1110	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);
RELINQUISHED BY/REMOVED FROM L.D. Wall	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME	
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME	RECEIVED BY/STORED IN M. Kuslow	DATE/TIME 8-7-15 0910	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>					F15-048-003	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days	
SAMPLING LOCATION FS-1 Closure Confirmation: 1-1		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. <b>6WS-330</b>		FIELD LOGBOOK NO. <b>HNF-N-507-31-71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>		
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5870</b>		BILL OF LADING/AIR BILL NO. <b>7742 2661 4385</b>				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		HOLDING TIME	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		TYPE OF CONTAINER	G	aG	aG	G/P	G/P	G/P
		NO. OF CONTAINER(S)	1	1	1	1	1	1
		VOLUME	250mL	250mL	250mL	250mL	120mL	60mL
SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON; 9012_CYANIDE: COMMON;	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B32D18	SOIL	AUG 06 2015	0954	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 1110	RECEIVED BY/STORED IN L.D. Wall	DATE/TIME AUG 06 2015 1110	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM L.D. Wall	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN M. Kinslow	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <span style="float: right;">75165 378728</span>					F15-048-021	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND	
SAMPLING LOCATION FS-1 Closure Confirmation: 1-7		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	30 Days / 30 Days		
ICE CHEST NO. 6ws-330		FIELD LOGBOOK NO. HNF-N-507-31-71	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS ORIGINAL			
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. 5870		BILL OF LADING/AIR BILL NO. 7742 2661 4385				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		HOLDING TIME	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	
		TYPE OF CONTAINER	G	aG	aG	G/P	G/P	
		NO. OF CONTAINER(S)	1	1	1	1	1	
		VOLUME	250mL	250mL	250mL	250mL	120mL	
		SAMPLE ANALYSIS	8015_VOA_GS: COMMON (Methanol);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON; 9012_CYANIDE: COMMON;	
SPECIAL HANDLING AND/OR STORAGE N/A								
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B32D36	SOIL	AUG 0 6 2015	0822	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 0 6 2015 0915	RECEIVED BY/STORED IN E.L. Kauer CHPRC	DATE/TIME AUG 0 6 2015 0915	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kauer CHPRC	DATE/TIME AUG 0 6 2015 1000	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM Fed Ex	DATE/TIME	RECEIVED BY/STORED IN M. Kinslow MELKIN	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						F15-048-015	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D				PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-5		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples			SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GWS-324		FIELD LOGBOOK NO. INF-N-507-3-21	ACTUAL SAMPLE DEPTH 0-12"		COA 303757		METHOD OF SHIPMENT FEDERAL EXPRESS ORIGINAL		
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. 5867			BILL OF LADING/AIR BILL NO. 7742 24984814				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		HOLDING TIME	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days	
		TYPE OF CONTAINER	G	aG	aG	G/P	G/P	G/P	
		NO. OF CONTAINER(S)	1	1	1	1	1	1	
		VOLUME	250mL	250mL	250mL	250mL	120mL	60mL	
	SPECIAL HANDLING AND/OR STORAGE N/A	SAMPLE ANALYSIS	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME						
B32D30	SOIL	AUG 06 2015	0850	✓	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0930	RECEIVED BY/STORED IN L.D. Wall	DATE/TIME AUG 06 2015 0930	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM L.D. Wall	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN M. Kinshaw	DATE/TIME 8 7 15 2015		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>37828</b>					F15-048-027	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-9		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048		<b>PRICE CODE</b> 8H <b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b> GWS-324		<b>FIELD LOGBOOK NO.</b> HNF-N507-31-71		<b>ACTUAL SAMPLE DEPTH</b> 0-12"		<b>COA</b> 303757		
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b> 5867			<b>BILL OF LADING/AIR BILL NO.</b> 7742 2498 4814			
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL
		<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON (Methanol);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>					
B32D42	SOIL	AUG 06 2015	0733	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0930	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0930	<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 06 2015 0930		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM Index	DATE/TIME	RECEIVED BY/STORED IN M. Kinsler	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>					F15-048-030	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D			PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION FS-1 Closure Confirmation: 1-10		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples			SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>	30 Days / 30 Days
ICE CHEST NO. <b>GWS-324</b>		FIELD LOGBOOK NO. HNF-N-507- <u>3171</u>	ACTUAL SAMPLE DEPTH <b>0-12"</b>		COA 303757		METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>			BILL OF LADING/AIR BILL NO. <b>7742 2498 4814</b>			
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
		HOLDING TIME	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		TYPE OF CONTAINER	G	aG	aG	G/P	G/P	G/P
		NO. OF CONTAINER(S)	1	1	1	1	1	1
		VOLUME	250mL	250mL	250mL	250mL	120mL	60mL
	SPECIAL HANDLING AND/OR STORAGE N/A	SAMPLE ANALYSIS	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B32D45	SOIL	AUG 06 2015	0810	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0930	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0830	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 0915	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM Fed Ex	DATE/TIME	RECEIVED BY/STORED IN M. K. ...	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>					F15-048-024	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D			PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION FS-1 Closure Confirmation: 1-8		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples			SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	30 Days / 30 Days	
ICE CHEST NO. <b>GWS-324</b>		FIELD LOGBOOK NO. <b>HNF-N-507-31-71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>		
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>			BILL OF LADING/AIR BILL NO. <b>7742 24984814</b>			
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.  <b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	<b>PRESERVATION</b>	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days	
<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P	
<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1	
<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL	
	<b>SAMPLE ANALYSIS</b>	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;	
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>					
B32D39	SOIL	AUG 06 2015	0838	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0915	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0915	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME AUG 06 2015	RECEIVED BY/STORED IN M. Kraslow	DATE/TIME 3-7-15 0910		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>					F15-048-033	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-11		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples			<b>SAF NO.</b> F15-048		<b>PRICE CODE</b> 8H <b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b> GWS-324		<b>FIELD LOGBOOK NO.</b> HNF-N-507-31-71		<b>ACTUAL SAMPLE DEPTH</b> 0-12"		<b>COA</b> 303757		
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b> 5867			<b>BILL OF LADING/AIR BILL NO.</b> 7742 24984814			
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON (Methanol);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>					
B32D48	SOIL	AUG 06 2015	0715	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0915	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0915	<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 06 2015 0915		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME AUG 06 2015	RECEIVED BY/STORED IN FEDEX	DATE/TIME AUG 06 2015		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME AUG 06 2015	RECEIVED BY/STORED IN M. Gustafson	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>					F15-048-084	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D			PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 7		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples			SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>GWS-458</b>		FIELD LOGBOOK NO. HNF-N-507- <u>31-67</u>	ACTUAL SAMPLE DEPTH 0-12"		COA 303757		METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5861</b>			BILL OF LADING/AIR BILL NO. <b>774218591 6010</b>			
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
		HOLDING TIME	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		TYPE OF CONTAINER	G	aG	aG	G/P	G/P	G/P
		NO. OF CONTAINER(S)	1	1	1	1	1	1
		VOLUME	250mL	250mL	250mL	250mL	120mL	60mL
SPECIAL HANDLING AND/OR STORAGE		SAMPLE ANALYSIS	8015_VOA_GS: COMMON (Methanol);	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B32F33	SOIL	AUG 05 2015	1105	✓	✓	✓	✓	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1140	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 05 2015 1140	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 05 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FedEx	DATE/TIME	RECEIVED BY/STORED IN M. Kruslow	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <span style="float: right;">378728</span>							F15-048-063	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D			<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-20		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples				<b>SAF NO.</b> F15-048			<b>AIR QUALITY</b> <input type="checkbox"/>	<b>30 Days / 30 Days</b>
<b>ICE CHEST NO.</b> GWS-458		<b>FIELD LOGBOOK NO.</b> HNF -N-507- <u>31-67</u>		<b>ACTUAL SAMPLE DEPTH</b> 0-12"		<b>COA</b> 303757			<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b> 5861				<b>BILL OF LADING/AIR BILL NO.</b> 77421859 6010				
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days	
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P	
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1	
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL	
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>							
B32D78	SOIL	AUG 05 2015	1020	✓	✓	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1140	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 05 2015 1140	<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 05 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM Fed ex	DATE/TIME	RECEIVED BY/STORED IN M. Easton	DATE/TIME 8-15-09 10		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>					F15-048-057	PAGE 1 OF 1	
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D			PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days	
SAMPLING LOCATION FS-1 Closure Confirmation: 1-18		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048			AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. <b>GWS-458</b>		FIELD LOGBOOK NO. <b>HNF-N-507-31-67</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757			METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5861</b>		BILL OF LADING/AIR BILL NO. <b>7742 1859 6010</b>					
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		HOLDING TIME	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days	
		TYPE OF CONTAINER	G	aG	aG	G/P	G/P	G/P	
		NO. OF CONTAINER(S)	1	1	1	1	1	1	
		VOLUME	250mL	250mL	250mL	250mL	120mL	60mL	
SPECIAL HANDLING AND/OR STORAGE N/A	SAMPLE ANALYSIS	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME						
B32D72	SOIL	AUG 05 2015	1043	✓	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1140	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 05 2015 1140	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 05 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN M. Krystof	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378728</b>					F15-048-054	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days	
SAMPLING LOCATION FS-1 Closure Confirmation: 1-17		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048		AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. <b>GWS-458</b>		FIELD LOGBOOK NO. HNF-N-507- <u>31-67</u>	ACTUAL SAMPLE DEPTH 0-12"		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>		
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5861</b>			BILL OF LADING/AIR BILL NO. <b>7742 18596010</b>			
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	
		HOLDING TIME	14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		TYPE OF CONTAINER	G	aG	aG	G/P	G/P	G/P
		NO. OF CONTAINER(S)	1	1	1	1	1	1
		VOLUME	250mL	250mL	250mL	250mL	120mL	60mL
SPECIAL HANDLING AND/OR STORAGE N/A	SAMPLE ANALYSIS	8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;	9012_CYANIDE: COMMON;	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B32D69	SOIL	AUG 05 2015	1129	✓	✓	✓	✓	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1140	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 05 2015 1140	TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 05 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 05 2015 1400		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN M. Knislow	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <sup>378728</sup>						F15-048-060	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D		<b>TELEPHONE NO.</b> 376-6427		<b>PROJECT COORDINATOR</b> TODAK, D		<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-19		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples				<b>SAF NO.</b> F15-048		<b>AIR QUALITY</b> <input type="checkbox"/>	<b>30 Days / 30 Days</b>
<b>ICE CHEST NO.</b> 0005-458		<b>FIELD LOGBOOK NO.</b> HNF-N-507-31.67		<b>ACTUAL SAMPLE DEPTH</b> 0-12"		<b>COA</b> 303757		<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b> 5860				<b>BILL OF LADING/AIR BILL NO.</b> 77421859 6010			
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C	Cool <=6C
		<b>HOLDING TIME</b>		14 Days	14/40 Days	1 yr/1 yr	6 Months	30 Days	14 Days
		<b>TYPE OF CONTAINER</b>		G	aG	aG	G/P	G/P	G/P
		<b>NO. OF CONTAINER(S)</b>		1	1	1	1	1	1
		<b>VOLUME</b>		250mL	250mL	250mL	250mL	120mL	60mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		8015_VOA_GS: COMMON {Methanol};	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	7196_CR6: COMMON;
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>						
B32D75	SOIL	AUG 05 2015	09587	✓	✓	✓	✓	✓	✓

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CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1140	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 05 2015 1140	<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 8270_SVOA_GCMS: COMMON {Pentachlorophenol}; 8270_SVOA_GCMS: CH 01 {1,2-Dichlorobenzene, Nitrobenzene}; 8270_SVOA_GCMS: COMMON (Add-on) {Cellosolve Solvent, Pyridine, Total cresols}; (2) 8082_PCB_GC: COMMON {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260}; (3) 6010_METALS_ICP: COMMON {Barium, Cadmium, Silver}; 6010_METALS_ICP: COMMON (Add-on) {Lead, Vanadium}; 7471_MERCURY_CV: COMMON (SOLIDS);	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 05 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM Fed ex	DATE/TIME	RECEIVED BY/STORED IN M. Kinston	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

SAMPLE RECEIPT & REVIEW FORM

Client: <u>CPRC</u>		SDG/AR/COC/Work Order:	
Received By: <u>MLC</u>		Date Received: <u>8-7-15</u>	
Suspected Hazard Information	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.	
COC/Samples marked as radioactive?	<input checked="" type="checkbox"/>	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>0</u>	
Classified Radioactive II or III by RSO?	<input checked="" type="checkbox"/>	If yes, Were swipes taken of sample containers < action levels?	
COC/Samples marked containing PCBs?	<input checked="" type="checkbox"/>		
Package, COC, and/or Samples marked as beryllium or asbestos containing?	<input checked="" type="checkbox"/>	If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.	
Shipped as a DOT Hazardous?	<input checked="" type="checkbox"/>	Hazard Class Shipped:	UN#:
Samples identified as Foreign Soil?	<input checked="" type="checkbox"/>		

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Preservation Method: <u>Ice bag</u> Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius
2a Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Temperature Device Serial #: <u>E5032015830</u> Secondary Temperature Device Serial # (If Applicable):
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 Do Low Level Perchlorate samples (EPA 6850) have headspace as required?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
7 VOA vials free of headspace (defined as < 6mm bubble)?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
8 Are Encore containers present?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	(If yes, immediately deliver to Volatiles laboratory)
9 Samples received within holding time?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ID's and tests affected:
10 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
11 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's affected:
12 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample ID's affected:
13 Are sample containers identifiable as GEL provided?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
14 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
15 Carrier and tracking number.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: FedEx Air <input checked="" type="checkbox"/> FedEx Ground <input type="checkbox"/> UPS <input type="checkbox"/> Field Services <input type="checkbox"/> Courier <input type="checkbox"/> Other <input type="checkbox"/> <u>7742 2498 4939 1C</u> <u>4803 1C</u> <u>5074 2C</u> <u>4814 1C</u> <u>5166 2C</u> <u>5074 2C</u>

Comments (Use Continuation Form if needed):

**SAMPLE RECEIPT & REVIEW FORM**

Client: <u>GARC</u>		SDG/AR/COC/Work Order:
Received By: <u>MIC</u>		Date Received: <u>8-7-15</u>
Suspected Hazard Information	Yes <input type="checkbox"/> No <input type="checkbox"/>	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?	<input checked="" type="checkbox"/>	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>0</u>
Classified Radioactive II or III by RSO?	<input checked="" type="checkbox"/>	If yes, Were swipes taken of sample containers < action levels?
COC/Samples marked containing PCBs?	<input checked="" type="checkbox"/>	
Package, COC, and/or Samples marked as beryllium or asbestos containing?	<input checked="" type="checkbox"/>	If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?	<input checked="" type="checkbox"/>	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?	<input type="checkbox"/>	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preservation Method: <u>Ice bags</u> Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius
2a Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Temperature Device Serial #: <u>E5032015930</u> Secondary Temperature Device Serial # (If Applicable):
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 Do Low Level Perchlorate samples (EPA 6850) have headspace as required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
7 VOA vials free of headspace (defined as < 6mm bubble)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
8 Are Encore containers present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	(If yes, immediately deliver to Volatiles laboratory)
9 Samples received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ID's and tests affected:
10 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
11 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's affected:
12 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's affected:
13 Are sample containers identifiable as GEL provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15 Carrier and tracking number.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: <u>FedEx Air</u> FedEx Ground UPS Field Services Courier Other <u>77K2 1859 6010</u> <u>5881</u> <u>6145</u>

Comments (Use Continuation Form if needed):

# **Data Review Qualifier Definitions**

## Project Specific Qualifier Definitions for GEL Client Code: **CPRC**

Code	Status	Qualifier Definition	CofA	Department	Fraction	Additional Comments
U	Programmed	Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.	Y			Includes MDA, TPU, count uncert.
J	Programmed	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated	Y	Organics		Organics only
P	Programmed	Aroclor target analyte with greater than 25% difference between column analyses.	Y	Organics		PCB only
C	Manual	Analyte has been confirmed by GC/MS analysis	Y	Organics	Pesticide	IF GC/MS confirmation was attempted but unsuccessful do not qualify with C
B	Programmed	The analyte was detected in both the associated QC blank and in the sample.	Y	Organics		
E	Manual	Concentration exceeds the calibration range of the instrument	Y	Organics		Qualifier Uploaded
A	Manual	The TIC is a suspected aldol-condensation product	Y	Organics	Semi-Volatile	Uploaded with TIC
X	Programmed	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier	Y			Replaces H Hold Date In RAD replaces UI. Same usage as standard X as well.
N	Programmed	Spike Sample recovery is outside control limits.	Y			
*	Programmed	Duplicate analysis not within control limits	Y	Inorganics		
>	Programmed	Result greater than quantifiable range or greater than upper limit of the analysis range	Y	General Chemistry		
Z	Manual	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier	Y			
B	Programmed	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).	Y	Inorganics	Metals	Replaces J Estimated Value
D	Programmed	Results are reported from a diluted aliquot of sample.	Y			Dilution
E	Programmed	Reported value is estimated due to interferences. See comment in narrative.	Y	Inorganics	Metals	GEL E
M	Manual	Duplicate precision not met.	Y	Inorganics	Metals	Replaces *
o	Programmed	Analyte failed to recover within LCS limits (Organics only)	Y	Organics		
S	Manual	Reported value determined by the Method of Standard Additions (MSA)	Y	Inorganics		Not coded B/C Rarely performed
T	Programmed	Spike and/or spike duplicate sample recovery is outside control limits.	Y	Organics		GC/MS only
W	Manual	Post-digestion spike recovery for GFAA out of control limit. Sample absorbency < 50% of spike absorbency.	Y	Inorganics		No GFAA in house.
B	Programmed	The associated QC sample blank has a result >= 2X the MDA and, after corrections, result is >= MDA for this sample	Y	Radiological		
Y	Manual	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier	Y			
+	Manual	Correlation coefficient for Method of Standard Additions (MSA) is < 0.995	Y	Inorganics		
B	Programmed	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).	Y	General Chemistry		Replaces J Estimated Value
C	Programmed	Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.	Y	Inorganics	Metals	Replaces B Blank Detection
C	Programmed	Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.	Y	General Chemistry		Replaces B Blank Detection
<	Programmed	Sample is below the EPA guidance level for Reactive Releasable Cyanide and/or Reactive Releasable Sulfide	Y	General Chemistry		for Reactive CN/S

**Project Specific Qualifier Definitions for GEL Client Code: CPRC**

<b>Code</b>	<b>Status</b>	<b>Qualifier Definition</b>	<b>CofA</b>	<b>Department</b>	<b>Fraction</b>	<b>Additional Comments</b>
UX	Manual	Gamma Spectroscopy--Uncertain identification	Y	Radiological		

# **Laboratory Certifications**

**List of current GEL Certifications as of 01 September 2015**

<b>State</b>	<b>Certification</b>
Alaska	UST-110
Arkansas	88-0651
CLIA	42D0904046
California	2940 Interim
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC000122013-10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-12-00283, P330-12-00284
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013-10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA150001
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC000122013-10
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
Oklahoma	9904
Pennsylvania NELAP	68-00485
Plant Material Permit	PDEP-12-00260
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-15-10
Utah NELAP	SC000122015-18
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404

# **Semi-Volatile Analysis**

# Case Narrative

**GC/MS Semivolatile  
Technical Case Narrative  
CH2MHill Plateau Remediation Company (CPRC)  
SDG #: GEL378728  
Work Order #: 378728**

**Method/Analysis Information**

**Procedure:** Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry

Analytical Method: 8270\_SVOA\_GCMS

Prep Method: SW846 3541

Analytical Batch Number: 1500561

Prep Batch Number: 1500560

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in 8270\_SVOA\_GCMS:

<b>Sample ID</b>	<b>Client ID</b>
378728001	B32D69
378728002	B32D72
378728003	B32D75
378728004	B32D78
378728005	B32F33
378728006	B32D18
378728007	B32D21
378728008	B32D24
378728009	B32D27
378728010	B32D30
378728011	B32D33
378728012	B32D36
378728013	B32D39
378728014	B32D42
378728015	B32D45
378728016	B32D48
378728017	B32D51
378728018	B32D54
378728019	B32D57
378728020	B32D60
1203374691	Method Blank (MB)
1203374692	Laboratory Control Sample (LCS)
1203374693	378728001(B32D69) Matrix Spike (MS)
1203374694	378728001(B32D69) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

### **Preparation/Analytical Method Verification**

#### **SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-009 REV# 35.

Raw data reports are processed and reviewed by the analyst using the data analysis software package. False positives have been removed from the quantitation reports per standard operating procedures (SOP).

#### **Calibration Information**

A complete list of the initial calibration data files are shown in the Calibration History report located in the Standard Data section of the data package. The various calibration mixes may not be calibrated using all of the calibration levels. In addition, not all of the mixes are calibrated using the same levels.

Diphenylamine has now superseded N-Nitroso-diphenylamine on Quantitation Reports, Initial Calibration Reports, Calibration Check Standard Reports, etc. Previous versions of EPA Methodologies referenced N-Nitroso-diphenylamine. However, as stated in EPA Methodology, "N-Nitroso-diphenylamine decomposes in the gas chromatographic inlet and cannot be separated from Diphenylamine." Studies of these two compounds at GEL, both independent of each other and together, showed that they not only co-elute, but also have similar mass spectra. N-Nitroso-diphenylamine and Diphenylamine will be reported as Diphenylamine on all reports and forms.

#### **Initial Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG) in this batch. A second source initial calibration verification (ICV) was included in the standard section directly behind the initial calibration.

#### **CCV Requirements**

All Calibration Verification Standards (CCV) did not meet the acceptance criteria as outlined in Method 8270D for samples 378728017 (B32D51), 378728018 (B32D54), 378728019 (B32D57) and 378728020 (B32D60) and the associated QC. However, the method allows for a designated number of outliers dependent on the requested analyte list. This SDG satisfied the 8270D outlier acceptance criteria. If required, a CRDL was analyzed after the CCVs to demonstrate that there is adequate sensitivity to detect the failed compounds at the applicable lower quantitation limit.

### **Quality Control (QC) Information**

#### **Method Blank (MB) Statement**

The MB analyzed with this SDG in this batch met the acceptance criteria.

#### **Surrogate Recoveries**

All the surrogate recoveries were within the established acceptance criteria for this SDG in this batch.

#### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

#### **QC Sample Designation**

Sample 378728001 (B32D69) was selected for analysis as the matrix spike and matrix spike duplicate.

#### **Spike Recovery Statement**

The MS and MSD recoveries were within the established acceptance limits.

**MS/MSD Relative Percent Difference (RPD) Statement**

The RPD values between the MS and MSD met the acceptance limits.

**Internal Standard (ISTD) Acceptance**

Samples 378728017 (B32D51), 378728018 (B32D54), 378728019 (B32D57) and 378728020 (B32D60) failed ISTD acceptance criteria. The samples were re-analyzed and confirmed the failures. The initial analysis data are reported. The re-analysis raw data have been placed in the Miscellaneous Section where applicable.

**Technical Information:****Holding Time Specifications**

All samples in this SDG in this batch met the specified holding time.

**Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP. All reported compound mass spectra met the detection specifications in the method.

**Sample Dilutions**

The samples in this SDG in this batch did not require dilutions.

**Sample Re-extraction/Re-analysis**

Samples 378728017 (B32D51), 378728018 (B32D54), 378728019 (B32D57) and 378728020 (B32D60) failed ISTD acceptance criteria. The samples were re-analyzed and confirmed the failure. The initial analysis data are reported. The re-analysis data are in the Miscellaneous Section of the data package where applicable.

**Miscellaneous Information:****Data Exception (DER) Documentation**

A data exception report (DER) was not generated for sample(s) in this SDG in this batch. A data exception report (DER) was not generated for this SDG.

**Manual Integrations**

Some initial calibration standards, continuing calibration standards, and/or samples may require manual integrations due to software limitations. Manual integrations, if any, are included with the raw data.

**TIC Comment**

Tentatively identified compounds (TIC) were not required for the samples in this SDG for this batch.

**Additional Comments**

Additional comments were not required for the SDG associated samples in this batch.

**Electronic Package Comment**

The following package was generated using an electronic data processing program referred to as "virtual packaging". In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from "traditional" packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the reviewer name associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

### System Configuration

The Semi-Volatile-GC/MS analysis was performed on the following instrument configuration:

<b>Instrument ID</b>	<b>Instrument</b>	<b>System Configuration</b>	<b>Column ID</b>	<b>Column Description</b>
MSD1.I	Agilent 6890N/5973 GC/MS w/ 7683 Autosampler	HP6890/HP5973	ZB-5ms	25m x 0.2mm, 0.33um (5% Polysilarylene-95% Polydimethylsiloxane)

### Method/Analysis Information

<b>Procedure:</b>	<b>Analysis of Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry</b>
Analytical Method:	8270_SVOA_GCMS
Prep Method:	SW846 3541
Analytical Batch Number:	1500929
Prep Batch Number:	1500928

### Sample Analysis

The following samples were analyzed using the analytical protocol as established in 8270\_SVOA\_GCMS:

<b>Sample ID</b>	<b>Client ID</b>
378728021	B32D63
378728022	B32D66
378728023	B32DL3
378728024	B32DL4
378728025	B32F21
378728026	B32F24
378728027	B32F27
378728028	B32F30
1203375617	Method Blank (MB)
1203375618	Laboratory Control Sample (LCS)
1203375619	378728021(B32D63) Matrix Spike (MS)
1203375620	378728021(B32D63) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

### Preparation/Analytical Method Verification

#### **SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as

Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-009 REV# 35.

Raw data reports are processed and reviewed by the analyst using the data analysis software package. False positives have been removed from the quantitation reports per standard operating procedures (SOP).

### **Calibration Information**

A complete list of the initial calibration data files are shown in the Calibration History report located in the Standard Data section of the data package. The various calibration mixes may not be calibrated using all of the calibration levels. In addition, not all of the mixes are calibrated using the same levels.

Diphenylamine has now superseded N-Nitroso-diphenylamine on Quantitation Reports, Initial Calibration Reports, Calibration Check Standard Reports, etc. Previous versions of EPA Methodologies referenced N-Nitroso-diphenylamine. However, as stated in EPA Methodology, "N-Nitroso-diphenylamine decomposes in the gas chromatographic inlet and cannot be separated from Diphenylamine." Studies of these two compounds at GEL, both independent of each other and together, showed that they not only co-elute, but also have similar mass spectra. N-Nitroso-diphenylamine and Diphenylamine will be reported as Diphenylamine on all reports and forms.

### **Initial Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG) in this batch. A second source initial calibration verification (ICV) was included in the standard section directly behind the initial calibration.

### **CCV Requirements**

All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

### **Quality Control (QC) Information**

#### **Method Blank (MB) Statement**

The MB analyzed with this SDG in this batch met the acceptance criteria.

#### **Surrogate Recoveries**

All the surrogate recoveries were within the established acceptance criteria for this SDG in this batch.

#### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

#### **QC Sample Designation**

Sample 378728021 (B32D63) was selected for analysis as the matrix spike and matrix spike duplicate.

#### **Spike Recovery Statement**

The MS and MSD recoveries were within the established acceptance limits.

#### **MS/MSD Relative Percent Difference (RPD) Statement**

The RPD values between the MS and MSD met the acceptance limits.

#### **Internal Standard (ISTD) Acceptance**

The internal standard responses used to quantitate the requested target analytes were within the required acceptance criteria for the SDG associated samples in this batch.

### **Technical Information:**

#### **Holding Time Specifications**

All samples in this SDG in this batch met the specified holding time.

**Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP. All reported compound mass spectra met the detection specifications in the method.

**Sample Dilutions**

The samples in this SDG in this batch did not require dilutions.

**Sample Re-extraction/Re-analysis**

Re-extractions or re-analyses were not required in this SDG in this analytical batch unless confirmations or dilutions were required.

**Miscellaneous Information:****Data Exception (DER) Documentation**

A data exception report (DER) was not required for samples 378728021 (B32D63), 378728022 (B32D66), 378728023 (B32DL3), 378728024 (B32DL4), 378728025 (B32F21), 378728026 (B32F24), 378728027 (B32F27) and 378728028 (B32F30) in this batch.

**Manual Integrations**

Some initial calibration standards, continuing calibration standards, and/or samples may require manual integrations due to software limitations. Manual integrations, if any, are included with the raw data.

**TIC Comment**

Tentatively identified compounds (TIC) were not required for the samples in this SDG for this batch.

**Additional Comments**

Additional comments were not required for the SDG associated samples in this batch.

**Electronic Package Comment**

The following package was generated using an electronic data processing program referred to as "virtual packaging". In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from "traditional" packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative of each electronic package will indicate the reviewer name associated with the generation of the data and package. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**System Configuration**

The Semi-Volatile-GC/MS analysis was performed on the following instrument configuration:

<b>Instrument ID</b>	<b>Instrument</b>	<b>System Configuration</b>	<b>Column ID</b>	<b>Column Description</b>
MSD1.I	Agilent 6890N/5973 GC/MS w/ 7683 Autosampler	HP6890/HP5973	ZB-5ms	25m x 0.2mm, 0.33um (5% Polysilarylene-95% Polydimethylsiloxane)

**Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

## GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

### Qualifier Definition Report for

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL378728 GEL Work Order: 378728

#### The Qualifiers in this report are defined as follows:

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

DL Indicates that sample is diluted.

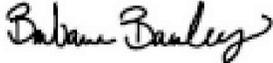
RA Indicates that sample is re-analyzed without re-extraction.

RE Indicates that sample is re-extracted.

#### Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Barbara Bailey

Date: 01 SEP 2015

Title: Data Validator

# Sample Data Summary

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

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<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/05/2015 11:29	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728001	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 3
<b>Client ID:</b> B32D69	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500561	<b>Method:</b> 8270_SVOA_GCMS	<b>SOP Ref:</b> GL-OA-E-009
<b>Run Date:</b> 08/18/2015 00:13	<b>Inst:</b> MSD1.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/17/2015 11:12	<b>Analyst:</b> AGS1	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> s081715a.B\s1h1723.D	<b>Aliquot:</b> 30.05 g	<b>Final Volume:</b> 1 mL
	<b>Column:</b> 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	103	ug/kg	103	343
1319-77-3	Cresols (total)	U	103	ug/kg	103	686
98-95-3	Nitrobenzene	U	103	ug/kg	103	343
87-86-5	Pentachlorophenol	U	103	ug/kg	103	343
110-86-1	Pyridine	U	103	ug/kg	103	343

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

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SDG Number: GEL378728	Date Collected: 08/05/2015 10:43	Matrix: OTHERSOLID
Lab Sample ID: 378728002	Date Received: 08/07/2015 09:10	%Moisture: 17.8
Client ID: B32D72	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500561	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/18/2015 01:48	Inst: MSD1.I	Dilution: 1
Prep Date: 08/17/2015 11:12	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081715a.B\slh1726.D	Aliquot: 30 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	122	ug/kg	122	406
1319-77-3	Cresols (total)	U	122	ug/kg	122	811
98-95-3	Nitrobenzene	U	122	ug/kg	122	406
87-86-5	Pentachlorophenol	U	122	ug/kg	122	406
110-86-1	Pyridine	U	122	ug/kg	122	406

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

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SDG Number: GEL378728	Date Collected: 08/05/2015 09:57	Matrix: OTHERSOLID
Lab Sample ID: 378728003	Date Received: 08/07/2015 09:10	%Moisture: 3.6
Client ID: B32D75	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500561	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/18/2015 02:20	Inst: MSD1.I	Dilution: 1
Prep Date: 08/17/2015 11:12	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081715a.B\slh1727.D	Aliquot: 30.02 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	104	ug/kg	104	345
1319-77-3	Cresols (total)	U	104	ug/kg	104	691
98-95-3	Nitrobenzene	U	104	ug/kg	104	345
87-86-5	Pentachlorophenol	U	104	ug/kg	104	345
110-86-1	Pyridine	U	104	ug/kg	104	345

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/05/2015 10:20	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728004	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 8.7
<b>Client ID:</b> B32D78	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500561	<b>Method:</b> 8270_SVOA_GCMS	<b>SOP Ref:</b> GL-OA-E-009
<b>Run Date:</b> 08/18/2015 02:51	<b>Inst:</b> MSD1.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/17/2015 11:12	<b>Analyst:</b> AGS1	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> s081715a.B\s1h1728.D	<b>Aliquot:</b> 30.05 g	<b>Final Volume:</b> 1 mL
	<b>Column:</b> 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	109	ug/kg	109	365
1319-77-3	Cresols (total)	U	109	ug/kg	109	729
98-95-3	Nitrobenzene	U	109	ug/kg	109	365
87-86-5	Pentachlorophenol	U	109	ug/kg	109	365
110-86-1	Pyridine	U	109	ug/kg	109	365

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/05/2015 11:05	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728005	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 7.3
<b>Client ID:</b> B32F33	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500561	<b>Method:</b> 8270_SVOA_GCMS	<b>SOP Ref:</b> GL-OA-E-009
<b>Run Date:</b> 08/18/2015 03:23	<b>Inst:</b> MSD1.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/17/2015 11:12	<b>Analyst:</b> AGS1	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> s081715a.B\slh1729.D	<b>Aliquot:</b> 30.04 g	<b>Final Volume:</b> 1 mL
	<b>Column:</b> 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	108	ug/kg	108	359
1319-77-3	Cresols (total)	U	108	ug/kg	108	718
98-95-3	Nitrobenzene	U	108	ug/kg	108	359
87-86-5	Pentachlorophenol	U	108	ug/kg	108	359
110-86-1	Pyridine	U	108	ug/kg	108	359

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

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SDG Number: GEL378728	Date Collected: 08/06/2015 09:54	Matrix: OTHERSOLID
Lab Sample ID: 378728006	Date Received: 08/07/2015 09:10	%Moisture: 2.2
Client ID: B32D18	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500561	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/18/2015 03:54	Inst: MSD1.I	Dilution: 1
Prep Date: 08/17/2015 11:12	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081715a.B\s1h1730.D	Aliquot: 30.03 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	102	ug/kg	102	340
1319-77-3	Cresols (total)	U	102	ug/kg	102	681
98-95-3	Nitrobenzene	U	102	ug/kg	102	340
87-86-5	Pentachlorophenol	U	102	ug/kg	102	340
110-86-1	Pyridine	U	102	ug/kg	102	340

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

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SDG Number: GEL378728	Date Collected: 08/06/2015 10:22	Matrix: OTHERSOLID
Lab Sample ID: 378728007	Date Received: 08/07/2015 09:10	%Moisture: 2.8
Client ID: B32D21	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500561	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/18/2015 04:26	Inst: MSD1.I	Dilution: 1
Prep Date: 08/17/2015 11:12	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081715a.B\s1h1731.D	Aliquot: 30.03 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	103	ug/kg	103	343
1319-77-3	Cresols (total)	U	103	ug/kg	103	685
98-95-3	Nitrobenzene	U	103	ug/kg	103	343
87-86-5	Pentachlorophenol	U	103	ug/kg	103	343
110-86-1	Pyridine	U	103	ug/kg	103	343

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

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SDG Number: GEL378728	Date Collected: 08/06/2015 09:40	Matrix: OTHERSOLID
Lab Sample ID: 378728008	Date Received: 08/07/2015 09:10	%Moisture: 2
Client ID: B32D24	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500561	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/18/2015 04:58	Inst: MSD1.I	Dilution: 1
Prep Date: 08/17/2015 11:12	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081715a.B\s1h1732.D	Aliquot: 30.04 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	102	ug/kg	102	340
1319-77-3	Cresols (total)	U	102	ug/kg	102	679
98-95-3	Nitrobenzene	U	102	ug/kg	102	340
87-86-5	Pentachlorophenol	U	102	ug/kg	102	340
110-86-1	Pyridine	U	102	ug/kg	102	340

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

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<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/05/2015 11:48	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728009	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 2.4
<b>Client ID:</b> B32D27	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500561	<b>Method:</b> 8270_SVOA_GCMS	<b>SOP Ref:</b> GL-OA-E-009
<b>Run Date:</b> 08/18/2015 05:30	<b>Inst:</b> MSD1.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/17/2015 11:12	<b>Analyst:</b> AGS1	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> s081715a.B\s1h1733.D	<b>Aliquot:</b> 30.01 g	<b>Final Volume:</b> 1 mL
	<b>Column:</b> 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	102	ug/kg	102	342
1319-77-3	Cresols (total)	U	102	ug/kg	102	683
98-95-3	Nitrobenzene	U	102	ug/kg	102	342
87-86-5	Pentachlorophenol	U	102	ug/kg	102	342
110-86-1	Pyridine	U	102	ug/kg	102	342

**Semi-Volatile  
Certificate of Analysis  
Sample Summary**

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SDG Number: GEL378728	Date Collected: 08/06/2015 08:50	Matrix: OTHERSOLID
Lab Sample ID: 378728010	Date Received: 08/07/2015 09:10	%Moisture: 2.6
Client ID: B32D30	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500561	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/18/2015 06:01	Inst: MSD1.I	Dilution: 1
Prep Date: 08/17/2015 11:12	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081715a.B\s1h1734.D	Aliquot: 30.03 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	103	ug/kg	103	342
1319-77-3	Cresols (total)	U	103	ug/kg	103	684
98-95-3	Nitrobenzene	U	103	ug/kg	103	342
87-86-5	Pentachlorophenol	U	103	ug/kg	103	342
110-86-1	Pyridine	U	103	ug/kg	103	342

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SDG Number: GEL378728	Date Collected: 08/06/2015 09:05	Matrix: OTHERSOLID
Lab Sample ID: 378728011	Date Received: 08/07/2015 09:10	%Moisture: 3.5
Client ID: B32D33	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500561	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/18/2015 06:33	Inst: MSD1.I	Dilution: 1
Prep Date: 08/17/2015 11:12	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081715a.B\s1h1735.D	Aliquot: 30.04 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	103	ug/kg	103	345
1319-77-3	Cresols (total)	U	103	ug/kg	103	690
98-95-3	Nitrobenzene	U	103	ug/kg	103	345
87-86-5	Pentachlorophenol	U	103	ug/kg	103	345
110-86-1	Pyridine	U	103	ug/kg	103	345

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SDG Number: GEL378728	Date Collected: 08/06/2015 08:22	Matrix: OTHERSOLID
Lab Sample ID: 378728012	Date Received: 08/07/2015 09:10	%Moisture: 1.1
Client ID: B32D36	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500561	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/18/2015 07:04	Inst: MSD1.I	Dilution: 1
Prep Date: 08/17/2015 11:12	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081715a.B\s1h1736.D	Aliquot: 30.03 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	101	ug/kg	101	337
1319-77-3	Cresols (total)	U	101	ug/kg	101	673
98-95-3	Nitrobenzene	U	101	ug/kg	101	337
87-86-5	Pentachlorophenol	U	101	ug/kg	101	337
110-86-1	Pyridine	U	101	ug/kg	101	337

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SDG Number: GEL378728	Date Collected: 08/06/2015 08:38	Matrix: OTHERSOLID
Lab Sample ID: 378728013	Date Received: 08/07/2015 09:10	%Moisture: 9.9
Client ID: B32D39	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500561	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/18/2015 07:36	Inst: MSD1.I	Dilution: 1
Prep Date: 08/17/2015 11:12	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081715a.B\s1h1737.D	Aliquot: 30 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	111	ug/kg	111	370
1319-77-3	Cresols (total)	U	111	ug/kg	111	740
98-95-3	Nitrobenzene	U	111	ug/kg	111	370
87-86-5	Pentachlorophenol	U	111	ug/kg	111	370
110-86-1	Pyridine	U	111	ug/kg	111	370

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SDG Number: GEL378728	Date Collected: 08/06/2015 07:33	Matrix: OTHERSOLID
Lab Sample ID: 378728014	Date Received: 08/07/2015 09:10	%Moisture: 2.9
Client ID: B32D42	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500561	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/18/2015 08:07	Inst: MSD1.I	Dilution: 1
Prep Date: 08/17/2015 11:12	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081715a.B\s1h1738.D	Aliquot: 30.01 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	103	ug/kg	103	343
1319-77-3	Cresols (total)	U	103	ug/kg	103	686
98-95-3	Nitrobenzene	U	103	ug/kg	103	343
87-86-5	Pentachlorophenol	U	103	ug/kg	103	343
110-86-1	Pyridine	U	103	ug/kg	103	343

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SDG Number: GEL378728	Date Collected: 08/06/2015 08:10	Matrix: OTHERSOLID
Lab Sample ID: 378728015	Date Received: 08/07/2015 09:10	%Moisture: 3.6
Client ID: B32D45	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500561	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/18/2015 08:39	Inst: MSD1.I	Dilution: 1
Prep Date: 08/17/2015 11:12	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081715a.B\slh1739.D	Aliquot: 30.02 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	104	ug/kg	104	346
1319-77-3	Cresols (total)	U	104	ug/kg	104	691
98-95-3	Nitrobenzene	U	104	ug/kg	104	346
87-86-5	Pentachlorophenol	U	104	ug/kg	104	346
110-86-1	Pyridine	U	104	ug/kg	104	346

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<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/06/2015 07:15	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728016	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 2.2
<b>Client ID:</b> B32D48	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500561	<b>Method:</b> 8270_SVOA_GCMS	<b>SOP Ref:</b> GL-OA-E-009
<b>Run Date:</b> 08/18/2015 09:10	<b>Inst:</b> MSD1.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/17/2015 11:12	<b>Analyst:</b> AGS1	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> s081715a.B\slh1740.D	<b>Aliquot:</b> 30 g	<b>Final Volume:</b> 1 mL
	<b>Column:</b> 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	102	ug/kg	102	341
1319-77-3	Cresols (total)	U	102	ug/kg	102	682
98-95-3	Nitrobenzene	U	102	ug/kg	102	341
87-86-5	Pentachlorophenol	U	102	ug/kg	102	341
110-86-1	Pyridine	U	102	ug/kg	102	341

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SDG Number: GEL378728  
Lab Sample ID: 378728017  
  
Client ID: B32D51  
Batch ID: 1500561  
Run Date: 08/18/2015 12:25  
Prep Date: 08/17/2015 11:12  
Data File: s081815.B\s1h1806.D

Date Collected: 08/05/2015 13:47  
Date Received: 08/07/2015 09:10  
Client: CPRC001  
Method: 8270\_SVOA\_GCMS  
Inst: MSD1.I  
Analyst: JMB3  
Aliquot: 30.05 g  
Column: 25x.20x.33

Matrix: OTHERSOLID  
%Moisture: 18.5  
Project: CPRC0F15048  
SOP Ref: GL-OA-E-009  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	122	ug/kg	122	408
1319-77-3	Cresols (total)	U	122	ug/kg	122	817
98-95-3	Nitrobenzene	U	122	ug/kg	122	408
87-86-5	Pentachlorophenol	U	122	ug/kg	122	408
110-86-1	Pyridine	U	122	ug/kg	122	408

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SDG Number: GEL378728	Date Collected: 08/05/2015 13:22	Matrix: OTHERSOLID
Lab Sample ID: 378728018	Date Received: 08/07/2015 09:10	%Moisture: 4.5
Client ID: B32D54	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500561	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/18/2015 12:56	Inst: MSD1.I	Dilution: 1
Prep Date: 08/17/2015 11:12	Analyst: JMB3	Inj. Vol: 1 uL
Data File: s081815.B\s1h1807.D	Aliquot: 30 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	105	ug/kg	105	349
1319-77-3	Cresols (total)	U	105	ug/kg	105	698
98-95-3	Nitrobenzene	U	105	ug/kg	105	349
87-86-5	Pentachlorophenol	U	105	ug/kg	105	349
110-86-1	Pyridine	U	105	ug/kg	105	349

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SDG Number: GEL378728	Date Collected: 08/05/2015 13:22	Matrix: OTHERSOLID
Lab Sample ID: 378728019	Date Received: 08/07/2015 09:10	%Moisture: 4.6
Client ID: B32D57	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500561	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/18/2015 13:28	Inst: MSD1.I	Dilution: 1
Prep Date: 08/17/2015 11:12	Analyst: JMB3	Inj. Vol: 1 uL
Data File: s081815.B\s1h1808.D	Aliquot: 30.03 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	105	ug/kg	105	349
1319-77-3	Cresols (total)	U	105	ug/kg	105	698
98-95-3	Nitrobenzene	U	105	ug/kg	105	349
87-86-5	Pentachlorophenol	U	105	ug/kg	105	349
110-86-1	Pyridine	U	105	ug/kg	105	349

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SDG Number: GEL378728  
Lab Sample ID: 378728020  
  
Client ID: B32D60  
Batch ID: 1500561  
Run Date: 08/18/2015 15:33  
Prep Date: 08/17/2015 11:12  
Data File: s081815.B\s1h1812.D

Date Collected: 08/05/2015 12:51  
Date Received: 08/07/2015 09:10  
Client: CPRC001  
Method: 8270\_SVOA\_GCMS  
Inst: MSD1.I  
Analyst: JMB3  
Aliquot: 30.02 g  
Column: 25x.20x.33

Matrix: OTHERSOLID  
%Moisture: 3.3  
Project: CPRC0F15048  
SOP Ref: GL-OA-E-009  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	103	ug/kg	103	344
1319-77-3	Cresols (total)	U	103	ug/kg	103	689
98-95-3	Nitrobenzene	U	103	ug/kg	103	344
87-86-5	Pentachlorophenol	U	103	ug/kg	103	344
110-86-1	Pyridine	U	103	ug/kg	103	344

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<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/05/2015 12:35	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728021	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 1.2
<b>Client ID:</b> B32D63	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500929	<b>Method:</b> 8270_SVOA_GCMS	<b>SOP Ref:</b> GL-OA-E-009
<b>Run Date:</b> 08/18/2015 21:11	<b>Inst:</b> MSD1.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/18/2015 12:15	<b>Analyst:</b> AGS1	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> s081815a.B\s1h1819.D	<b>Aliquot:</b> 30.06 g	<b>Final Volume:</b> 1 mL
	<b>Column:</b> 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	101	ug/kg	101	337
1319-77-3	Cresols (total)	U	101	ug/kg	101	673
98-95-3	Nitrobenzene	U	101	ug/kg	101	337
87-86-5	Pentachlorophenol	U	101	ug/kg	101	337
110-86-1	Pyridine	U	101	ug/kg	101	337

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<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/05/2015 12:23	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728022	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 8.9
<b>Client ID:</b> B32D66	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500929	<b>Method:</b> 8270_SVOA_GCMS	<b>SOP Ref:</b> GL-OA-E-009
<b>Run Date:</b> 08/18/2015 22:45	<b>Inst:</b> MSD1.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/18/2015 12:15	<b>Analyst:</b> AGS1	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> s081815a.B\s1h1822.D	<b>Aliquot:</b> 30.09 g	<b>Final Volume:</b> 1 mL
	<b>Column:</b> 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	109	ug/kg	109	365
1319-77-3	Cresols (total)	U	109	ug/kg	109	730
98-95-3	Nitrobenzene	U	109	ug/kg	109	365
87-86-5	Pentachlorophenol	U	109	ug/kg	109	365
110-86-1	Pyridine	U	109	ug/kg	109	365

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<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/06/2015 10:33	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728023	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 2.3
<b>Client ID:</b> B32DL3	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500929	<b>Method:</b> 8270_SVOA_GCMS	<b>SOP Ref:</b> GL-OA-E-009
<b>Run Date:</b> 08/18/2015 23:17	<b>Inst:</b> MSD1.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/18/2015 12:15	<b>Analyst:</b> AGS1	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> s081815a.B\s1h1823.D	<b>Aliquot:</b> 30.12 g	<b>Final Volume:</b> 1 mL
	<b>Column:</b> 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	102	ug/kg	102	340
1319-77-3	Cresols (total)	U	102	ug/kg	102	680
98-95-3	Nitrobenzene	U	102	ug/kg	102	340
87-86-5	Pentachlorophenol	U	102	ug/kg	102	340
110-86-1	Pyridine	U	102	ug/kg	102	340

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SDG Number: GEL378728	Date Collected: 08/06/2015 10:45	Matrix: OTHERSOLID
Lab Sample ID: 378728024	Date Received: 08/07/2015 09:10	%Moisture: 14.2
Client ID: B32DL4	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500929	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/18/2015 23:48	Inst: MSD1.I	Dilution: 1
Prep Date: 08/18/2015 12:15	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081815a.B\s1h1824.D	Aliquot: 30.11 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	116	ug/kg	116	387
1319-77-3	Cresols (total)	U	116	ug/kg	116	774
98-95-3	Nitrobenzene	U	116	ug/kg	116	387
87-86-5	Pentachlorophenol	U	116	ug/kg	116	387
110-86-1	Pyridine	U	116	ug/kg	116	387

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SDG Number: GEL378728	Date Collected: 08/06/2015 10:06	Matrix: OTHERSOLID
Lab Sample ID: 378728025	Date Received: 08/07/2015 09:10	%Moisture: 3.7
Client ID: B32F21	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500929	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/19/2015 00:19	Inst: MSD1.I	Dilution: 1
Prep Date: 08/18/2015 12:15	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081815a.B\s1h1825.D	Aliquot: 30.15 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	103	ug/kg	103	345
1319-77-3	Cresols (total)	U	103	ug/kg	103	689
98-95-3	Nitrobenzene	U	103	ug/kg	103	345
87-86-5	Pentachlorophenol	U	103	ug/kg	103	345
110-86-1	Pyridine	U	103	ug/kg	103	345

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SDG Number: GEL378728	Date Collected: 08/06/2015 09:28	Matrix: OTHERSOLID
Lab Sample ID: 378728026	Date Received: 08/07/2015 09:10	%Moisture: 3.2
Client ID: B32F24	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500929	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/19/2015 00:51	Inst: MSD1.I	Dilution: 1
Prep Date: 08/18/2015 12:15	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081815a.B\slh1826.D	Aliquot: 30.13 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	103	ug/kg	103	343
1319-77-3	Cresols (total)	U	103	ug/kg	103	686
98-95-3	Nitrobenzene	U	103	ug/kg	103	343
87-86-5	Pentachlorophenol	U	103	ug/kg	103	343
110-86-1	Pyridine	U	103	ug/kg	103	343

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SDG Number: GEL378728	Date Collected: 08/06/2015 07:50	Matrix: OTHERSOLID
Lab Sample ID: 378728027	Date Received: 08/07/2015 09:10	%Moisture: 2.8
Client ID: B32F27	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500929	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/19/2015 01:22	Inst: MSD1.I	Dilution: 1
Prep Date: 08/18/2015 12:15	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081815a.B\s1h1827.D	Aliquot: 30.14 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	102	ug/kg	102	341
1319-77-3	Cresols (total)	U	102	ug/kg	102	682
98-95-3	Nitrobenzene	U	102	ug/kg	102	341
87-86-5	Pentachlorophenol	U	102	ug/kg	102	341
110-86-1	Pyridine	U	102	ug/kg	102	341

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SDG Number: GEL378728	Date Collected: 08/05/2015 13:06	Matrix: OTHERSOLID
Lab Sample ID: 378728028	Date Received: 08/07/2015 09:10	%Moisture: 3.5
Client ID: B32F30	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1500929	Method: 8270_SVOA_GCMS	SOP Ref: GL-OA-E-009
Run Date: 08/19/2015 01:54	Inst: MSD1.I	Dilution: 1
Prep Date: 08/18/2015 12:15	Analyst: AGS1	Inj. Vol: 1 uL
Data File: s081815a.B\s1h1828.D	Aliquot: 30.08 g	Final Volume: 1 mL
	Column: 25x.20x.33	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
95-50-1	1,2-Dichlorobenzene	U	103	ug/kg	103	345
1319-77-3	Cresols (total)	U	103	ug/kg	103	689
98-95-3	Nitrobenzene	U	103	ug/kg	103	345
87-86-5	Pentachlorophenol	U	103	ug/kg	103	345
110-86-1	Pyridine	U	103	ug/kg	103	345

# **Quality Control Summary**

# GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

## QC Summary

Report Date: September 1, 2015

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CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 378728

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS									
Batch	1500561								
QC1203374692	LCS								
1,2-Dichlorobenzene	1670		1240	ug/kg		74	(39%-93%)	AGS1	08/17/15 23:42
Nitrobenzene	1670		1180	ug/kg		71	(35%-99%)		
Pentachlorophenol	1670		1390	ug/kg		84	(31%-93%)		
Pyridine	1670		726	ug/kg		44	(29%-85%)		
**2,4,6-Tribromophenol	3330		2550	ug/kg		77	(20%-122%)		
**2-Fluorobiphenyl	1670		1060	ug/kg		64	(25%-100%)		
**2-Fluorophenol	3330		2070	ug/kg		62	(23%-107%)		
**Nitrobenzene-d5	1670		1060	ug/kg		64	(21%-103%)		
**Phenol-d5	3330		2120	ug/kg		64	(25%-108%)		
**p-Terphenyl-d14	1670		1340	ug/kg		80	(31%-124%)		
QC1203374691	MB								
1,2-Dichlorobenzene		U	99.8	ug/kg					08/17/15 23:10
Cresols (total)		U	99.8	ug/kg					
Nitrobenzene		U	99.8	ug/kg					
Pentachlorophenol		U	99.8	ug/kg					
Pyridine		U	99.8	ug/kg					
**2,4,6-Tribromophenol	3330		2250	ug/kg		68	(20%-122%)		
**2-Fluorobiphenyl	1660		1130	ug/kg		68	(25%-100%)		
**2-Fluorophenol	3330		1810	ug/kg		54	(23%-107%)		
**Nitrobenzene-d5	1660		1020	ug/kg		61	(21%-103%)		

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## QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1500561											
**Phenol-d5	3330			1950	ug/kg		59	(25%-108%)			
**p-Terphenyl-d14	1660			1200	ug/kg		72	(31%-124%)	AGS1	08/17/15	23:10
QC1203374693 378728001 MS											
1,2-Dichlorobenzene	1720	U	103	1210	ug/kg		71	(25%-99%)		08/18/15	00:45
Nitrobenzene	1720	U	103	1120	ug/kg		65	(25%-104%)			
Pentachlorophenol	1720	U	103	1300	ug/kg		76	(22%-108%)			
Pyridine	1720	U	103	732	ug/kg		43	(24%-87%)			
**2,4,6-Tribromophenol	3430		2130	2540	ug/kg		74	(20%-122%)			
**2-Fluorobiphenyl	1720		1120	1040	ug/kg		60	(25%-100%)			
**2-Fluorophenol	3430		1830	2030	ug/kg		59	(23%-107%)			
**Nitrobenzene-d5	1720		1040	967	ug/kg		56	(21%-103%)			
**Phenol-d5	3430		1950	2070	ug/kg		60	(25%-108%)			
**p-Terphenyl-d14	1720		1230	1440	ug/kg		84	(31%-124%)			
QC1203374694 378728001 MSD											
1,2-Dichlorobenzene	1720	U	103	1200	ug/kg	1	70	(0%-30%)		08/18/15	01:16
Nitrobenzene	1720	U	103	1100	ug/kg	1	64	(0%-30%)			
Pentachlorophenol	1720	U	103	1140	ug/kg	13	66	(0%-30%)			
Pyridine	1720	U	103	709	ug/kg	3	41	(0%-30%)			
**2,4,6-Tribromophenol	3430		2130	2350	ug/kg		68	(20%-122%)			
**2-Fluorobiphenyl	1720		1120	1010	ug/kg		59	(25%-100%)			
**2-Fluorophenol	3430		1830	2020	ug/kg		59	(23%-107%)			
**Nitrobenzene-d5	1720		1040	934	ug/kg		54	(21%-103%)			
**Phenol-d5	3430		1950	2060	ug/kg		60	(25%-108%)			
**p-Terphenyl-d14	1720		1230	1330	ug/kg		78	(31%-124%)			

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## QC Summary

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS									
Batch	1500561								
Batch	1500929								
QC1203375618	LCS								
1,2-Dichlorobenzene	1670		1070	ug/kg		64	(39%-93%)	AGS1	08/18/15 20:39
Nitrobenzene	1670		1020	ug/kg		61	(35%-99%)		
Pentachlorophenol	1670		1060	ug/kg		64	(31%-93%)		
Pyridine	1670		626	ug/kg		38	(29%-85%)		
**2,4,6-Tribromophenol	3330		2210	ug/kg		66	(20%-122%)		
**2-Fluorobiphenyl	1670		976	ug/kg		59	(25%-100%)		
**2-Fluorophenol	3330		1790	ug/kg		54	(23%-107%)		
**Nitrobenzene-d5	1670		933	ug/kg		56	(21%-103%)		
**Phenol-d5	3330		1790	ug/kg		54	(25%-108%)		
**p-Terphenyl-d14	1670		1350	ug/kg		81	(31%-124%)		
QC1203375617	MB								
1,2-Dichlorobenzene		U	99.9	ug/kg					08/18/15 20:08
Cresols (total)		U	99.9	ug/kg					
Nitrobenzene		U	99.9	ug/kg					
Pentachlorophenol		U	99.9	ug/kg					
Pyridine		U	99.9	ug/kg					
**2,4,6-Tribromophenol	3330		2140	ug/kg		64	(20%-122%)		
**2-Fluorobiphenyl	1660		1160	ug/kg		70	(25%-100%)		
**2-Fluorophenol	3330		1880	ug/kg		57	(23%-107%)		
**Nitrobenzene-d5	1660		1080	ug/kg		65	(21%-103%)		
**Phenol-d5	3330		1990	ug/kg		60	(25%-108%)		

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## QC Summary

Workorder: 378728

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Semi-Volatile-GC/MS</b>											
Batch	1500929										
**p-Terphenyl-d14	1660			1230	ug/kg		74	(31%-124%)	AGS1	08/18/15	20:08
QC1203375619 378728021 MS											
1,2-Dichlorobenzene	1690	U	101	998	ug/kg		59	(25%-99%)		08/18/15	21:43
Nitrobenzene	1690	U	101	953	ug/kg		57	(25%-104%)			
Pentachlorophenol	1690	U	101	837	ug/kg		50	(22%-108%)			
Pyridine	1690	U	101	539	ug/kg		32	(24%-87%)			
**2,4,6-Tribromophenol	3370		2370	2140	ug/kg		64	(20%-122%)			
**2-Fluorobiphenyl	1690		1220	919	ug/kg		55	(25%-100%)			
**2-Fluorophenol	3370		2000	1650	ug/kg		49	(23%-107%)			
**Nitrobenzene-d5	1690		1160	856	ug/kg		51	(21%-103%)			
**Phenol-d5	3370		2110	1660	ug/kg		49	(25%-108%)			
**p-Terphenyl-d14	1690		1340	1350	ug/kg		80	(31%-124%)			
QC1203375620 378728021 MSD											
1,2-Dichlorobenzene	1690	U	101	1300	ug/kg	26	77	(0%-30%)		08/18/15	22:14
Nitrobenzene	1690	U	101	1230	ug/kg	25	73	(0%-30%)			
Pentachlorophenol	1690	U	101	1120	ug/kg	29	67	(0%-30%)			
Pyridine	1690	U	101	732	ug/kg	30	43	(0%-30%)			
**2,4,6-Tribromophenol	3370		2370	2440	ug/kg		72	(20%-122%)			
**2-Fluorobiphenyl	1690		1220	1130	ug/kg		67	(25%-100%)			
**2-Fluorophenol	3370		2000	2150	ug/kg		64	(23%-107%)			
**Nitrobenzene-d5	1690		1160	1120	ug/kg		66	(21%-103%)			
**Phenol-d5	3370		2110	2160	ug/kg		64	(25%-108%)			
**p-Terphenyl-d14	1690		1340	1410	ug/kg		84	(31%-124%)			

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## QC Summary

Workorder: 378728

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1500929										

### Notes:

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- N Spike Sample recovery is outside control limits.
- P Aroclor target analyte with greater than 25% difference between column analyses.
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- o Analyte failed to recover within LCS limits (Organics only)

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Semi-Volatile  
Surrogate Recovery Report

SDG Number: GEL378728

Matrix Type: SOLID

Sample ID	Client ID	2FP %REC	PHL %REC	NBZ %REC	FBP %REC	TBP %REC	TPH %REC
1203374691	MB for batch 1500560	54	59	61	68	68	72
1203374692	LCS for batch 1500560	62	64	64	64	77	80
378728001	B32D69	53	57	61	65	62	72
1203374693	B32D69MS	59	60	56	60	74	84
1203374694	B32D69MSD	59	60	54	59	68	78
378728002	B32D72	43	46	47	52	60	72
378728003	B32D75	52	54	58	64	66	78
378728004	B32D78	46	48	50	53	61	71
378728005	B32F33	58	61	63	69	69	73
378728006	B32D18	51	54	61	64	64	74
378728007	B32D21	60	63	71	73	71	74
378728008	B32D24	52	54	62	66	66	75
378728009	B32D27	55	59	65	69	67	74
378728010	B32D30	48	51	57	61	59	66
378728011	B32D33	53	57	62	68	62	73
378728012	B32D36	59	63	69	72	69	80
378728013	B32D39	58	60	68	70	68	72
378728014	B32D42	49	52	57	62	58	71
378728015	B32D45	50	53	60	64	62	75
378728016	B32D48	52	56	61	64	62	70
378728017	B32D51	57	57	66	70	73	73
378728018	B32D54	51	53	63	64	60	66
378728019	B32D57	53	56	65	68	63	67
378728020	B32D60	53	55	65	70	66	72

2FP = 2-Fluorophenol (23%-107%)

PHL = Phenol-d5 (25%-108%)

NBZ = Nitrobenzene-d5 (21%-103%)

FBP = 2-Fluorobiphenyl (25%-100%)

TBP = 2,4,6-Tribromophenol (20%-122%)

TPH = p-Terphenyl-d14 (31%-124%)

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

Semi-Volatile  
Surrogate Recovery Report

SDG Number: GEL378728

Matrix Type: SOLID

Sample ID	Client ID	2FP %REC	PHL %REC	NBZ %REC	FBP %REC	TBP %REC	TPH %REC
1203375617	MB for batch 1500928	57	60	65	70	64	74
1203375618	LCS for batch 1500928	54	54	56	59	66	81
378728021	B32D63	59	63	69	73	70	80
1203375619	B32D63MS	49	49	51	55	64	80
1203375620	B32D63MSD	64	64	66	67	72	84
378728022	B32D66	50	52	56	59	57	73
378728023	B32DL3	37	39	43	49	46	62
378728024	B32DL4	45	47	52	55	57	71
378728025	B32F21	55	60	67	67	59	75
378728026	B32F24	51	54	65	67	61	75
378728027	B32F27	54	57	67	70	61	82
378728028	B32F30	51	54	63	66	57	79

**Surrogate**

2FP = 2-Fluorophenol  
 PHL = Phenol-d5  
 NBZ = Nitrobenzene-d5  
 FBP = 2-Fluorobiphenyl  
 TBP = 2,4,6-Tribromophenol  
 TPH = p-Terphenyl-d14

**Acceptance Limits**

(23%-107%)  
 (25%-108%)  
 (21%-103%)  
 (25%-100%)  
 (20%-122%)  
 (31%-124%)

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

# **FID Alcohols Analysis**

# **Case Narrative**

**Alcohols**  
**Technical Case Narrative**  
**CH2MHill Plateau Remediation Company (CPRC)**  
**SDG #: GEL378728**  
**Work Order #: 378728**

**Method/Analysis Information**

**Procedure:** Analysis of Alcohol by Flame Ionization Detector  
Analytical Method: SW846 8015C  
Prep Method: SW846 8015C  
Analytical Batch Number: 1499164  
Prep Batch Number: 1499162

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 8015C:

<b>Sample ID</b>	<b>Client ID</b>
378728001	B32D69
378728002	B32D72
378728003	B32D75
378728004	B32D78
378728005	B32F33
378728006	B32D18
378728007	B32D21
378728008	B32D24
378728009	B32D27
378728010	B32D30
378728011	B32D33
378728012	B32D36
378728013	B32D39
378728014	B32D42
378728015	B32D45
378728016	B32D48
378728017	B32D51
378728018	B32D54
378728019	B32D57
378728020	B32D60
1203371003	Method Blank (MB)
1203371004	Laboratory Control Sample (LCS)
1203371005	378728001(B32D69) Sample Duplicate (DUP)

The samples in this SDG were analyzed on a "dry weight" basis.

## **Preparation/Analytical Method Verification**

### **SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-046 REV# 8.

Raw data reports are processed and reviewed by the analyst using the Chemstation software package. False positives have been removed from the quantitation reports per standard operating procedures (SOP) section 23.0.

## **Calibration Information**

### **Initial Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).

### **Continuing Calibration Verification (CCV) Requirements**

All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

## **Quality Control (QC) Information**

### **Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

### **Surrogate Recoveries**

All surrogate recoveries were within the established acceptance criteria for this SDG.

### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

### **QC Sample Designation**

The matrix spike and matrix spike duplicate analysis was not performed for this SDG in this batch.

### **Duplicate Relative Percent Difference (RPD) Statement**

The RPD between the sample and its duplicate met the acceptance limits.

## **Technical Information**

### **Holding Time Specifications**

GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

## **Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP.

### **Sample Dilutions**

The samples in this SDG did not require dilutions.

### **Sample Re-extraction/Re-analysis**

Re-extractions or re-analyses were not required in this SDG.

## **Miscellaneous Information**

### **Data Exception (DER) Documentation**

Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

### **Manual Integrations**

Certain standards and samples may have required manual integration to correctly position the baseline as set in the calibration standard injections. If manual integration was performed, copies of all manual integration peak profiles are included in the raw data section of this fraction.

### **Additional Comments**

The additional comments field is used to address special issues associated with each analysis, clarify method/contractual issues pertaining to the analysis, and to list any report documents generated as a result of sample analysis or review. The additional comments were not required for this SDG.

### **System Configuration**

The Alcohols analysis was performed on the following instrument configuration:

<b>Instrument ID</b>	<b>Instrument</b>	<b>System Configuration</b>	<b>Column ID</b>	<b>Column Description</b>
FID6.I	Agilent Gas Chromatograph	Agilent 6890N GC/FID	J&W DB-WAX	30m x 0.53 mm x 1um

### **Method/Analysis Information**

**Procedure:** Analysis of Alcohol by Flame Ionization Detector  
**Analytical Method:** SW846 8015C  
**Prep Method:** SW846 8015C  
**Analytical Batch Number:** 1499167  
**Prep Batch Number:** 1499166

### **Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 8015C:

<b>Sample ID</b>	<b>Client ID</b>
378728021	B32D63
378728022	B32D66
378728023	B32DL3
378728024	B32DL4
378728025	B32F21
378728026	B32F24
378728027	B32F27
378728028	B32F30
1203371006	Method Blank (MB)

1203371007 Laboratory Control Sample (LCS)  
1203371008 378728021(B32D63) Sample Duplicate (DUP)

The samples in this SDG were analyzed on a "dry weight" basis.

### **Preparation/Analytical Method Verification**

#### **SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-046 REV# 8.

Raw data reports are processed and reviewed by the analyst using the Chemstation software package. False positives have been removed from the quantitation reports per standard operating procedures (SOP) section 23.0.

### **Calibration Information**

#### **Initial Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).

#### **Continuing Calibration Verification (CCV) Requirements**

All associated calibration verification standard(s) (ICV or CCV) met the acceptance criteria.

### **Quality Control (QC) Information**

#### **Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

#### **Surrogate Recoveries**

All surrogate recoveries were within the established acceptance criteria for this SDG.

#### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

#### **QC Sample Designation**

The matrix spike and matrix spike duplicate analysis was not performed for this SDG in this batch.

#### **Duplicate Relative Percent Difference (RPD) Statement**

The RPD between the sample and its duplicate met the acceptance limits.

### **Technical Information**

#### **Holding Time Specifications**

GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

### **Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP.

#### **Sample Dilutions**

The samples in this SDG did not require dilutions.

**Sample Re-extraction/Re-analysis**

Re-extractions or re-analyses were not required in this SDG.

**Miscellaneous Information****Data Exception (DER) Documentation**

Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

**Manual Integrations**

Certain standards and samples may have required manual integration to correctly position the baseline as set in the calibration standard injections. If manual integration was performed, copies of all manual integration peak profiles are included in the raw data section of this fraction.

**Additional Comments**

The additional comments field is used to address special issues associated with each analysis, clarify method/contractual issues pertaining to the analysis, and to list any report documents generated as a result of sample analysis or review. The additional comments were not required for this SDG.

**System Configuration**

The Alcohols analysis was performed on the following instrument configuration:

<b>Instrument ID</b>	<b>Instrument</b>	<b>System Configuration</b>	<b>Column ID</b>	<b>Column Description</b>
FID6.I	Agilent Gas Chromatograph	Agilent 6890N GC/FID	J&W DB-WAX	30m x 0.53 mm x 1um

**Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

## GEL LABORATORIES LLC

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### Qualifier Definition Report for

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL378728 GEL Work Order: 378728

#### The Qualifiers in this report are defined as follows:

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

DL Indicates that sample is diluted.

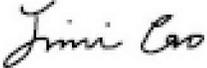
RA Indicates that sample is re-analyzed without re-extraction.

RE Indicates that sample is re-extracted.

#### Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Jimin Cao

Date: 25 AUG 2015

Title: Data Validator

# Sample Data Summary

**FID Alcohols**  
**Certificate of Analysis**  
**Sample Summary**

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SDG Number: GEL378728  
Lab Sample ID: 378728001  
  
Client ID: B32D69  
Batch ID: 1499164  
Run Date: 08/11/2015 13:32  
Prep Date: 08/10/2015 15:10  
Data File: 081115AL\F6H1120.D

Date Collected: 08/05/2015 11:29  
Date Received: 08/07/2015 09:10  
Client: CPRC001  
Method: SW846 8015C  
Inst: FID6.I  
Analyst: LXA1  
Aliquot: 1.02 g  
Column: DB-WAX

Matrix: OTHERSOLID  
%Moisture: 3  
Project: CPRC0F15048  
SOP Ref: GL-OA-E-046  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.26	mg/kg	1.26	5.05

**FID Alcohols**  
**Certificate of Analysis**  
**Sample Summary**

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SDG Number: GEL378728  
Lab Sample ID: 378728002  
  
Client ID: B32D72  
Batch ID: 1499164  
Run Date: 08/11/2015 14:00  
Prep Date: 08/10/2015 15:10  
Data File: 081115AL\F6H1122.D

Date Collected: 08/05/2015 10:43  
Date Received: 08/07/2015 09:10  
Client: CPRC001  
Method: SW846 8015C  
Inst: FID6.I  
Analyst: LXA1  
Aliquot: 1.01 g  
Column: DB-WAX

Matrix: OTHERSOLID  
%Moisture: 17.8  
Project: CPRC0F15048  
SOP Ref: GL-OA-E-046  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.51	mg/kg	1.51	6.03

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SDG Number: GEL378728  
Lab Sample ID: 378728003  
  
Client ID: B32D75  
Batch ID: 1499164  
Run Date: 08/11/2015 14:14  
Prep Date: 08/10/2015 15:10  
Data File: 081115AL\F6H1123.D

Date Collected: 08/05/2015 09:57  
Date Received: 08/07/2015 09:10  
Client: CPRC001  
Method: SW846 8015C  
Inst: FID6.I  
Analyst: LXA1  
Aliquot: 1.01 g  
Column: DB-WAX

Matrix: OTHERSOLID  
%Moisture: 3.6  
Project: CPRC0F15048  
SOP Ref: GL-OA-E-046  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.28	mg/kg	1.28	5.13

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SDG Number: GEL378728	Date Collected: 08/05/2015 10:20	Matrix: OTHERSOLID
Lab Sample ID: 378728004	Date Received: 08/07/2015 09:10	%Moisture: 8.7
Client ID: B32D78	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1499164	Method: SW846 8015C	SOP Ref: GL-OA-E-046
Run Date: 08/11/2015 14:29	Inst: FID6.I	Dilution: 1
Prep Date: 08/10/2015 15:10	Analyst: LXA1	Inj. Vol: 1 uL
Data File: 081115AL\F6H1124.D	Aliquot: 1.03 g	Final Volume: 5 mL
	Column: DB-WAX	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.33	mg/kg	1.33	5.32

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SDG Number: GEL378728  
Lab Sample ID: 378728005  
  
Client ID: B32F33  
Batch ID: 1499164  
Run Date: 08/11/2015 14:43  
Prep Date: 08/10/2015 15:10  
Data File: 081115AL\F6H1125.D

Date Collected: 08/05/2015 11:05  
Date Received: 08/07/2015 09:10  
Client: CPRC001  
Method: SW846 8015C  
Inst: FID6.I  
Analyst: LXA1  
Aliquot: 1.16 g  
Column: DB-WAX

Matrix: OTHERSOLID  
%Moisture: 7.3  
Project: CPRC0F15048  
SOP Ref: GL-OA-E-046  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.16	mg/kg	1.16	4.65

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SDG Number: GEL378728	Date Collected: 08/06/2015 09:54	Matrix: OTHERSOLID
Lab Sample ID: 378728006	Date Received: 08/07/2015 09:10	%Moisture: 2.2
Client ID: B32D18	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1499164	Method: SW846 8015C	SOP Ref: GL-OA-E-046
Run Date: 08/11/2015 15:25	Inst: FID6.I	Dilution: 1
Prep Date: 08/10/2015 15:10	Analyst: LXA1	Inj. Vol: 1 uL
Data File: 081115AL\F6H1128.D	Aliquot: 1 g	Final Volume: 5 mL
	Column: DB-WAX	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.28	mg/kg	1.28	5.11

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SDG Number: GEL378728	Date Collected: 08/06/2015 10:22	Matrix: OTHERSOLID
Lab Sample ID: 378728007	Date Received: 08/07/2015 09:10	%Moisture: 2.8
Client ID: B32D21	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1499164	Method: SW846 8015C	SOP Ref: GL-OA-E-046
Run Date: 08/11/2015 15:39	Inst: FID6.I	Dilution: 1
Prep Date: 08/10/2015 15:10	Analyst: LXA1	Inj. Vol: 1 uL
Data File: 081115AL\F6H1129.D	Aliquot: 1.06 g	Final Volume: 5 mL
	Column: DB-WAX	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.21	mg/kg	1.21	4.85

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SDG Number: GEL378728	Date Collected: 08/06/2015 09:40	Matrix: OTHERSOLID
Lab Sample ID: 378728008	Date Received: 08/07/2015 09:10	%Moisture: 2
Client ID: B32D24	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1499164	Method: SW846 8015C	SOP Ref: GL-OA-E-046
Run Date: 08/11/2015 15:53	Inst: FID6.I	Dilution: 1
Prep Date: 08/10/2015 15:10	Analyst: LXA1	Inj. Vol: 1 uL
Data File: 081115AL\F6H1130.D	Aliquot: 1.09 g	Final Volume: 5 mL
	Column: DB-WAX	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.17	mg/kg	1.17	4.68

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SDG Number:	GEL378728	Date Collected:	08/05/2015 11:48	Matrix:	OTHERSOLID
Lab Sample ID:	378728009	Date Received:	08/07/2015 09:10	%Moisture:	2.4
Client ID:	B32D27	Client:	CPRC001	Project:	CPRC0F15048
Batch ID:	1499164	Method:	SW846 8015C	SOP Ref:	GL-OA-E-046
Run Date:	08/11/2015 16:07	Inst:	FID6.I	Dilution:	1
Prep Date:	08/10/2015 15:10	Analyst:	LXA1	Inj. Vol:	1 uL
Data File:	081115AL\F6H1131.D	Aliquot:	1.06 g	Final Volume:	5 mL
		Column:	DB-WAX		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.21	mg/kg	1.21	4.83

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SDG Number: GEL378728  
Lab Sample ID: 378728010  
  
Client ID: B32D30  
Batch ID: 1499164  
Run Date: 08/11/2015 16:22  
Prep Date: 08/10/2015 15:10  
Data File: 081115AL\F6H1132.D

Date Collected: 08/06/2015 08:50  
Date Received: 08/07/2015 09:10  
Client: CPRC001  
Method: SW846 8015C  
Inst: FID6.I  
Analyst: LXA1  
Aliquot: 1.08 g  
Column: DB-WAX

Matrix: OTHERSOLID  
%Moisture: 2.6  
Project: CPRC0F15048  
SOP Ref: GL-OA-E-046  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.19	mg/kg	1.19	4.75

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SDG Number: GEL378728	Date Collected: 08/06/2015 09:05	Matrix: OTHERSOLID
Lab Sample ID: 378728011	Date Received: 08/07/2015 09:10	%Moisture: 3.5
Client ID: B32D33	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1499164	Method: SW846 8015C	SOP Ref: GL-OA-E-046
Run Date: 08/11/2015 16:36	Inst: FID6.I	Dilution: 1
Prep Date: 08/10/2015 15:10	Analyst: LXA1	Inj. Vol: 1 uL
Data File: 081115AL\F6H1133.D	Aliquot: 1.03 g	Final Volume: 5 mL
	Column: DB-WAX	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.26	mg/kg	1.26	5.03

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SDG Number: GEL378728	Date Collected: 08/06/2015 08:22	Matrix: OTHERSOLID
Lab Sample ID: 378728012	Date Received: 08/07/2015 09:10	%Moisture: 1.1
Client ID: B32D36	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1499164	Method: SW846 8015C	SOP Ref: GL-OA-E-046
Run Date: 08/11/2015 16:50	Inst: FID6.I	Dilution: 1
Prep Date: 08/10/2015 15:10	Analyst: LXA1	Inj. Vol: 1 uL
Data File: 081115AL\F6H1134.D	Aliquot: 1.01 g	Final Volume: 5 mL
	Column: DB-WAX	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.25	mg/kg	1.25	5.01

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SDG Number:	GEL378728	Date Collected:	08/06/2015 08:38	Matrix:	OTHERSOLID
Lab Sample ID:	378728013	Date Received:	08/07/2015 09:10	%Moisture:	9.9
Client ID:	B32D39	Client:	CPRC001	Project:	CPRC0F15048
Batch ID:	1499164	Method:	SW846 8015C	SOP Ref:	GL-OA-E-046
Run Date:	08/11/2015 17:04	Inst:	FID6.I	Dilution:	1
Prep Date:	08/10/2015 15:10	Analyst:	LXA1	Inj. Vol:	1 uL
Data File:	081115AL\F6H1135.D	Aliquot:	1.05 g	Final Volume:	5 mL
		Column:	DB-WAX		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.32	mg/kg	1.32	5.28

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SDG Number:	GEL378728	Date Collected:	08/06/2015 07:33	Matrix:	OTHERSOLID
Lab Sample ID:	378728014	Date Received:	08/07/2015 09:10	%Moisture:	2.9
Client ID:	B32D42	Client:	CPRC001	Project:	CPRC0F15048
Batch ID:	1499164	Method:	SW846 8015C	SOP Ref:	GL-OA-E-046
Run Date:	08/11/2015 17:18	Inst:	FID6.I	Dilution:	1
Prep Date:	08/10/2015 15:10	Analyst:	LXA1	Inj. Vol:	1 uL
Data File:	081115AL\F6H1136.D	Aliquot:	1.01 g	Final Volume:	5 mL
		Column:	DB-WAX		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.27	mg/kg	1.27	5.10

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SDG Number: GEL378728  
Lab Sample ID: 378728015  
  
Client ID: B32D45  
Batch ID: 1499164  
Run Date: 08/11/2015 17:32  
Prep Date: 08/10/2015 15:10  
Data File: 081115AL\F6H1137.D

Date Collected: 08/06/2015 08:10  
Date Received: 08/07/2015 09:10  
Client: CPRC001  
Method: SW846 8015C  
Inst: FID6.I  
Analyst: LXA1  
Aliquot: 1 g  
Column: DB-WAX

Matrix: OTHERSOLID  
%Moisture: 3.6  
Project: CPRC0F15048  
SOP Ref: GL-OA-E-046  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.30	mg/kg	1.30	5.19

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SDG Number:	GEL378728	Date Collected:	08/06/2015 07:15	Matrix:	OTHERSOLID
Lab Sample ID:	378728016	Date Received:	08/07/2015 09:10	%Moisture:	2.2
Client ID:	B32D48	Client:	CPRC001	Project:	CPRC0F15048
Batch ID:	1499164	Method:	SW846 8015C	SOP Ref:	GL-OA-E-046
Run Date:	08/11/2015 18:14	Inst:	FID6.I	Dilution:	1
Prep Date:	08/10/2015 15:10	Analyst:	LXA1	Inj. Vol:	1 uL
Data File:	081115AL\F6H1140.D	Aliquot:	1.04 g	Final Volume:	5 mL
		Column:	DB-WAX		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.23	mg/kg	1.23	4.92

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SDG Number: GEL378728  
Lab Sample ID: 378728017  
  
Client ID: B32D51  
Batch ID: 1499164  
Run Date: 08/11/2015 18:28  
Prep Date: 08/10/2015 15:10  
Data File: 081115AL\F6H1141.D

Date Collected: 08/05/2015 13:47  
Date Received: 08/07/2015 09:10  
Client: CPRC001  
Method: SW846 8015C  
Inst: FID6.I  
Analyst: LXA1  
Aliquot: 1.01 g  
Column: DB-WAX

Matrix: OTHERSOLID  
%Moisture: 18.5  
Project: CPRC0F15048  
SOP Ref: GL-OA-E-046  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.52	mg/kg	1.52	6.07

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SDG Number: GEL378728	Date Collected: 08/05/2015 13:22	Matrix: OTHERSOLID
Lab Sample ID: 378728018	Date Received: 08/07/2015 09:10	%Moisture: 4.5
Client ID: B32D54	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1499164	Method: SW846 8015C	SOP Ref: GL-OA-E-046
Run Date: 08/11/2015 18:43	Inst: FID6.I	Dilution: 1
Prep Date: 08/10/2015 15:10	Analyst: LXA1	Inj. Vol: 1 uL
Data File: 081115AL\F6H1142.D	Aliquot: 1.01 g	Final Volume: 5 mL
	Column: DB-WAX	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.30	mg/kg	1.30	5.18

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SDG Number: GEL378728	Date Collected: 08/05/2015 13:22	Matrix: OTHERSOLID
Lab Sample ID: 378728019	Date Received: 08/07/2015 09:10	%Moisture: 4.6
Client ID: B32D57	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1499164	Method: SW846 8015C	SOP Ref: GL-OA-E-046
Run Date: 08/11/2015 18:57	Inst: FID6.I	Dilution: 1
Prep Date: 08/10/2015 15:10	Analyst: LXA1	Inj. Vol: 1 uL
Data File: 081115AL\F6H1143.D	Aliquot: 1.01 g	Final Volume: 5 mL
	Column: DB-WAX	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.30	mg/kg	1.30	5.19

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SDG Number: GEL378728	Date Collected: 08/05/2015 12:51	Matrix: OTHERSOLID
Lab Sample ID: 378728020	Date Received: 08/07/2015 09:10	%Moisture: 3.3
Client ID: B32D60	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1499164	Method: SW846 8015C	SOP Ref: GL-OA-E-046
Run Date: 08/11/2015 19:11	Inst: FID6.I	Dilution: 1
Prep Date: 08/10/2015 15:10	Analyst: LXA1	Inj. Vol: 1 uL
Data File: 081115AL\F6H1144.D	Aliquot: 1.07 g	Final Volume: 5 mL
	Column: DB-WAX	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.21	mg/kg	1.21	4.83

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SDG Number:	GEL378728	Date Collected:	08/05/2015 12:35	Matrix:	OTHERSOLID
Lab Sample ID:	378728021	Date Received:	08/07/2015 09:10	%Moisture:	1.2
Client ID:	B32D63	Client:	CPRC001	Project:	CPRC0F15048
Batch ID:	1499167	Method:	SW846 8015C	SOP Ref:	GL-OA-E-046
Run Date:	08/11/2015 19:53	Inst:	FID6.I	Dilution:	1
Prep Date:	08/10/2015 15:15	Analyst:	LXA1	Inj. Vol:	1 uL
Data File:	081115AL\F6H1147.D	Aliquot:	1.07 g	Final Volume:	5 mL
		Column:	DB-WAX		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.18	mg/kg	1.18	4.73

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SDG Number:	GEL378728	Date Collected:	08/05/2015 12:23	Matrix:	OTHERSOLID
Lab Sample ID:	378728022	Date Received:	08/07/2015 09:10	%Moisture:	8.9
Client ID:	B32D66	Client:	CPRC001	Project:	CPRC0F15048
Batch ID:	1499167	Method:	SW846 8015C	SOP Ref:	GL-OA-E-046
Run Date:	08/11/2015 20:22	Inst:	FID6.I	Dilution:	1
Prep Date:	08/10/2015 15:15	Analyst:	LXA1	Inj. Vol:	1 uL
Data File:	081115AL\F6H1149.D	Aliquot:	1.02 g	Final Volume:	5 mL
		Column:	DB-WAX		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.35	mg/kg	1.35	5.38

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SDG Number:	GEL378728	Date Collected:	08/06/2015 10:33	Matrix:	OTHERSOLID
Lab Sample ID:	378728023	Date Received:	08/07/2015 09:10	%Moisture:	2.3
Client ID:	B32DL3	Client:	CPRC001	Project:	CPRC0F15048
Batch ID:	1499167	Method:	SW846 8015C	SOP Ref:	GL-OA-E-046
Run Date:	08/11/2015 21:04	Inst:	FID6.I	Dilution:	1
Prep Date:	08/10/2015 15:15	Analyst:	LXA1	Inj. Vol:	1 uL
Data File:	081115AL\F6H1152.D	Aliquot:	1.04 g	Final Volume:	5 mL
		Column:	DB-WAX		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.23	mg/kg	1.23	4.92

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SDG Number: GEL378728  
Lab Sample ID: 378728024  
  
Client ID: B32DL4  
Batch ID: 1499167  
Run Date: 08/11/2015 21:18  
Prep Date: 08/10/2015 15:15  
Data File: 081115AL\F6H1153.D

Date Collected: 08/06/2015 10:45  
Date Received: 08/07/2015 09:10  
Client: CPRC001  
Method: SW846 8015C  
Inst: FID6.I  
Analyst: LXA1  
Aliquot: 1.01 g  
Column: DB-WAX

Matrix: OTHERSOLID  
%Moisture: 14.2  
Project: CPRC0F15048  
SOP Ref: GL-OA-E-046  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.44	mg/kg	1.44	5.77

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SDG Number:	GEL378728	Date Collected:	08/06/2015 10:06	Matrix:	OTHERSOLID
Lab Sample ID:	378728025	Date Received:	08/07/2015 09:10	%Moisture:	3.7
Client ID:	B32F21	Client:	CPRC001	Project:	CPRC0F15048
Batch ID:	1499167	Method:	SW846 8015C	SOP Ref:	GL-OA-E-046
Run Date:	08/11/2015 21:33	Inst:	FID6.I	Dilution:	1
Prep Date:	08/10/2015 15:15	Analyst:	LXA1	Inj. Vol:	1 uL
Data File:	081115AL\F6H1154.D	Aliquot:	1.06 g	Final Volume:	5 mL
		Column:	DB-WAX		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.23	mg/kg	1.23	4.90

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SDG Number:	GEL378728	Date Collected:	08/06/2015 09:28	Matrix:	OTHERSOLID
Lab Sample ID:	378728026	Date Received:	08/07/2015 09:10	%Moisture:	3.2
Client ID:	B32F24	Client:	CPRC001	Project:	CPRC0F15048
Batch ID:	1499167	Method:	SW846 8015C	SOP Ref:	GL-OA-E-046
Run Date:	08/11/2015 21:47	Inst:	FID6.I	Dilution:	1
Prep Date:	08/10/2015 15:15	Analyst:	LXA1	Inj. Vol:	1 uL
Data File:	081115AL\F6H1155.D	Aliquot:	1.04 g	Final Volume:	5 mL
		Column:	DB-WAX		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.24	mg/kg	1.24	4.97

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SDG Number: GEL378728  
Lab Sample ID: 378728027  
  
Client ID: B32F27  
Batch ID: 1499167  
Run Date: 08/11/2015 22:01  
Prep Date: 08/10/2015 15:15  
Data File: 081115AL\F6H1156.D

Date Collected: 08/06/2015 07:50  
Date Received: 08/07/2015 09:10  
Client: CPRC001  
Method: SW846 8015C  
Inst: FID6.I  
Analyst: LXA1  
Aliquot: 1 g  
Column: DB-WAX

Matrix: OTHERSOLID  
%Moisture: 2.8  
Project: CPRC0F15048  
SOP Ref: GL-OA-E-046  
Dilution: 1  
Inj. Vol: 1 uL  
Final Volume: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.29	mg/kg	1.29	5.14

**FID Alcohols**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

SDG Number:	GEL378728	Date Collected:	08/05/2015 13:06	Matrix:	OTHERSOLID
Lab Sample ID:	378728028	Date Received:	08/07/2015 09:10	%Moisture:	3.5
Client ID:	B32F30	Client:	CPRC001	Project:	CPRC0F15048
Batch ID:	1499167	Method:	SW846 8015C	SOP Ref:	GL-OA-E-046
Run Date:	08/11/2015 22:15	Inst:	FID6.I	Dilution:	1
Prep Date:	08/10/2015 15:15	Analyst:	LXA1	Inj. Vol:	1 uL
Data File:	081115AL\F6H1157.D	Aliquot:	1 g	Final Volume:	5 mL
		Column:	DB-WAX		

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
67-56-1	Methanol	U	1.30	mg/kg	1.30	5.18

# **Quality Control Summary**

# GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

## QC Summary

Report Date: August 25, 2015

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**CH2M Hill Plateau Remediation Company**

**MSIN R3-50 CHPRC**

**PO Box 1600**

**Richland, Washington**

**Mr. Scot Fitzgerald**

**Contact:**

**Workorder: 378728**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Alcohols</b>											
Batch	1499164										
QC1203371005	378728001	DUP									
Methanol		U	1.26	U	1.25	mg/kg	N/A		LXA1	08/11/15	13:46
**1,4-Dioxane-d8	250		229		225	mg/kg		90	(33%-122%)		
QC1203371004	LCS										
Methanol	50.0				50.5	mg/kg		101	(65%-112%)		08/11/15 13:18
**1,4-Dioxane-d8	50.0				48.7	mg/kg		97	(33%-122%)		
QC1203371003	MB										
Methanol			U		0.250	mg/kg					08/11/15 13:04
**1,4-Dioxane-d8	50.0				49.5	mg/kg		99	(33%-122%)		
Batch	1499167										
QC1203371008	378728021	DUP									
Methanol		U	1.18	U	1.18	mg/kg	N/A		LXA1	08/11/15	20:07
**1,4-Dioxane-d8	236		219		223	mg/kg		94	(33%-122%)		
QC1203371007	LCS										
Methanol	50.0				47.6	mg/kg		95	(65%-112%)		08/11/15 19:39
**1,4-Dioxane-d8	50.0				47.0	mg/kg		94	(33%-122%)		
QC1203371006	MB										
Methanol			U		0.250	mg/kg					08/11/15 19:25
**1,4-Dioxane-d8	50.0				48.3	mg/kg		97	(33%-122%)		

**Notes:**

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument

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## QC Summary

Workorder: 378728

Page 2 of 2

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
J										
N										
P										
T										
U										
X										
Y										
Z										
o										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

FID Alcohols  
Surrogate Recovery Report

SDG Number: GEL378728

Matrix Type: SOLID

Sample ID	Client ID	1,4-Dio %REC
1203371003	MB for batch 1499162	99
1203371004	LCS for batch 1499162	97
378728001	B32D69	91
1203371005	B32D69DUP	90
378728002	B32D72	91
378728003	B32D75	92
378728004	B32D78	93
378728005	B32F33	91
378728006	B32D18	98
378728007	B32D21	98
378728008	B32D24	99
378728009	B32D27	97
378728010	B32D30	96
378728011	B32D33	98
378728012	B32D36	99
378728013	B32D39	98
378728014	B32D42	97
378728015	B32D45	94
378728016	B32D48	94
378728017	B32D51	90
378728018	B32D54	99
378728019	B32D57	93
378728020	B32D60	97
1203371006	MB for batch 1499166	97

1,4-Diox = 1,4-Dioxane-d8 (33%-122%)

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

FID Alcohols  
Surrogate Recovery Report

SDG Number: GEL378728

Matrix Type: SOLID

---

Sample ID	Client ID	1,4-Dio %REC
1203371007	LCS for batch 1499166	94
378728021	B32D63	93
1203371008	B32D63DUP	94
378728022	B32D66	98
378728023	B32DL3	98
378728024	B32DL4	96
378728025	B32F21	97
378728026	B32F24	97
378728027	B32F27	117
378728028	B32F30	97

**Surrogate**

1,4-Diox = 1,4-Dioxane-d8

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

**Acceptance Limits**

(33%-122%)

# **PCB Analysis**

# Case Narrative

**GC Semivolatile PCB  
Technical Case Narrative  
CH2MHill Plateau Remediation Company (CPRC)  
SDG #: GEL378728  
Work Order #: 378728**

**Method/Analysis Information**

**Procedure:** Analysis of Polychlorinated Biphenyls by ECD  
Analytical Method: SW846 3541/8082A  
Prep Method: SW846 3541  
Analytical Batch Number: 1500586  
Prep Batch Number: 1500576

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 3541/8082A:

<b>Sample ID</b>	<b>Client ID</b>
378728021	B32D63
378728022	B32D66
378728023	B32DL3
378728024	B32DL4
378728025	B32F21
378728026	B32F24
378728027	B32F27
378728028	B32F30
1203374755	Method Blank (MB)
1203374756	Laboratory Control Sample (LCS)
1203374757	378728021(B32D63) Matrix Spike (MS)
1203374758	378728021(B32D63) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

**Preparation/Analytical Method Verification**

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-040 REV# 20.

Raw data reports are processed and reviewed by the analyst using the Chemstation software package. False positives have been removed from the quantitation reports per standard operating procedures (SOP).

### **Calibration Information**

A complete list of the initial calibration data files are shown in the Calibration History report located in the Standard Data section of the data package.

### **Initial Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).

### **Continuing Calibration Verification (CCV) Requirements**

All associated calibration verification standards (ICV or CCV) met the acceptance criteria. All analytes were within the established retention time windows for this method.

### **Quality Control (QC) Information**

#### **Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

#### **Surrogate Recoveries**

All surrogate recoveries were within the established acceptance criteria for the samples in this SDG in this batch.

#### **Laboratory Control Sample (LCS/LCSD) Recovery**

The LCS/LCSD spike recoveries met the acceptance limits.

#### **QC Sample Designation**

Sample 378728021 (B32D63) was selected for the matrix spike and matrix spike duplicate analysis.

#### **Matrix Spike (MS/MSD) Recovery Statement**

The MS/MSD recoveries were within the established acceptance limits.

#### **MS/MSD Relative Percent Difference (RPD) Statement**

The RPD between the MS and MSD met the acceptance limits.

### **Technical Information**

#### **Holding Time Specifications**

GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

#### **Preparation/Analytical Method Verification**

All samples and QC in this batch were cleaned using alumina in order to remove oil and other high molecular weight interferences. All reported analyte detections in client and quality control samples were within the established retention time windows. Reported analyte concentrations were confirmed on dissimilar columns.

#### **Sample Dilutions**

The samples in this SDG in this batch did not require dilutions.

#### **Sample Re-extraction/Re-analysis**

Re-extractions or re-analyses were not required in this SDG in this batch.

### **Miscellaneous Information**

### Electronic Package Comment

The following package was generated using an electronic data processing program referred to as "virtual packaging". In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from "traditional" packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

### Data Exception (DER) Documentation

Data exception report (DER) is generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A DER was not required for the samples in this SDG in this batch.

### Manual Integrations

Certain standards and samples may have required manual integration to correctly position the baseline as set in the calibration standard injections. If manual integration was performed, copies of all manual integration peak profiles are included in the raw data section of this PCB fraction.

### Additional Comments

The additional comments field is used to address special issues associated with each analysis, clarify method/contractual issues pertaining to the analysis, and to list any report documents generated as a result of sample analysis or review. The following additional comments were required:

### System Configuration

The Semi-Volatiles-PCB analysis was performed on the following instrument configuration:

<b>Instrument ID</b>	<b>Instrument</b>	<b>System Configuration</b>	<b>Column ID</b>	<b>Column Description</b>
ECD9A.I_1	Agilent 7890A Gas Chromatograph/Dual ECD w/ 7693 Autosampler	7890A GC/ECD	Restek Rtx-CLPest 1	30m x 0.25mm, 0.25um
ECD9A.I_2	Agilent 7890A Gas Chromatograph/Dual ECD w/ 7693 Autosampler	7890A GC/ECD	Restek Rtx-CLPest 2	30m x 0.25mm, 0.20um

### Method/Analysis Information

<b>Procedure:</b>	<b>Analysis of Polychlorinated Biphenyls by ECD</b>
Analytical Method:	SW846 3541/8082A
Prep Method:	SW846 3541
Analytical Batch Number:	1501285
Prep Batch Number:	1501284

## Sample Analysis

The following samples were analyzed using the analytical protocol as established in SW846 3541/8082A:

<b>Sample ID</b>	<b>Client ID</b>
378728001	B32D69
378728002	B32D72
378728003	B32D75
378728004	B32D78
378728005	B32F33
378728006	B32D18
378728007	B32D21
378728008	B32D24
378728009	B32D27
378728010	B32D30
378728011	B32D33
378728012	B32D36
378728013	B32D39
378728014	B32D42
378728015	B32D45
378728016	B32D48
378728017	B32D51
378728018	B32D54
378728019	B32D57
378728020	B32D60
1203376571	Method Blank (MB)
1203376572	Laboratory Control Sample (LCS)
1203376573	378728001(B32D69) Matrix Spike (MS)
1203376574	378728001(B32D69) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on a "dry weight" basis.

## Preparation/Analytical Method Verification

### **SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-040 REV# 20.

Raw data reports are processed and reviewed by the analyst using the Chemstation software package. False positives have been removed from the quantitation reports per standard operating procedures (SOP).

### **Calibration Information**

A complete list of the initial calibration data files are shown in the Calibration History report located in the Standard Data section of the data package.

### **Initial Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).

### **Continuing Calibration Verification (CCV) Requirements**

One or more of the five quantified peaks did not meet the acceptance criteria in the CCV standards analyzed for this SDG; however, the average concentration of the five quantified peaks met the acceptance criteria.

## **Quality Control (QC) Information**

### **Method Blank (MB) Statement**

The MB analyzed with this SDG met the acceptance criteria.

### **Surrogate Recoveries**

All surrogate recoveries were within the established acceptance criteria for the samples in this SDG in this batch.

### **Laboratory Control Sample (LCS/LCSD) Recovery**

The LCS/LCSD spike recoveries met the acceptance limits.

### **QC Sample Designation**

Sample 378728001 (B32D69) was selected for the matrix spike and matrix spike duplicate analysis.

### **Matrix Spike (MS/MSD) Recovery Statement**

The MS/MSD recoveries were within the established acceptance limits.

### **MS/MSD Relative Percent Difference (RPD) Statement**

The RPD between the MS and MSD met the acceptance limits.

## **Technical Information**

### **Holding Time Specifications**

GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection of sample receipt. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

### **Preparation/Analytical Method Verification**

All samples and QC in this batch were cleaned using alumina in order to remove oil and other high molecular weight interferences. All samples and QC in this batch were cleaned with activated copper in order to remove sulfur. All reported analyte detections in client and quality control samples were within the established retention time windows. Reported analyte concentrations were confirmed on dissimilar columns.

### **Sample Dilutions**

The samples in this SDG in this batch did not require dilutions.

### **Sample Re-extraction/Re-analysis**

Re-extractions or re-analyses were not required in this SDG in this batch.

## **Miscellaneous Information**

### **Electronic Package Comment**

The following package was generated using an electronic data processing program referred to as "virtual packaging". In an effort to increase quality and efficiency, the laboratory is developing systems to eventually generate all data packages electronically. The following change from "traditional" packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

### **Data Exception (DER) Documentation**

Data exception report (DER) is generated to document procedural anomalies that may deviate from referenced

SOP or contractual documents. A DER was not required for the samples in this SDG in this batch.

### **Manual Integrations**

Certain standards and samples may have required manual integration to correctly position the baseline as set in the calibration standard injections. If manual integration was performed, copies of all manual integration peak profiles are included in the raw data section of this PCB fraction.

### **Additional Comments**

The higher results from either column have been chosen and reported in the data package for the client samples, MB and LCS. The data reported for the MS and MSD are from the same analytical column as the parent sample.

Due to software issue, the surrogate recovery range was not indicated or possibly indicated incorrectly in Quantitation Report. Please see Surrogate Recovery Report for correct surrogate acceptance limits.

Aroclors quantitated on the raw data report by ChemStation data system do not necessarily represent positive Aroclor identification. In order for positive identification to be made, the Aroclor must match in pattern and retention time; as well as quantitate relatively close between the primary and confirmation columns, as specified in SW846 method 8000. When these conditions are not met, the Aroclor is reported as a non-detect on the data report.

### **System Configuration**

The Semi-Volatiles-PCB analysis was performed on the following instrument configuration:

<b>Instrument ID</b>	<b>Instrument</b>	<b>System Configuration</b>	<b>Column ID</b>	<b>Column Description</b>
ECD8A.I_1	Agilent 6890 Gas Chromatograph/Dual ECD w/ 7683 Autosampler	HP6890 Series ECD	Rtx-CLP I	30m x 0.25mm, 0.25um (Rtx-CLPesticide I)
ECD8A.I_2	Agilent 6890 Gas Chromatograph/Dual ECD w/ 7683 Autosampler	HP6890 Series ECD	Rtx-CLP II	30m x 0.25mm, 0.20um (Rtx-CLPesticide II)

### **Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

## GEL LABORATORIES LLC

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### Qualifier Definition Report for

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL378728 GEL Work Order: 378728

#### The Qualifiers in this report are defined as follows:

J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

DL Indicates that sample is diluted.

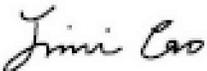
RA Indicates that sample is re-analyzed without re-extraction.

RE Indicates that sample is re-extracted.

#### Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Jimin Cao

Date: 28 AUG 2015

Title: Data Validator

# Sample Data Summary

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

SDG Number: GEL378728  
 Lab Sample ID: 378728001  
 Client ID: B32D69  
 Batch ID: 1501285  
 Run Date: 08/22/2015 13:45  
 Prep Date: 08/21/2015 09:50  
 Data File: 082215.B\8h2222.D  
 082215.B\8h2222.D

Date Collected: 08/05/2015 11:29  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD8A.I  
 Analyst: JXM  
 Aliquot: 30 g  
 Column: 1 RTX-CLPEST1  
 2 RTX-CLPEST2

Matrix: OTHERSOLID  
 %Moisture: 3  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.14	ug/kg	1.14	3.44	1
11104-28-2	Aroclor-1221	U	1.14	ug/kg	1.14	3.44	1
11141-16-5	Aroclor-1232	U	1.14	ug/kg	1.14	3.44	1
53469-21-9	Aroclor-1242	U	1.14	ug/kg	1.14	3.44	1
12672-29-6	Aroclor-1248	U	1.14	ug/kg	1.14	3.44	1
11097-69-1	Aroclor-1254	U	1.14	ug/kg	1.14	3.44	1
11096-82-5	Aroclor-1260	U	1.14	ug/kg	1.14	3.44	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/05/2015 10:43	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728002	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 17.8
<b>Client ID:</b> B32D72	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1501285	<b>Method:</b> SW846 3541/8082A	<b>SOP Ref:</b> GL-OA-E-040
<b>Run Date:</b> 08/22/2015 14:22	<b>Inst:</b> ECD8A.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/21/2015 09:50	<b>Analyst:</b> JXM	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> 082215.B\8h2225.D	<b>Aliquot:</b> 30.02 g	<b>Final Volume:</b> 1 mL
	<b>Column:</b> 1 RTX-CLPEST1	
	2 RTX-CLPEST2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.35	ug/kg	1.35	4.05	1
11104-28-2	Aroclor-1221	U	1.35	ug/kg	1.35	4.05	1
11141-16-5	Aroclor-1232	U	1.35	ug/kg	1.35	4.05	1
53469-21-9	Aroclor-1242	U	1.35	ug/kg	1.35	4.05	1
12672-29-6	Aroclor-1248	U	1.35	ug/kg	1.35	4.05	1
11097-69-1	Aroclor-1254	U	1.35	ug/kg	1.35	4.05	1
11096-82-5	Aroclor-1260	U	1.35	ug/kg	1.35	4.05	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/05/2015 09:57	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728003	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 3.6
<b>Client ID:</b> B32D75	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1501285	<b>Method:</b> SW846 3541/8082A	<b>SOP Ref:</b> GL-OA-E-040
<b>Run Date:</b> 08/22/2015 14:34	<b>Inst:</b> ECD8A.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/21/2015 09:50	<b>Analyst:</b> JXM	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> 082215.B\8h2226.D	<b>Aliquot:</b> 30.05 g	<b>Final Volume:</b> 1 mL
082215.B\8h2226.D	<b>Column:</b> 1 RTX-CLPEST1	
	2 RTX-CLPEST2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.15	ug/kg	1.15	3.45	1
11104-28-2	Aroclor-1221	U	1.15	ug/kg	1.15	3.45	1
11141-16-5	Aroclor-1232	U	1.15	ug/kg	1.15	3.45	1
53469-21-9	Aroclor-1242	U	1.15	ug/kg	1.15	3.45	1
12672-29-6	Aroclor-1248	U	1.15	ug/kg	1.15	3.45	1
11097-69-1	Aroclor-1254	U	1.15	ug/kg	1.15	3.45	1
11096-82-5	Aroclor-1260	U	1.15	ug/kg	1.15	3.45	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/05/2015 10:20	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728004	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 8.7
<b>Client ID:</b> B32D78	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1501285	<b>Method:</b> SW846 3541/8082A	<b>SOP Ref:</b> GL-OA-E-040
<b>Run Date:</b> 08/22/2015 14:47	<b>Inst:</b> ECD8A.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/21/2015 09:50	<b>Analyst:</b> JXM	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> 082215.B\8h2227.D	<b>Aliquot:</b> 30.03 g	<b>Final Volume:</b> 1 mL
	<b>Column:</b> 1 RTX-CLPEST1	
	2 RTX-CLPEST2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.21	ug/kg	1.21	3.65	1
11104-28-2	Aroclor-1221	U	1.21	ug/kg	1.21	3.65	1
11141-16-5	Aroclor-1232	U	1.21	ug/kg	1.21	3.65	1
53469-21-9	Aroclor-1242	U	1.21	ug/kg	1.21	3.65	1
12672-29-6	Aroclor-1248	U	1.21	ug/kg	1.21	3.65	1
11097-69-1	Aroclor-1254	U	1.21	ug/kg	1.21	3.65	1
11096-82-5	Aroclor-1260	U	1.21	ug/kg	1.21	3.65	1

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<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/05/2015 11:05	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728005	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 7.3
<b>Client ID:</b> B32F33	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1501285	<b>Method:</b> SW846 3541/8082A	<b>SOP Ref:</b> GL-OA-E-040
<b>Run Date:</b> 08/22/2015 14:59	<b>Inst:</b> ECD8A.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/21/2015 09:50	<b>Analyst:</b> JXM	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> 082215.B\8h2228.D	<b>Aliquot:</b> 30.01 g	<b>Final Volume:</b> 1 mL
082215.B\8h2228.D	<b>Column:</b> 1 RTX-CLPEST1	
	2 RTX-CLPEST2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.20	ug/kg	1.20	3.59	1
11104-28-2	Aroclor-1221	U	1.20	ug/kg	1.20	3.59	1
11141-16-5	Aroclor-1232	U	1.20	ug/kg	1.20	3.59	1
53469-21-9	Aroclor-1242	U	1.20	ug/kg	1.20	3.59	1
12672-29-6	Aroclor-1248	U	1.20	ug/kg	1.20	3.59	1
11097-69-1	Aroclor-1254	U	1.20	ug/kg	1.20	3.59	1
11096-82-5	Aroclor-1260	U	1.20	ug/kg	1.20	3.59	1

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SDG Number: GEL378728  
 Lab Sample ID: 378728006  
 Client ID: B32D18  
 Batch ID: 1501285  
 Run Date: 08/22/2015 15:11  
 Prep Date: 08/21/2015 09:50  
 Data File: 082215.B\8h2229.D  
 082215.B\8h2229.D

Date Collected: 08/06/2015 09:54  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD8A.I  
 Analyst: JXM  
 Aliquot: 30.05 g  
 Column: 1 RTX-CLPEST1  
 2 RTX-CLPEST2

Matrix: OTHERSOLID  
 %Moisture: 2.2  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.13	ug/kg	1.13	3.40	1
11104-28-2	Aroclor-1221	U	1.13	ug/kg	1.13	3.40	1
11141-16-5	Aroclor-1232	U	1.13	ug/kg	1.13	3.40	1
53469-21-9	Aroclor-1242	U	1.13	ug/kg	1.13	3.40	1
12672-29-6	Aroclor-1248	U	1.13	ug/kg	1.13	3.40	1
11097-69-1	Aroclor-1254	U	1.13	ug/kg	1.13	3.40	1
11096-82-5	Aroclor-1260	U	1.13	ug/kg	1.13	3.40	1

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<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/06/2015 10:22	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728007	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 2.8
<b>Client ID:</b> B32D21	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1501285	<b>Method:</b> SW846 3541/8082A	<b>SOP Ref:</b> GL-OA-E-040
<b>Run Date:</b> 08/22/2015 15:48	<b>Inst:</b> ECD8A.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/21/2015 09:50	<b>Analyst:</b> JXM	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> 082215.B\8h2232.D	<b>Aliquot:</b> 30.03 g	<b>Final Volume:</b> 1 mL
082215.B\8h2232.D	<b>Column:</b> 1 RTX-CLPEST1	
	2 RTX-CLPEST2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.14	ug/kg	1.14	3.43	1
11104-28-2	Aroclor-1221	U	1.14	ug/kg	1.14	3.43	1
11141-16-5	Aroclor-1232	U	1.14	ug/kg	1.14	3.43	1
53469-21-9	Aroclor-1242	U	1.14	ug/kg	1.14	3.43	1
12672-29-6	Aroclor-1248	U	1.14	ug/kg	1.14	3.43	1
11097-69-1	Aroclor-1254	U	1.14	ug/kg	1.14	3.43	1
11096-82-5	Aroclor-1260	U	1.14	ug/kg	1.14	3.43	1

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SDG Number: GEL378728  
 Lab Sample ID: 378728008  
 Client ID: B32D24  
 Batch ID: 1501285  
 Run Date: 08/22/2015 16:01  
 Prep Date: 08/21/2015 09:50  
 Data File: 082215.B\8h2233.D  
 082215.B\8h2233.D

Date Collected: 08/06/2015 09:40  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD8A.I  
 Analyst: JXM  
 Aliquot: 30.02 g  
 Column: 1 RTX-CLPEST1  
 2 RTX-CLPEST2

Matrix: OTHERSOLID  
 %Moisture: 2  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.13	ug/kg	1.13	3.40	1
11104-28-2	Aroclor-1221	U	1.13	ug/kg	1.13	3.40	1
11141-16-5	Aroclor-1232	U	1.13	ug/kg	1.13	3.40	1
53469-21-9	Aroclor-1242	U	1.13	ug/kg	1.13	3.40	1
12672-29-6	Aroclor-1248	U	1.13	ug/kg	1.13	3.40	1
11097-69-1	Aroclor-1254	U	1.13	ug/kg	1.13	3.40	1
11096-82-5	Aroclor-1260	U	1.13	ug/kg	1.13	3.40	1

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SDG Number: GEL378728  
 Lab Sample ID: 378728009  
 Client ID: B32D27  
 Batch ID: 1501285  
 Run Date: 08/22/2015 16:13  
 Prep Date: 08/21/2015 09:50  
 Data File: 082215.B\8h2234.D  
 082215.B\8h2234.D

Date Collected: 08/05/2015 11:48  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD8A.I  
 Analyst: JXM  
 Aliquot: 30.03 g  
 Column: 1 RTX-CLPEST1  
 2 RTX-CLPEST2

Matrix: OTHERSOLID  
 %Moisture: 2.4  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.14	ug/kg	1.14	3.41	1
11104-28-2	Aroclor-1221	U	1.14	ug/kg	1.14	3.41	1
11141-16-5	Aroclor-1232	U	1.14	ug/kg	1.14	3.41	1
53469-21-9	Aroclor-1242	U	1.14	ug/kg	1.14	3.41	1
12672-29-6	Aroclor-1248	U	1.14	ug/kg	1.14	3.41	1
11097-69-1	Aroclor-1254	U	1.14	ug/kg	1.14	3.41	1
11096-82-5	Aroclor-1260	U	1.14	ug/kg	1.14	3.41	1

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<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/06/2015 08:50	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728010	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 2.6
<b>Client ID:</b> B32D30	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1501285	<b>Method:</b> SW846 3541/8082A	<b>SOP Ref:</b> GL-OA-E-040
<b>Run Date:</b> 08/22/2015 16:25	<b>Inst:</b> ECD8A.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/21/2015 09:50	<b>Analyst:</b> JXM	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> 082215.B\8h2235.D	<b>Aliquot:</b> 30.04 g	<b>Final Volume:</b> 1 mL
	<b>Column:</b> 1 RTX-CLPEST1	
	2 RTX-CLPEST2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.14	ug/kg	1.14	3.42	1
11104-28-2	Aroclor-1221	U	1.14	ug/kg	1.14	3.42	1
11141-16-5	Aroclor-1232	U	1.14	ug/kg	1.14	3.42	1
53469-21-9	Aroclor-1242	U	1.14	ug/kg	1.14	3.42	1
12672-29-6	Aroclor-1248	U	1.14	ug/kg	1.14	3.42	1
11097-69-1	Aroclor-1254	U	1.14	ug/kg	1.14	3.42	1
11096-82-5	Aroclor-1260	U	1.14	ug/kg	1.14	3.42	1

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SDG Number: GEL378728  
 Lab Sample ID: 378728011  
 Client ID: B32D33  
 Batch ID: 1501285  
 Run Date: 08/22/2015 16:38  
 Prep Date: 08/21/2015 09:50  
 Data File: 082215.B\8h2236.D  
 082215.B\8h2236.D

Date Collected: 08/06/2015 09:05  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD8A.I  
 Analyst: JXM  
 Aliquot: 30.02 g  
 Column: 1 RTX-CLPEST1  
 2 RTX-CLPEST2

Matrix: OTHERSOLID  
 %Moisture: 3.5  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.15	ug/kg	1.15	3.45	1
11104-28-2	Aroclor-1221	U	1.15	ug/kg	1.15	3.45	1
11141-16-5	Aroclor-1232	U	1.15	ug/kg	1.15	3.45	1
53469-21-9	Aroclor-1242	U	1.15	ug/kg	1.15	3.45	1
12672-29-6	Aroclor-1248	U	1.15	ug/kg	1.15	3.45	1
11097-69-1	Aroclor-1254	U	1.15	ug/kg	1.15	3.45	1
11096-82-5	Aroclor-1260	U	1.15	ug/kg	1.15	3.45	1

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SDG Number: GEL378728  
 Lab Sample ID: 378728012  
 Client ID: B32D36  
 Batch ID: 1501285  
 Run Date: 08/22/2015 16:50  
 Prep Date: 08/21/2015 09:50  
 Data File: 082215.B\8h2237.D  
 082215.B\8h2237.D

Date Collected: 08/06/2015 08:22  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD8A.I  
 Analyst: JXM  
 Aliquot: 30.01 g  
 Column: 1 RTX-CLPEST1  
 2 RTX-CLPEST2

Matrix: OTHERSOLID  
 %Moisture: 1.1  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.12	ug/kg	1.12	3.37	1
11104-28-2	Aroclor-1221	U	1.12	ug/kg	1.12	3.37	1
11141-16-5	Aroclor-1232	U	1.12	ug/kg	1.12	3.37	1
53469-21-9	Aroclor-1242	U	1.12	ug/kg	1.12	3.37	1
12672-29-6	Aroclor-1248	U	1.12	ug/kg	1.12	3.37	1
11097-69-1	Aroclor-1254	U	1.12	ug/kg	1.12	3.37	1
11096-82-5	Aroclor-1260	U	1.12	ug/kg	1.12	3.37	1

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SDG Number: GEL378728  
 Lab Sample ID: 378728013  
 Client ID: B32D39  
 Batch ID: 1501285  
 Run Date: 08/22/2015 17:02  
 Prep Date: 08/21/2015 09:50  
 Data File: 082215.B\8h2238.D  
 082215.B\8h2238.D

Date Collected: 08/06/2015 08:38  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD8A.I  
 Analyst: JXM  
 Aliquot: 30.05 g  
 Column: 1 RTX-CLPEST1  
 2 RTX-CLPEST2

Matrix: OTHERSOLID  
 %Moisture: 9.9  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.23	ug/kg	1.23	3.69	1
11104-28-2	Aroclor-1221	U	1.23	ug/kg	1.23	3.69	1
11141-16-5	Aroclor-1232	U	1.23	ug/kg	1.23	3.69	1
53469-21-9	Aroclor-1242	U	1.23	ug/kg	1.23	3.69	1
12672-29-6	Aroclor-1248	U	1.23	ug/kg	1.23	3.69	1
11097-69-1	Aroclor-1254	U	1.23	ug/kg	1.23	3.69	1
11096-82-5	Aroclor-1260	U	1.23	ug/kg	1.23	3.69	1

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SDG Number: GEL378728  
 Lab Sample ID: 378728014  
 Client ID: B32D42  
 Batch ID: 1501285  
 Run Date: 08/22/2015 17:14  
 Prep Date: 08/21/2015 09:50  
 Data File: 082215.B\8h2239.D  
 082215.B\8h2239.D

Date Collected: 08/06/2015 07:33  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD8A.I  
 Analyst: JXM  
 Aliquot: 30.03 g  
 Column: 1 RTX-CLPEST1  
 2 RTX-CLPEST2

Matrix: OTHERSOLID  
 %Moisture: 2.9  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.14	ug/kg	1.14	3.43	1
11104-28-2	Aroclor-1221	U	1.14	ug/kg	1.14	3.43	1
11141-16-5	Aroclor-1232	U	1.14	ug/kg	1.14	3.43	1
53469-21-9	Aroclor-1242	U	1.14	ug/kg	1.14	3.43	1
12672-29-6	Aroclor-1248	U	1.14	ug/kg	1.14	3.43	1
11097-69-1	Aroclor-1254	U	1.14	ug/kg	1.14	3.43	1
11096-82-5	Aroclor-1260	U	1.14	ug/kg	1.14	3.43	1

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SDG Number: GEL378728  
 Lab Sample ID: 378728015  
 Client ID: B32D45  
 Batch ID: 1501285  
 Run Date: 08/22/2015 17:27  
 Prep Date: 08/21/2015 09:50  
 Data File: 082215.B\8h2240.D  
 082215.B\8h2240.D

Date Collected: 08/06/2015 08:10  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD8A.I  
 Analyst: JXM  
 Aliquot: 30.05 g  
 Column: 1 RTX-CLPEST1  
 2 RTX-CLPEST2

Matrix: OTHERSOLID  
 %Moisture: 3.6  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.15	ug/kg	1.15	3.45	1
11104-28-2	Aroclor-1221	U	1.15	ug/kg	1.15	3.45	1
11141-16-5	Aroclor-1232	U	1.15	ug/kg	1.15	3.45	1
53469-21-9	Aroclor-1242	U	1.15	ug/kg	1.15	3.45	1
12672-29-6	Aroclor-1248	U	1.15	ug/kg	1.15	3.45	1
11097-69-1	Aroclor-1254	U	1.15	ug/kg	1.15	3.45	1
11096-82-5	Aroclor-1260	U	1.15	ug/kg	1.15	3.45	1

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<b>SDG Number:</b> GEL378728	<b>Date Collected:</b> 08/06/2015 07:15	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378728016	<b>Date Received:</b> 08/07/2015 09:10	<b>%Moisture:</b> 2.2
<b>Client ID:</b> B32D48	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1501285	<b>Method:</b> SW846 3541/8082A	<b>SOP Ref:</b> GL-OA-E-040
<b>Run Date:</b> 08/22/2015 17:39	<b>Inst:</b> ECD8A.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/21/2015 09:50	<b>Analyst:</b> JXM	<b>Inj. Vol:</b> 1 uL
<b>Data File:</b> 082215.B\8h2241.D	<b>Aliquot:</b> 30.07 g	<b>Final Volume:</b> 1 mL
082215.B\8h2241.D	<b>Column:</b> 1 RTX-CLPEST1	
	2 RTX-CLPEST2	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.13	ug/kg	1.13	3.40	1
11104-28-2	Aroclor-1221	U	1.13	ug/kg	1.13	3.40	1
11141-16-5	Aroclor-1232	U	1.13	ug/kg	1.13	3.40	1
53469-21-9	Aroclor-1242	U	1.13	ug/kg	1.13	3.40	1
12672-29-6	Aroclor-1248	U	1.13	ug/kg	1.13	3.40	1
11097-69-1	Aroclor-1254	U	1.13	ug/kg	1.13	3.40	1
11096-82-5	Aroclor-1260	U	1.13	ug/kg	1.13	3.40	1

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SDG Number: GEL378728  
 Lab Sample ID: 378728017  
 Client ID: B32D51  
 Batch ID: 1501285  
 Run Date: 08/22/2015 18:16  
 Prep Date: 08/21/2015 09:50  
 Data File: 082215.B\8h2244.D  
 082215.B\8h2244.D

Date Collected: 08/05/2015 13:47  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD8A.I  
 Analyst: JXM  
 Aliquot: 30.04 g  
 Column: 1 RTX-CLPEST1  
 2 RTX-CLPEST2

Matrix: OTHERSOLID  
 %Moisture: 18.5  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.36	ug/kg	1.36	4.08	1
11104-28-2	Aroclor-1221	U	1.36	ug/kg	1.36	4.08	1
11141-16-5	Aroclor-1232	U	1.36	ug/kg	1.36	4.08	1
53469-21-9	Aroclor-1242	U	1.36	ug/kg	1.36	4.08	1
12672-29-6	Aroclor-1248	U	1.36	ug/kg	1.36	4.08	1
11097-69-1	Aroclor-1254	U	1.36	ug/kg	1.36	4.08	1
11096-82-5	Aroclor-1260	U	1.36	ug/kg	1.36	4.08	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

SDG Number: GEL378728  
 Lab Sample ID: 378728018  
 Client ID: B32D54  
 Batch ID: 1501285  
 Run Date: 08/22/2015 18:29  
 Prep Date: 08/21/2015 09:50  
 Data File: 082215.B\8h2245.D  
 082215.B\8h2245.D

Date Collected: 08/05/2015 13:22  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD8A.I  
 Analyst: JXM  
 Aliquot: 30 g  
 Column: 1 RTX-CLPEST1  
 2 RTX-CLPEST2

Matrix: OTHERSOLID  
 %Moisture: 4.5  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.16	ug/kg	1.16	3.49	1
11104-28-2	Aroclor-1221	U	1.16	ug/kg	1.16	3.49	1
11141-16-5	Aroclor-1232	U	1.16	ug/kg	1.16	3.49	1
53469-21-9	Aroclor-1242	U	1.16	ug/kg	1.16	3.49	1
12672-29-6	Aroclor-1248	U	1.16	ug/kg	1.16	3.49	1
11097-69-1	Aroclor-1254	U	1.16	ug/kg	1.16	3.49	1
11096-82-5	Aroclor-1260	U	1.16	ug/kg	1.16	3.49	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

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SDG Number: GEL378728  
 Lab Sample ID: 378728019  
 Client ID: B32D57  
 Batch ID: 1501285  
 Run Date: 08/22/2015 18:41  
 Prep Date: 08/21/2015 09:50  
 Data File: 082215.B\8h2246.D  
 082215.B\8h2246.D

Date Collected: 08/05/2015 13:22  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD8A.I  
 Analyst: JXM  
 Aliquot: 30.02 g  
 Column: 1 RTX-CLPEST1  
 2 RTX-CLPEST2

Matrix: OTHERSOLID  
 %Moisture: 4.6  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.16	ug/kg	1.16	3.49	1
11104-28-2	Aroclor-1221	U	1.16	ug/kg	1.16	3.49	1
11141-16-5	Aroclor-1232	U	1.16	ug/kg	1.16	3.49	1
53469-21-9	Aroclor-1242	U	1.16	ug/kg	1.16	3.49	1
12672-29-6	Aroclor-1248	U	1.16	ug/kg	1.16	3.49	1
11097-69-1	Aroclor-1254	U	1.16	ug/kg	1.16	3.49	1
11096-82-5	Aroclor-1260	U	1.16	ug/kg	1.16	3.49	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

SDG Number: GEL378728  
 Lab Sample ID: 378728020  
 Client ID: B32D60  
 Batch ID: 1501285  
 Run Date: 08/22/2015 18:53  
 Prep Date: 08/21/2015 09:50  
 Data File: 082215.B\8h2247.D  
 082215.B\8h2247.D

Date Collected: 08/05/2015 12:51  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD8A.I  
 Analyst: JXM  
 Aliquot: 30.06 g  
 Column: 1 RTX-CLPEST1  
 2 RTX-CLPEST2

Matrix: OTHERSOLID  
 %Moisture: 3.3  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.15	ug/kg	1.15	3.44	1
11104-28-2	Aroclor-1221	U	1.15	ug/kg	1.15	3.44	1
11141-16-5	Aroclor-1232	U	1.15	ug/kg	1.15	3.44	1
53469-21-9	Aroclor-1242	U	1.15	ug/kg	1.15	3.44	1
12672-29-6	Aroclor-1248	U	1.15	ug/kg	1.15	3.44	1
11097-69-1	Aroclor-1254	U	1.15	ug/kg	1.15	3.44	1
11096-82-5	Aroclor-1260	U	1.15	ug/kg	1.15	3.44	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

SDG Number: GEL378728  
 Lab Sample ID: 378728021  
 Client ID: B32D63  
 Batch ID: 1500586  
 Run Date: 08/18/2015 10:32  
 Prep Date: 08/17/2015 10:37  
 Data File: 081815.SVE9h1825.D  
 081815.SVE9h1825.D

Date Collected: 08/05/2015 12:35  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD9A.I  
 Analyst: YSI  
 Aliquot: 30 g  
 Column: 1 RTX-CLPEST 1  
 2 RTX-CLPEST 2

Matrix: OTHERSOLID  
 %Moisture: 1.2  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.12	ug/kg	1.12	3.37	1
11104-28-2	Aroclor-1221	U	1.12	ug/kg	1.12	3.37	1
11141-16-5	Aroclor-1232	U	1.12	ug/kg	1.12	3.37	1
53469-21-9	Aroclor-1242	U	1.12	ug/kg	1.12	3.37	1
12672-29-6	Aroclor-1248	U	1.12	ug/kg	1.12	3.37	1
11097-69-1	Aroclor-1254	U	1.12	ug/kg	1.12	3.37	1
11096-82-5	Aroclor-1260	J	2.30	ug/kg	1.12	3.37	2

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

SDG Number: GEL378728  
 Lab Sample ID: 378728022  
 Client ID: B32D66  
 Batch ID: 1500586  
 Run Date: 08/18/2015 10:45  
 Prep Date: 08/17/2015 10:37  
 Data File: 081815.SVE9h1826.D  
 081815.SVE9h1826.D

Date Collected: 08/05/2015 12:23  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD9A.I  
 Analyst: YS1  
 Aliquot: 30.02 g  
 Column: 1 RTX-CLPEST 1  
 2 RTX-CLPEST 2

Matrix: OTHERSOLID  
 %Moisture: 8.9  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.22	ug/kg	1.22	3.66	1
11104-28-2	Aroclor-1221	U	1.22	ug/kg	1.22	3.66	1
11141-16-5	Aroclor-1232	U	1.22	ug/kg	1.22	3.66	1
53469-21-9	Aroclor-1242	U	1.22	ug/kg	1.22	3.66	1
12672-29-6	Aroclor-1248	U	1.22	ug/kg	1.22	3.66	1
11097-69-1	Aroclor-1254	U	1.22	ug/kg	1.22	3.66	1
11096-82-5	Aroclor-1260	U	1.22	ug/kg	1.22	3.66	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

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SDG Number: GEL378728  
 Lab Sample ID: 378728023  
 Client ID: B32DL3  
 Batch ID: 1500586  
 Run Date: 08/18/2015 10:58  
 Prep Date: 08/17/2015 10:37  
 Data File: 081815.SVE9h1827.D  
 081815.SVE9h1827.D

Date Collected: 08/06/2015 10:33  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD9A.I  
 Analyst: YS1  
 Aliquot: 30.04 g  
 Column: 1 RTX-CLPEST 1  
 2 RTX-CLPEST 2

Matrix: OTHERSOLID  
 %Moisture: 2.3  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.13	ug/kg	1.13	3.41	1
11104-28-2	Aroclor-1221	U	1.13	ug/kg	1.13	3.41	1
11141-16-5	Aroclor-1232	U	1.13	ug/kg	1.13	3.41	1
53469-21-9	Aroclor-1242	U	1.13	ug/kg	1.13	3.41	1
12672-29-6	Aroclor-1248	U	1.13	ug/kg	1.13	3.41	1
11097-69-1	Aroclor-1254	U	1.13	ug/kg	1.13	3.41	1
11096-82-5	Aroclor-1260	U	1.13	ug/kg	1.13	3.41	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

SDG Number: GEL378728  
 Lab Sample ID: 378728024  
 Client ID: B32DL4  
 Batch ID: 1500586  
 Run Date: 08/18/2015 11:12  
 Prep Date: 08/17/2015 10:37  
 Data File: 081815.SVE9h1828.D  
 081815.SVE9h1828.D

Date Collected: 08/06/2015 10:45  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD9A.I  
 Analyst: YSI  
 Aliquot: 30 g  
 Column: 1 RTX-CLPEST 1  
 2 RTX-CLPEST 2

Matrix: OTHERSOLID  
 %Moisture: 14.2  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.29	ug/kg	1.29	3.89	1
11104-28-2	Aroclor-1221	U	1.29	ug/kg	1.29	3.89	1
11141-16-5	Aroclor-1232	U	1.29	ug/kg	1.29	3.89	1
53469-21-9	Aroclor-1242	U	1.29	ug/kg	1.29	3.89	1
12672-29-6	Aroclor-1248	U	1.29	ug/kg	1.29	3.89	1
11097-69-1	Aroclor-1254	U	1.29	ug/kg	1.29	3.89	1
11096-82-5	Aroclor-1260	U	1.29	ug/kg	1.29	3.89	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

SDG Number: GEL378728  
 Lab Sample ID: 378728025  
 Client ID: B32F21  
 Batch ID: 1500586  
 Run Date: 08/18/2015 11:25  
 Prep Date: 08/17/2015 10:37  
 Data File: 081815.SVE9h1829.D  
 081815.SVE9h1829.D

Date Collected: 08/06/2015 10:06  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD9A.I  
 Analyst: YSI  
 Aliquot: 30.04 g  
 Column: 1 RTX-CLPEST 1  
 2 RTX-CLPEST 2

Matrix: OTHERSOLID  
 %Moisture: 3.7  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.15	ug/kg	1.15	3.46	1
11104-28-2	Aroclor-1221	U	1.15	ug/kg	1.15	3.46	1
11141-16-5	Aroclor-1232	U	1.15	ug/kg	1.15	3.46	1
53469-21-9	Aroclor-1242	U	1.15	ug/kg	1.15	3.46	1
12672-29-6	Aroclor-1248	U	1.15	ug/kg	1.15	3.46	1
11097-69-1	Aroclor-1254	U	1.15	ug/kg	1.15	3.46	1
11096-82-5	Aroclor-1260	U	1.15	ug/kg	1.15	3.46	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

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SDG Number: GEL378728  
 Lab Sample ID: 378728026  
 Client ID: B32F24  
 Batch ID: 1500586  
 Run Date: 08/18/2015 11:39  
 Prep Date: 08/17/2015 10:37  
 Data File: 081815.SVE9h1830.D  
 081815.SVE9h1830.D

Date Collected: 08/06/2015 09:28  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD9A.I  
 Analyst: YS1  
 Aliquot: 30.02 g  
 Column: 1 RTX-CLPEST 1  
 2 RTX-CLPEST 2

Matrix: OTHERSOLID  
 %Moisture: 3.2  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.15	ug/kg	1.15	3.44	1
11104-28-2	Aroclor-1221	U	1.15	ug/kg	1.15	3.44	1
11141-16-5	Aroclor-1232	U	1.15	ug/kg	1.15	3.44	1
53469-21-9	Aroclor-1242	U	1.15	ug/kg	1.15	3.44	1
12672-29-6	Aroclor-1248	U	1.15	ug/kg	1.15	3.44	1
11097-69-1	Aroclor-1254	U	1.15	ug/kg	1.15	3.44	1
11096-82-5	Aroclor-1260	U	1.15	ug/kg	1.15	3.44	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

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SDG Number: GEL378728  
 Lab Sample ID: 378728027  
 Client ID: B32F27  
 Batch ID: 1500586  
 Run Date: 08/18/2015 11:52  
 Prep Date: 08/17/2015 10:37  
 Data File: 081815.SVE9h1831.D  
 081815.SVE9h1831.D

Date Collected: 08/06/2015 07:50  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD9A.I  
 Analyst: YS1  
 Aliquot: 30.02 g  
 Column: 1 RTX-CLPEST 1  
 2 RTX-CLPEST 2

Matrix: OTHERSOLID  
 %Moisture: 2.8  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.14	ug/kg	1.14	3.43	1
11104-28-2	Aroclor-1221	U	1.14	ug/kg	1.14	3.43	1
11141-16-5	Aroclor-1232	U	1.14	ug/kg	1.14	3.43	1
53469-21-9	Aroclor-1242	U	1.14	ug/kg	1.14	3.43	1
12672-29-6	Aroclor-1248	U	1.14	ug/kg	1.14	3.43	1
11097-69-1	Aroclor-1254	J	2.23	ug/kg	1.14	3.43	2
11096-82-5	Aroclor-1260	U	1.14	ug/kg	1.14	3.43	1

**PCB**  
**Certificate of Analysis**  
**Sample Summary**

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SDG Number: GEL378728  
 Lab Sample ID: 378728028  
 Client ID: B32F30  
 Batch ID: 1500586  
 Run Date: 08/18/2015 12:06  
 Prep Date: 08/17/2015 10:37  
 Data File: 081815.SVE9h1832.D  
 081815.SVE9h1832.D

Date Collected: 08/05/2015 13:06  
 Date Received: 08/07/2015 09:10  
 Client: CPRC001  
 Method: SW846 3541/8082A  
 Inst: ECD9A.I  
 Analyst: YS1  
 Aliquot: 30.04 g  
 Column: 1 RTX-CLPEST 1  
 2 RTX-CLPEST 2

Matrix: OTHERSOLID  
 %Moisture: 3.5  
 Project: CPRC0F15048  
 SOP Ref: GL-OA-E-040  
 Dilution: 1  
 Inj. Vol: 1 uL  
 Final Volume: 1 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ	Column
12674-11-2	Aroclor-1016	U	1.15	ug/kg	1.15	3.45	1
11104-28-2	Aroclor-1221	U	1.15	ug/kg	1.15	3.45	1
11141-16-5	Aroclor-1232	U	1.15	ug/kg	1.15	3.45	1
53469-21-9	Aroclor-1242	U	1.15	ug/kg	1.15	3.45	1
12672-29-6	Aroclor-1248	U	1.15	ug/kg	1.15	3.45	1
11097-69-1	Aroclor-1254	U	1.15	ug/kg	1.15	3.45	1
11096-82-5	Aroclor-1260	U	1.15	ug/kg	1.15	3.45	1

# **Quality Control Summary**

PCB  
Surrogate Recovery Report

SDG Number: GEL378728

Matrix Type: SOLID

Sample ID	Client ID	4CMX 1 %REC #	4CMX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #
1203374755	MB for batch 1500576	72	75	90	98
1203374756	LCS for batch 1500576	79	83	95	100
1203374757	B32D63MS	83	86	112	121
1203374758	B32D63MSD	73	76	98	104
378728021	B32D63	81	85	105	110
378728022	B32D66	67	69	94	98
378728023	B32DL3	50	52	78	81
378728024	B32DL4	78	84	94	100
378728025	B32F21	83	86	105	113
378728026	B32F24	78	81	100	104
378728027	B32F27	83	88	105	112
378728028	B32F30	74	77	99	106
1203376571	MB for batch 1501284	67	71	79	81
1203376572	LCS for batch 1501284	70	74	81	86
378728001	B32D69	71	76	85	92
1203376573	B32D69MS	73	78	87	94
1203376574	B32D69MSD	76	81	86	93
378728002	B32D72	74	77	83	89
378728003	B32D75	81	85	86	98
378728004	B32D78	76	81	80	86
378728005	B32F33	64	67	76	84
378728006	B32D18	64	66	73	84
378728007	B32D21	78	83	83	93
378728008	B32D24	70	74	83	91

4CMX = 4cmx (29%-106%)

DCB = Decachlorobiphenyl (25%-131%)

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

**PCB**  
**Surrogate Recovery Report**

SDG Number: GEL378728

Matrix Type: SOLID

Sample ID	Client ID	4CMX 1 %REC #	4CMX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #
378728009	B32D27	70	73	76	82
378728010	B32D30	43	43	64	68
378728011	B32D33	72	75	77	89
378728012	B32D36	68	71	71	75
378728013	B32D39	73	77	82	87
378728014	B32D42	69	72	75	83
378728015	B32D45	74	78	77	84
378728016	B32D48	76	78	76	88
378728017	B32D51	81	82	86	92
378728018	B32D54	73	72	79	85
378728019	B32D57	76	74	80	90
378728020	B32D60	77	75	83	89

**Surrogate**

4CMX = 4cmx

DCB = Decachlorobiphenyl

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

**Acceptance Limits**

(29%-106%)

(25%-131%)

# GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

## QC Summary

Report Date: August 28, 2015

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CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Mr. Scot Fitzgerald

Contact:

Workorder: 378728

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Semi-Volatiles-PCB</b>											
Batch	1500586										
QC1203374756	LCS										
Aroclor-1016	33.3			21.9	ug/kg		65.8	(44%-97%)	YS1	08/18/15	09:40
Aroclor-1260	33.3			27.6	ug/kg		82.9	(49%-109%)			
**4cmx	6.66			5.50	ug/kg		82.6	(29%-106%)			
**Decachlorobiphenyl	6.66			6.68	ug/kg		100	(25%-131%)			
QC1203374755	MB										
Aroclor-1016			U	1.11	ug/kg					08/18/15	09:29
Aroclor-1221			U	1.11	ug/kg						
Aroclor-1232			U	1.11	ug/kg						
Aroclor-1242			U	1.11	ug/kg						
Aroclor-1248			U	1.11	ug/kg						
Aroclor-1254			U	1.11	ug/kg						
Aroclor-1260			U	1.11	ug/kg						
**4cmx	6.67			5.00	ug/kg		75	(29%-106%)			
**Decachlorobiphenyl	6.67			6.56	ug/kg		98.4	(25%-131%)			
QC1203374757	378728021 MS										
Aroclor-1016	33.7	U	1.12	22.6	ug/kg		67.2	(22%-127%)		08/18/15	10:05
Aroclor-1260	33.7	J	2.30	31.4	ug/kg		86.5	(18%-130%)			
**4cmx	6.74		5.71	5.82	ug/kg		86.3	(29%-106%)			
**Decachlorobiphenyl	6.74		7.44	8.17	ug/kg		121	(25%-131%)			
QC1203374758	378728021 MSD										
Aroclor-1016	33.7	U	1.12	19.5	ug/kg	15.1	57.7	(0%-30%)		08/18/15	10:18

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## QC Summary

Workorder: 378728

Page 2 of 3

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Semi-Volatiles-PCB</b>											
Batch	1500586										
Aroclor-1260	33.7	J	2.30	27.4	ug/kg	13.6	74.5	(0%-30%)			
**4cmx	6.74		5.71	5.11	ug/kg		75.7	(29%-106%)	YS1	08/18/15	10:18
**Decachlorobiphenyl	6.74		7.44	7.00	ug/kg		104	(25%-131%)			
Batch	1501285										
QC1203376572	LCS										
Aroclor-1016	33.3			25.1	ug/kg		75.4	(44%-97%)	JXM	08/22/15	13:33
Aroclor-1260	33.3			27.8	ug/kg		83.5	(49%-109%)			
**4cmx	6.66			4.92	ug/kg		73.9	(29%-106%)			
**Decachlorobiphenyl	6.66			5.76	ug/kg		86.4	(25%-131%)			
QC1203376571	MB										
Aroclor-1016			U	1.11	ug/kg					08/22/15	13:20
Aroclor-1221			U	1.11	ug/kg						
Aroclor-1232			U	1.11	ug/kg						
Aroclor-1242			U	1.11	ug/kg						
Aroclor-1248			U	1.11	ug/kg						
Aroclor-1254			U	1.11	ug/kg						
Aroclor-1260			U	1.11	ug/kg						
**4cmx	6.67			4.71	ug/kg		70.6	(29%-106%)			
**Decachlorobiphenyl	6.67			5.42	ug/kg		81.3	(25%-131%)			
QC1203376573	378728001 MS										
Aroclor-1016	34.3	U	1.14	23.9	ug/kg		69.5	(22%-127%)		08/22/15	13:57
Aroclor-1260	34.3	U	1.14	27.9	ug/kg		81.2	(18%-130%)			
**4cmx	6.87		5.24	5.33	ug/kg		77.6	(29%-106%)			
**Decachlorobiphenyl	6.87		6.35	6.47	ug/kg		94.2	(25%-131%)			
QC1203376574	378728001 MSD										

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## QC Summary

Workorder: 378728

Page 3 of 3

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Semi-Volatiles-PCB</b>											
Batch	1501285										
Aroclor-1016	34.4	U	1.14	25.7	ug/kg	7.49	74.9	(0%-30%)		08/22/15	14:10
Aroclor-1260	34.4	U	1.14	28.6	ug/kg	2.67	83.4	(0%-30%)	JXM		
**4cmx	6.87		5.24	5.54	ug/kg		80.6	(29%-106%)			
**Decachlorobiphenyl	6.87		6.35	6.39	ug/kg		92.9	(25%-131%)			

**Notes:**

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- N Spike Sample recovery is outside control limits.
- P Aroclor target analyte with greater than 25% difference between column analyses.
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- o Analyte failed to recover within LCS limits (Organics only)

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.  
 ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.  
 \* Indicates that a Quality Control parameter was not within specifications.  
 For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

# **Metals Analysis**

# Case Narrative

**Metals**  
**Technical Case Narrative**  
**CH2MHill Plateau Remediation Company (CPRC)**  
**SDG #: GEL378728**  
**Work Order #: 378728**

<b>Sample ID</b>	<b>Client ID</b>
378728001	B32D69
378728002	B32D72
378728003	B32D75
378728004	B32D78
378728005	B32F33
378728006	B32D18
378728007	B32D21
378728008	B32D24
378728009	B32D27
378728010	B32D30
378728011	B32D33
378728012	B32D36
378728013	B32D39
378728014	B32D42
378728015	B32D45
378728016	B32D48
378728017	B32D51
378728018	B32D54
378728019	B32D57
378728020	B32D60
378728021	B32D63
378728022	B32D66
378728023	B32DL3
378728024	B32DL4
378728025	B32F21
378728026	B32F24
378728027	B32F27
378728028	B32F30
1203370672	Method Blank (MB)ICP
1203370683	Method Blank (MB)ICP
1203370673	Laboratory Control Sample (LCS)
1203370684	Laboratory Control Sample (LCS)
1203370676	378728001(B32D69L) Serial Dilution (SD)
1203370687	378728021(B32D63L) Serial Dilution (SD)
1203370674	378728001(B32D69D) Sample Duplicate (DUP)
1203370685	378728021(B32D63D) Sample Duplicate (DUP)
1203370675	378728001(B32D69S) Matrix Spike (MS)
1203370686	378728021(B32D63S) Matrix Spike (MS)
1203377583	378728021(B32D63PS) Post Spike (PS)
1203380234	Method Blank (MB)CVAA
1203380244	Method Blank (MB)CVAA
1203380235	Laboratory Control Sample (LCS)
1203380245	Laboratory Control Sample (LCS)
1203380238	378728021(B32D63L) Serial Dilution (SD)
1203380248	378728001(B32D69L) Serial Dilution (SD)

1203380236	378728021(B32D63D) Sample Duplicate (DUP)
1203380246	378728001(B32D69D) Sample Duplicate (DUP)
1203380237	378728021(B32D63S) Matrix Spike (MS)
1203380247	378728001(B32D69S) Matrix Spike (MS)

### **Sample Analysis**

The samples in this SDG were analyzed on a "dry weight" basis.

### **Method/Analysis Information**

<b>Analytical Batch:</b>	1499070, 1499072, 1502626 and 1502628
<b>Prep Batch :</b>	1499068, 1499071, 1502624 and 1502627
<b>Standard Operating Procedures:</b>	GL-MA-E-013 REV# 24, GL-MA-E-009 REV# 25 and GL-MA-E-010 REV# 30
<b>Analytical Method:</b>	6010_METALS_ICP and 7471_HG_CVAA
<b>Prep Method :</b>	SW846 3050B and SW846 7471B Prep

### **Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

### **System Configuration**

The Metals analysis-ICP was performed on a P E 5300 Optima radial/axial-viewing inductively coupled plasma atomic emission spectrometer. The instrument is equipped with an ESI SC-FAST introduction, cyclonic spray chamber, and yttrium or scandium internal standard.

The Metals analysis-Mercury was performed on a Perkin-Elmer Flow Injection Mercury System (FIMS-100) automated mercury analyzer. The instrument consists of a cold vapor atomic absorption spectrometer set to detect mercury at a wavelength of 253.7 nm.

### **Calibration Information**

#### **Instrument Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).

#### **CRDL/PQL Requirements**

The CRDL/PQL standard recoveries met the referenced advisory control limits.

#### **ICSA/ICSAB Statement**

All interference check samples (ICSA and ICSAB) associated with this SDG met the established acceptance criteria.

#### **Continuing Calibration Blanks (CCB) Requirements**

All continuing calibration blanks (CCB) bracketing this batch met the established acceptance criteria.

#### **Continuing Calibration Verification (CCV) Requirements**

All continuing calibration verifications (CCV) bracketing this SDG met the acceptance criteria.

## **Quality Control (QC) Information**

### **Method Blank (MB) Statement**

The MBs analyzed with this SDG met the acceptance criteria.

### **Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

### **Quality Control (QC) Sample Statement**

The following samples were selected as the quality control (QC) samples for this SDG: 378728001 (B32D69) and 378728021 (B32D63)-ICP and CVAA.

### **Matrix Spike (MS/MSD) Recovery Statement**

The percent recoveries (%R) obtained from the MS/MSD analyses are evaluated when the sample concentration is less than four times (4X) the spike concentration added. The MS/MSD (See Below) did not meet the recommended quality control acceptance criteria for percent recoveries for the following applicable analyte. The post spike recovery was within the required control limits. This verifies the absence of a matrix interference in the post-spike digested sample. The recovery may be attributed to possible sample matrix interference and/or non-homogeneity.

Sample	Analyte	Value
1203370686 (B32D63MS)	Barium	64.3* (75%-125%)

### **Duplicate Relative Percent Difference (RPD) Statement**

The RPD obtained from the designated sample duplicate (DUP) is evaluated based on acceptance criteria of 20% when the sample is >5X the contract required reporting limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control of +/-RL is used to evaluate the DUP results. The relative percent differences (RPD) between the sample and its duplicate (DUP) were within acceptable limits for all applicable analytes.

### **Serial Dilution % Difference Statement**

All applicable analytes in the serial dilution (SDILT) demonstrated acceptable correlation to its associated sample and met the established acceptance percent difference criteria.

### **Post Spike (PS) Recovery Statement**

The PS met the recommended quality control acceptance criteria for percent recoveries for all applicable analytes and verifies the absence of matrix interferences in the post-digested sample.

## **Technical Information**

### **Holding Time Specifications**

GEL assigns holding times based on the associated methodology. Holding time is measured by comparison of the date and time of sample collection to the date and time of sample preparation and analysis. Those holding times expressed in hours are calculated in the AlphaLIMS system. Those holding times expressed as days expire at midnight on the day of expiration. All samples in this SDG met the specified holding time.

### **Preparation/Analytical Method Verification**

All procedures were performed as stated in the SOP. Method SW-846 3050B is not a total digestion technique for most samples. It is a very strong acid digestion that will dissolve almost all elements that could become environmentally available. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

### **Sample Dilutions**

Dilutions are performed to minimize matrix interferences resulting from elevated mineral element concentrations

present in solid samples and/or to bring over range target analyte concentrations into the linear calibration range of the instrument. Samples required dilutions for silver in order to minimize suppression due to matrix interferences. 378728014 (B32D42), 378728016 (B32D48), 378728017 (B32D51) and 378728019 (B32D57)-ICP.

Analyte	378728			
	014	016	017	019
Silver	5X	5X	5X	5X

### **Preparation Information**

The samples in this SDG were not diluted and prepared according to the cited SOP.

### **Miscellaneous Information**

#### **Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. An electronic signature page inserted after the case narrative will include the data validator's signature and title. The signature page also includes the data qualifiers used in the fractional package. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

#### **Data Exception (DER) Documentation**

A Data exception report (DER) was generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) 1442013 was generated for sample 1203370686 (B32D63MS) in this SDG/batch.

#### **Additional Comments**

Additional comments were not required for this SDG.

### **Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

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## Qualifier Definition Report for

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL378728 GEL Work Order: 378728

### The Qualifiers in this report are defined as follows:

- \* Duplicate analysis not within control limits
- B The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).
- D Results are reported from a diluted aliquot of sample.
- N Spike Sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

### Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: **Nik-Cole Elmore**

Date: **03 SEP 2015**

Title: **Data Validator**

# Sample Data Summary

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728001

**CLIENT ID:** B32D69

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 97

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	78800	ug/kg		N	P	102	1	OPTIMA3	081115-1
7440-43-9	Cadmium	357	ug/kg	B		P	102	1	OPTIMA3	081115-1
7440-47-3	Chromium	9170	ug/kg			P	153	1	OPTIMA3	081115-1
7439-92-1	Lead	4800	ug/kg			P	337	1	OPTIMA3	081115-1
7439-97-6	Mercury	6.27	ug/kg	B		AV	3.92	1	HG3	082615S1-4
7440-22-4	Silver	102	ug/kg	U		P	102	1	OPTIMA3	081115-1
7440-62-2	Vanadium	55100	ug/kg			P	102	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B  
P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728002

**CLIENT ID:** B32D72

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 82

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	93000	ug/kg		N	P	114	1	OPTIMA3	081115-1
7440-43-9	Cadmium	375	ug/kg	B		P	114	1	OPTIMA3	081115-1
7440-47-3	Chromium	14000	ug/kg			P	171	1	OPTIMA3	081115-1
7439-92-1	Lead	6540	ug/kg			P	375	1	OPTIMA3	081115-1
7439-97-6	Mercury	6.5	ug/kg	B		AV	4.73	1	HG3	082615S1-4
7440-22-4	Silver	114	ug/kg	U		P	114	1	OPTIMA3	081115-1
7440-62-2	Vanadium	52600	ug/kg			P	114	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B  
P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728003

**CLIENT ID:** B32D75

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 96.4

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	66200	ug/kg		N	P	96.5	1	OPTIMA3	081115-1
7440-43-9	Cadmium	435	ug/kg	B		P	96.5	1	OPTIMA3	081115-1
7440-47-3	Chromium	7440	ug/kg			P	145	1	OPTIMA3	081115-1
7439-92-1	Lead	4160	ug/kg			P	319	1	OPTIMA3	081115-1
7439-97-6	Mercury	3.59	ug/kg	U		AV	3.59	1	HG3	082615S1-4
7440-22-4	Silver	96.5	ug/kg	U		P	96.5	1	OPTIMA3	081115-1
7440-62-2	Vanadium	65000	ug/kg			P	96.5	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728004

**CLIENT ID:** B32D78

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 91.3

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	85900	ug/kg		N	P	108	1	OPTIMA3	081115-1
7440-43-9	Cadmium	366	ug/kg	B		P	108	1	OPTIMA3	081115-1
7440-47-3	Chromium	10600	ug/kg			P	163	1	OPTIMA3	081115-1
7439-92-1	Lead	5550	ug/kg			P	358	1	OPTIMA3	081115-1
7439-97-6	Mercury	4.04	ug/kg	U		AV	4.04	1	HG3	082615S1-4
7440-22-4	Silver	108	ug/kg	U		P	108	1	OPTIMA3	081115-1
7440-62-2	Vanadium	49300	ug/kg			P	108	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728005

**CLIENT ID:** B32F33

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 92.7

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	88400	ug/kg		N	P	104	1	OPTIMA3	081115-1
7440-43-9	Cadmium	420	ug/kg	B		P	104	1	OPTIMA3	081115-1
7440-47-3	Chromium	11700	ug/kg			P	156	1	OPTIMA3	081115-1
7439-92-1	Lead	5600	ug/kg			P	342	1	OPTIMA3	081115-1
7439-97-6	Mercury	4.18	ug/kg	U		AV	4.18	1	HG3	082615S1-4
7440-22-4	Silver	104	ug/kg	U		P	104	1	OPTIMA3	081115-1
7440-62-2	Vanadium	51800	ug/kg			P	104	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728006

**CLIENT ID:** B32D18

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 97.8

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	83700	ug/kg		N	P	98.1	1	OPTIMA3	081115-1
7440-43-9	Cadmium	477	ug/kg	B		P	98.1	1	OPTIMA3	081115-1
7440-47-3	Chromium	7980	ug/kg			P	147	1	OPTIMA3	081115-1
7439-92-1	Lead	4280	ug/kg			P	324	1	OPTIMA3	081115-1
7439-97-6	Mercury	4.21	ug/kg	B		AV	3.92	1	HG3	082615S1-4
7440-22-4	Silver	98.1	ug/kg	U		P	98.1	1	OPTIMA3	081115-1
7440-62-2	Vanadium	63800	ug/kg			P	98.1	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B  
P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728007

**CLIENT ID:** B32D21

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 97.2

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	72500	ug/kg		N	P	98.9	1	OPTIMA3	081115-1
7440-43-9	Cadmium	432	ug/kg	B		P	98.9	1	OPTIMA3	081115-1
7440-47-3	Chromium	7140	ug/kg			P	148	1	OPTIMA3	081115-1
7439-92-1	Lead	3730	ug/kg			P	326	1	OPTIMA3	081115-1
7439-97-6	Mercury	4.29	ug/kg	B		AV	3.46	1	HG3	082615S1-4
7440-22-4	Silver	98.9	ug/kg	U		P	98.9	1	OPTIMA3	081115-1
7440-62-2	Vanadium	57000	ug/kg			P	98.9	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728008

**CLIENT ID:** B32D24

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 98

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	91000	ug/kg		N	P	98.3	1	OPTIMA3	081115-1
7440-43-9	Cadmium	451	ug/kg	B		P	98.3	1	OPTIMA3	081115-1
7440-47-3	Chromium	7860	ug/kg			P	147	1	OPTIMA3	081115-1
7439-92-1	Lead	4760	ug/kg			P	324	1	OPTIMA3	081115-1
7439-97-6	Mercury	4.06	ug/kg	U		AV	4.06	1	HG3	082615S1-4
7440-22-4	Silver	98.3	ug/kg	U		P	98.3	1	OPTIMA3	081115-1
7440-62-2	Vanadium	57500	ug/kg			P	98.3	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728009

**CLIENT ID:** B32D27

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 97.6

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	107000	ug/kg		N	P	94.4	1	OPTIMA3	081115-1
7440-43-9	Cadmium	519	ug/kg			P	94.4	1	OPTIMA3	081115-1
7440-47-3	Chromium	7110	ug/kg			P	142	1	OPTIMA3	081115-1
7439-92-1	Lead	3840	ug/kg			P	311	1	OPTIMA3	081115-1
7439-97-6	Mercury	6.15	ug/kg	B		AV	3.82	1	HG3	082615S1-4
7440-22-4	Silver	94.4	ug/kg	U		P	94.4	1	OPTIMA3	081115-1
7440-62-2	Vanadium	66600	ug/kg			P	94.4	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728010

**CLIENT ID:** B32D30

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 97.4

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	75100	ug/kg		N	P	102	1	OPTIMA3	081115-1
7440-43-9	Cadmium	512	ug/kg			P	102	1	OPTIMA3	081115-1
7440-47-3	Chromium	8560	ug/kg			P	152	1	OPTIMA3	081115-1
7439-92-1	Lead	4950	ug/kg			P	335	1	OPTIMA3	081115-1
7439-97-6	Mercury	4.56	ug/kg	B		AV	3.86	1	HG3	082615S1-4
7440-22-4	Silver	102	ug/kg	U		P	102	1	OPTIMA3	081115-1
7440-62-2	Vanadium	61300	ug/kg			P	102	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728011

**CLIENT ID:** B32D33

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 96.5

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	76200	ug/kg		N	P	93	1	OPTIMA3	081115-1
7440-43-9	Cadmium	573	ug/kg			P	93	1	OPTIMA3	081115-1
7440-47-3	Chromium	7190	ug/kg			P	140	1	OPTIMA3	081115-1
7439-92-1	Lead	5500	ug/kg			P	307	1	OPTIMA3	081115-1
7439-97-6	Mercury	55.7	ug/kg	B		AV	39.7	1	HG3	082615S1-4
7440-22-4	Silver	93	ug/kg	U		P	93	1	OPTIMA3	081115-1
7440-62-2	Vanadium	67000	ug/kg			P	93	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B  
P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728012

**CLIENT ID:** B32D36

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 98.9

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	74400	ug/kg		N	P	92.8	1	OPTIMA3	081115-1
7440-43-9	Cadmium	494	ug/kg			P	92.8	1	OPTIMA3	081115-1
7440-47-3	Chromium	7760	ug/kg			P	139	1	OPTIMA3	081115-1
7439-92-1	Lead	4730	ug/kg			P	306	1	OPTIMA3	081115-1
7439-97-6	Mercury	4.16	ug/kg	B		AV	3.92	1	HG3	082615S1-4
7440-22-4	Silver	92.8	ug/kg	U		P	92.8	1	OPTIMA3	081115-1
7440-62-2	Vanadium	62300	ug/kg			P	92.8	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B  
P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728013

**CLIENT ID:** B32D39

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 90.1

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	90800	ug/kg		N	P	105	1	OPTIMA3	081115-1
7440-43-9	Cadmium	622	ug/kg			P	105	1	OPTIMA3	081115-1
7440-47-3	Chromium	7440	ug/kg			P	158	1	OPTIMA3	081115-1
7439-92-1	Lead	3450	ug/kg			P	347	1	OPTIMA3	081115-1
7439-97-6	Mercury	5.58	ug/kg	B		AV	4.45	1	HG3	082615S1-4
7440-22-4	Silver	105	ug/kg	U		P	105	1	OPTIMA3	081115-1
7440-62-2	Vanadium	72700	ug/kg			P	105	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728014

**CLIENT ID:** B32D42

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 97.1

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	79800	ug/kg		N	P	91.1	1	OPTIMA3	081115-1
7440-43-9	Cadmium	525	ug/kg			P	91.1	1	OPTIMA3	081115-1
7440-47-3	Chromium	9300	ug/kg			P	137	1	OPTIMA3	081115-1
7439-92-1	Lead	5100	ug/kg			P	301	1	OPTIMA3	081115-1
7439-97-6	Mercury	4.12	ug/kg	U		AV	4.12	1	HG3	082615S1-4
7440-22-4	Silver	456	ug/kg	UD		P	456	5	OPTIMA3	081215-2
7440-62-2	Vanadium	62800	ug/kg			P	91.1	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B  
P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728015

**CLIENT ID:** B32D45

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 96.4

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	79900	ug/kg		N	P	95.7	1	OPTIMA3	081115-1
7440-43-9	Cadmium	509	ug/kg			P	95.7	1	OPTIMA3	081115-1
7440-47-3	Chromium	7710	ug/kg			P	144	1	OPTIMA3	081115-1
7439-92-1	Lead	3500	ug/kg			P	316	1	OPTIMA3	081115-1
7439-97-6	Mercury	4.97	ug/kg	B		AV	4.16	1	HG3	082615S1-4
7440-22-4	Silver	95.7	ug/kg	U		P	95.7	1	OPTIMA3	081115-1
7440-62-2	Vanadium	59500	ug/kg			P	95.7	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728016

**CLIENT ID:** B32D48

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 97.8

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	77200	ug/kg		N	P	90.8	1	OPTIMA3	081115-1
7440-43-9	Cadmium	571	ug/kg			P	90.8	1	OPTIMA3	081115-1
7440-47-3	Chromium	9020	ug/kg			P	136	1	OPTIMA3	081115-1
7439-92-1	Lead	5010	ug/kg			P	300	1	OPTIMA3	081115-1
7439-97-6	Mercury	6.03	ug/kg	B		AV	4.08	1	HG3	082615S1-4
7440-22-4	Silver	454	ug/kg	UD		P	454	5	OPTIMA3	081215-2
7440-62-2	Vanadium	61900	ug/kg			P	90.8	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B  
P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728017

**CLIENT ID:** B32D51

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 82

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	132000	ug/kg		N	P	116	1	OPTIMA3	081115-1
7440-43-9	Cadmium	747	ug/kg			P	116	1	OPTIMA3	081115-1
7440-47-3	Chromium	10400	ug/kg			P	175	1	OPTIMA3	081115-1
7439-92-1	Lead	5600	ug/kg			P	384	1	OPTIMA3	081115-1
7439-97-6	Mercury	4.9	ug/kg	U		AV	4.9	1	HG3	082615S1-4
7440-22-4	Silver	662	ug/kg	BD		P	582	5	OPTIMA3	081215-2
7440-62-2	Vanadium	71200	ug/kg			P	116	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728018

**CLIENT ID:** B32D54

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 95.5

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	81800	ug/kg		N	P	102	1	OPTIMA3	081115-1
7440-43-9	Cadmium	580	ug/kg			P	102	1	OPTIMA3	081115-1
7440-47-3	Chromium	8890	ug/kg			P	153	1	OPTIMA3	081115-1
7439-92-1	Lead	4470	ug/kg			P	337	1	OPTIMA3	081115-1
7439-97-6	Mercury	5.09	ug/kg	B		AV	4.21	1	HG3	082615S1-4
7440-22-4	Silver	102	ug/kg	U		P	102	1	OPTIMA3	081115-1
7440-62-2	Vanadium	55300	ug/kg			P	102	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728019

**CLIENT ID:** B32D57

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 95.4

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	83100	ug/kg		N	P	93.4	1	OPTIMA3	081115-1
7440-43-9	Cadmium	624	ug/kg			P	93.4	1	OPTIMA3	081115-1
7440-47-3	Chromium	8900	ug/kg			P	140	1	OPTIMA3	081115-1
7439-92-1	Lead	4700	ug/kg			P	308	1	OPTIMA3	081115-1
7439-97-6	Mercury	5.51	ug/kg	B		AV	4.06	1	HG3	082615S1-4
7440-22-4	Silver	467	ug/kg	UD		P	467	5	OPTIMA3	081215-2
7440-62-2	Vanadium	56600	ug/kg			P	93.4	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728020

**CLIENT ID:** B32D60

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 96.7

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	81100	ug/kg		N	P	90	1	OPTIMA3	081115-1
7440-43-9	Cadmium	584	ug/kg			P	90	1	OPTIMA3	081115-1
7440-47-3	Chromium	8970	ug/kg			P	135	1	OPTIMA3	081115-1
7439-92-1	Lead	4630	ug/kg			P	297	1	OPTIMA3	081115-1
7439-97-6	Mercury	4.29	ug/kg	B		AV	3.78	1	HG3	082615S1-4
7440-22-4	Silver	90	ug/kg	U		P	90	1	OPTIMA3	081115-1
7440-62-2	Vanadium	51000	ug/kg			P	90	1	OPTIMA3	081115-1

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728021

**CLIENT ID:** B32D63

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 98.8

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	80600	ug/kg		N	P	97.3	1	OPTIMA3	081215-2
7440-43-9	Cadmium	261	ug/kg	B		P	97.3	1	OPTIMA3	081215-2
7440-47-3	Chromium	7750	ug/kg			P	146	1	OPTIMA3	081215-2
7439-92-1	Lead	4490	ug/kg			P	321	1	OPTIMA3	081215-2
7439-97-6	Mercury	4.89	ug/kg	B		AV	3.77	1	HG3	082615S1-4
7440-22-4	Silver	97.3	ug/kg	U		P	97.3	1	OPTIMA3	081215-2
7440-62-2	Vanadium	70300	ug/kg			P	97.3	1	OPTIMA3	081215-2

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728022

**CLIENT ID:** B32D66

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 91.1

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	94400	ug/kg		N	P	106	1	OPTIMA3	081215-2
7440-43-9	Cadmium	267	ug/kg	B		P	106	1	OPTIMA3	081215-2
7440-47-3	Chromium	13900	ug/kg			P	159	1	OPTIMA3	081215-2
7439-92-1	Lead	6320	ug/kg			P	350	1	OPTIMA3	081215-2
7439-97-6	Mercury	6.34	ug/kg	B		AV	4.34	1	HG3	082615S1-4
7440-22-4	Silver	106	ug/kg	U		P	106	1	OPTIMA3	081215-2
7440-62-2	Vanadium	49900	ug/kg			P	106	1	OPTIMA3	081215-2

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728023

**CLIENT ID:** B32DL3

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 97.7

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	82200	ug/kg		N	P	95.3	1	OPTIMA3	081215-2
7440-43-9	Cadmium	285	ug/kg	B		P	95.3	1	OPTIMA3	081215-2
7440-47-3	Chromium	8280	ug/kg			P	143	1	OPTIMA3	081215-2
7439-92-1	Lead	4760	ug/kg			P	315	1	OPTIMA3	081215-2
7439-97-6	Mercury	4.99	ug/kg	B		AV	3.93	1	HG3	082615S1-4
7440-22-4	Silver	95.3	ug/kg	U		P	95.3	1	OPTIMA3	081215-2
7440-62-2	Vanadium	68900	ug/kg			P	95.3	1	OPTIMA3	081215-2

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728024

**CLIENT ID:** B32DL4

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 86

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	99100	ug/kg		N	P	111	1	OPTIMA3	081215-2
7440-43-9	Cadmium	309	ug/kg	B		P	111	1	OPTIMA3	081215-2
7440-47-3	Chromium	9980	ug/kg			P	167	1	OPTIMA3	081215-2
7439-92-1	Lead	4020	ug/kg			P	368	1	OPTIMA3	081215-2
7439-97-6	Mercury	13.4	ug/kg			AV	4.43	1	HG3	082615S1-4
7440-22-4	Silver	111	ug/kg	U		P	111	1	OPTIMA3	081215-2
7440-62-2	Vanadium	77500	ug/kg			P	111	1	OPTIMA3	081215-2

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728025

**CLIENT ID:** B32F21

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 96.3

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	81300	ug/kg		N	P	98.6	1	OPTIMA3	081215-2
7440-43-9	Cadmium	230	ug/kg	B		P	98.6	1	OPTIMA3	081215-2
7440-47-3	Chromium	8410	ug/kg			P	148	1	OPTIMA3	081215-2
7439-92-1	Lead	3630	ug/kg			P	325	1	OPTIMA3	081215-2
7439-97-6	Mercury	7.56	ug/kg	B		AV	3.62	1	HG3	082615S1-4
7440-22-4	Silver	98.6	ug/kg	U		P	98.6	1	OPTIMA3	081215-2
7440-62-2	Vanadium	71300	ug/kg			P	98.6	1	OPTIMA3	081215-2

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728026

**CLIENT ID:** B32F24

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 96.8

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	80900	ug/kg		N	P	93	1	OPTIMA3	081215-2
7440-43-9	Cadmium	317	ug/kg	B		P	93	1	OPTIMA3	081215-2
7440-47-3	Chromium	7370	ug/kg			P	140	1	OPTIMA3	081215-2
7439-92-1	Lead	4240	ug/kg			P	307	1	OPTIMA3	081215-2
7439-97-6	Mercury	5.74	ug/kg	B		AV	3.89	1	HG3	082615S1-4
7440-22-4	Silver	93	ug/kg	U		P	93	1	OPTIMA3	081215-2
7440-62-2	Vanadium	66100	ug/kg			P	93	1	OPTIMA3	081215-2

**\*Analytical Methods:**

AV SW846 7471B

P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728027

**CLIENT ID:** B32F27

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 97.2

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	90800	ug/kg		N	P	99.5	1	OPTIMA3	081215-2
7440-43-9	Cadmium	286	ug/kg	B		P	99.5	1	OPTIMA3	081215-2
7440-47-3	Chromium	11000	ug/kg			P	149	1	OPTIMA3	081215-2
7439-92-1	Lead	5120	ug/kg			P	328	1	OPTIMA3	081215-2
7439-97-6	Mercury	6.75	ug/kg	B		AV	3.9	1	HG3	082615S1-4
7440-22-4	Silver	99.5	ug/kg	U		P	99.5	1	OPTIMA3	081215-2
7440-62-2	Vanadium	66400	ug/kg			P	99.5	1	OPTIMA3	081215-2

**\*Analytical Methods:**

AV SW846 7471B  
P SW846 3050B/6010C

**METALS**  
**-1-**  
**INORGANICS ANALYSIS DATA PACKAGE**

**SDG No:** GEL378728

**METHOD TYPE:** SW846

**SAMPLE ID:** 378728028

**CLIENT ID:** B32F30

**CONTRACT:** CPRC0F15048

**MATRIX:** OTHERSOLID

**DATE RECEIVED** 07-AUG-15

**LEVEL:** Low **%SOLIDS:** 96.5

<u>CAS No</u>	<u>Analyte</u>	<u>Result</u>	<u>Units</u>	<u>C</u>	<u>Qual</u>	<u>M*</u>	<u>MDL</u>	<u>DF</u>	<u>Inst ID</u>	<u>Analytical Run</u>
7440-39-3	Barium	94600	ug/kg		N	P	97.6	1	OPTIMA3	081215-2
7440-43-9	Cadmium	299	ug/kg	B		P	97.6	1	OPTIMA3	081215-2
7440-47-3	Chromium	9890	ug/kg			P	146	1	OPTIMA3	081215-2
7439-92-1	Lead	6000	ug/kg			P	322	1	OPTIMA3	081215-2
7439-97-6	Mercury	4.22	ug/kg	B		AV	3.92	1	HG3	082615S1-4
7440-22-4	Silver	97.6	ug/kg	U		P	97.6	1	OPTIMA3	081215-2
7440-62-2	Vanadium	59500	ug/kg			P	97.6	1	OPTIMA3	081215-2

**\*Analytical Methods:**

AV SW846 7471B  
P SW846 3050B/6010C

# **Quality Control Summary**

# GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

## QC Summary

Report Date: September 3, 2015

Page 1 of 5

CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Mr. Scot Fitzgerald

Contact:

Workorder: 378728

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis-ICP</b>											
Batch	1499070										
QC1203370674 378728001 DUP											
Barium		78800		82700	ug/kg	4.79		(0%-20%)	HSC	08/11/15	18:52
Cadmium	B	357	B	408	ug/kg	13.3 ^		(+/-496)			
Chromium		9170		9170	ug/kg	0.0545		(0%-20%)			
Lead		4800		5460	ug/kg	12.9 ^		(+/-991)			
Silver	U	ND	U	ND	ug/kg	N/A					
Vanadium		55100		57000	ug/kg	3.39		(0%-20%)			
QC1203370673 LCS											
Barium		48000		48200	ug/kg		100	(80%-120%)		08/11/15	18:45
Cadmium		48000		48200	ug/kg		101	(80%-120%)			
Chromium		48000		48000	ug/kg		100	(80%-120%)			
Lead		48000		48400	ug/kg		101	(80%-120%)			
Silver		48000		47600	ug/kg		99.1	(80%-120%)			
Vanadium		48000		47700	ug/kg		99.4	(80%-120%)			
QC1203370672 MB											
Barium			U	ND	ug/kg					08/11/15	18:42
Cadmium			U	ND	ug/kg						
Chromium			U	ND	ug/kg						
Lead			U	ND	ug/kg						
Silver			U	ND	ug/kg						
Vanadium			U	ND	ug/kg						
QC1203370675 378728001 MS											

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## QC Summary

Workorder: 378728

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis-ICP</b>											
Batch	1499070										
Barium	49400	78800		125000	ug/kg		93	(75%-125%)		08/11/15	18:55
Cadmium	49400	B 357		47100	ug/kg		94.6	(75%-125%)	HSC		
Chromium	49400	9170		56000	ug/kg		94.9	(75%-125%)			
Lead	49400	4800		51900	ug/kg		95.3	(75%-125%)			
Silver	49400	U ND		47800	ug/kg		96.9	(75%-125%)			
Vanadium	49400	55100		107000	ug/kg		105	(75%-125%)			
QC1203370676 378728001 SDILT											
Barium		772	D	156	ug/L	.9		(0%-10%)		08/11/15	18:58
Cadmium		B 3.50	DU	ND	ug/L	N/A		(0%-10%)			
Chromium		89.9	D	19.1	ug/L	6.33		(0%-10%)			
Lead		47.0	D	9.62	ug/L	2.26		(0%-10%)			
Silver		U ND	DU	ND	ug/L	N/A		(0%-10%)			
Vanadium		540	D	106	ug/L	1.75		(0%-10%)			
Batch	1499072										
QC1203370685 378728021 DUP											
Barium		N 80600		74200	ug/kg	8.3		(0%-20%)	HSC	08/12/15	15:28
Cadmium		B 261	B	307	ug/kg	16	^	(+/-504)			
Chromium		7750		7790	ug/kg	0.498		(0%-20%)			
Lead		4490		4650	ug/kg	3.54	^	(+/-1010)			
Silver		U ND	U	ND	ug/kg	N/A					
Vanadium		70300		72100	ug/kg	2.6		(0%-20%)			
QC1203370684 LCS											
Barium	49900			52300	ug/kg		105	(80%-120%)		08/12/15	15:21
Cadmium	49900			52400	ug/kg		105	(80%-120%)			
Chromium	49900			52300	ug/kg		105	(80%-120%)			

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 378728

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis-ICP</b>											
Batch	1499072										
Lead	49900			52300	ug/kg		105	(80%-120%)	HSC	08/12/15	15:21
Silver	49900			50900	ug/kg		102	(80%-120%)			
Vanadium	49900			51500	ug/kg		103	(80%-120%)			
QC1203370683 MB											
Barium			U	ND	ug/kg					08/12/15	15:18
Cadmium			U	ND	ug/kg						
Chromium			U	ND	ug/kg						
Lead			U	ND	ug/kg						
Silver			U	ND	ug/kg						
Vanadium			U	ND	ug/kg						
QC1203370686 378728021 MS											
Barium	50000	N	80600	N	113000	ug/kg	64.3*	(75%-125%)		08/12/15	15:32
Cadmium	50000	B	261		49900	ug/kg	99.4	(75%-125%)			
Chromium	50000		7750		57700	ug/kg	99.8	(75%-125%)			
Lead	50000		4490		55100	ug/kg	101	(75%-125%)			
Silver	50000	U	ND		50100	ug/kg	100	(75%-125%)			
Vanadium	50000		70300		120000	ug/kg	99.4	(75%-125%)			
QC1203377583 378728021 PS											
Barium	500	N	829		1330	ug/L	99.9	(80%-120%)		08/20/15	09:28
QC1203370687 378728021 SDILT											
Barium		N	829	D	167	ug/L	.895	(0%-10%)		08/12/15	15:34
Cadmium		B	2.69	DU	ND	ug/L	N/A	(0%-10%)			
Chromium			79.7	D	17.4	ug/L	9.33	(0%-10%)			
Lead			46.2	D	11.2	ug/L	21.2	(0%-10%)			

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 378728

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Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis-ICP</b>											
Batch	1499072										
Silver	U	ND	DU	ND	ug/L	N/A		(0%-10%)	HSC	08/12/15	15:34
Vanadium		722	D	148	ug/L	2.23		(0%-10%)			
<b>Metals Analysis-Mercury</b>											
Batch	1502626										
QC1203380236	378728021	DUP									
Mercury	B	4.89	U	ND	ug/kg	29.6 ^		(+/-11.9)	MTM1	08/26/15	12:23
QC1203380235	LCS										
Mercury		118		130	ug/kg		110	(80%-120%)		08/26/15	12:20
QC1203380234	MB										
Mercury			U	ND	ug/kg					08/26/15	12:18
QC1203380237	378728021	MS									
Mercury	117	B	4.89	133	ug/kg		110	(80%-120%)		08/26/15	12:25
QC1203380238	378728021	SDILT									
Mercury	B	0.087	DU	ND	ug/L	N/A		(0%-10%)		08/26/15	12:30
Batch	1502628										
QC1203380246	378728001	DUP									
Mercury	B	6.27	B	4.37	ug/kg	35.7 ^		(+/-12.0)	MTM1	08/26/15	11:33
QC1203380245	LCS										
Mercury		120		122	ug/kg		101	(80%-120%)		08/26/15	11:29
QC1203380244	MB										
Mercury			U	ND	ug/kg					08/26/15	11:24
QC1203380247	378728001	MS									
Mercury	121	B	6.27	126	ug/kg		99.2	(80%-120%)		08/26/15	11:34
QC1203380248	378728001	SDILT									
Mercury	B	0.107	DU	ND	ug/L	N/A		(0%-10%)		08/26/15	11:36

**Notes:**

The Qualifiers in this report are defined as follows:

- \* Duplicate analysis not within control limits
- + Correlation coefficient for Method of Standard Additions (MSA) is < 0.995
- B The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 378728

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Parmname	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
C										
D										
E										
M										
N										
S										
U										
W										
X										
Y										
Z										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

# Miscellaneous

**DATA EXCEPTION REPORT**

<b>Mo.Day Yr.</b> 25-AUG-15	<b>Division:</b> Industrial	<b>Quality Criteria:</b> Specifications	<b>Type:</b> Process
<b>Instrument Type:</b> ICP	<b>Test / Method:</b> SW846 3050B/6010C	<b>Matrix Type:</b> Solid	<b>Client Code:</b> CPRC
<b>Batch ID:</b> 1499072	<b>Sample Numbers:</b> See Below		
<b>Potentially affected work order(s)(SDG): 378728(GEL378728)</b>			
<b>Application Issues:</b> Failed Recovery for MS/MSD, or PS/PSD			
<b>Specification and Requirements</b>		<b>DER Disposition:</b>	
<b>Exception Description:</b>			
<p>1. Failed Recovery for MS/MSD, or PS/PSD:</p> <p>QC 1203370686MS</p>		<p>1. The MS/MSD (See Below) did not meet the recommended quality control acceptance criteria for percent recoveries for the following applicable analyte. The post spike recovery was within the required control limits. This verifies the absence of a matrix interference in the post-spike digested sample. The recovery may be attributed to possible sample matrix interference and/or non-homogeneity. 1203370686 (B32D63MS) Barium [64.3* (75%-125%)].</p>	

**Originator's Name:**

Helen Camello 25-AUG-15

**Data Validator/Group Leader:**

Louise Smith 31-AUG-15

# **General Chem Analysis**

# Case Narrative

**General Chemistry  
Technical Case Narrative  
CH2MHill Plateau Remediation Company (CPRC)  
SDG #: GEL378728  
Work Order #: 378728**

**Method/Analysis Information**

**Product:** Cyanide and Total  
**Analytical Batch:** 1497878 and 1499108   **Method:** 9012\_CYANIDE: COMMON  
**Prep Batch :** 1497877 and 1499106   **Method:** SW846 9010C Distillation

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in SW846 9012B:

<b>Sample ID</b>	<b>Client ID</b>
378728001	B32D69
378728002	B32D72
378728003	B32D75
378728004	B32D78
378728005	B32F33
378728006	B32D18
378728007	B32D21
378728008	B32D24
378728009	B32D27
378728010	B32D30
378728011	B32D33
378728012	B32D36
378728013	B32D39
378728014	B32D42
378728015	B32D45
378728016	B32D48
378728017	B32D51
378728018	B32D54
378728019	B32D57
378728020	B32D60
378728021	B32D63
378728022	B32D66
378728023	B32DL3
378728024	B32DL4
378728025	B32F21
378728026	B32F24
378728027	B32F27
378728028	B32F30
1203367684	Method Blank (MB)

1203370797	Method Blank (MB)
1203367685	Laboratory Control Sample (LCS)
1203370798	Laboratory Control Sample (LCS)
1203369227	378726002(B320P8) Sample Duplicate (DUP)
1203370799	378728001(B32D69) Sample Duplicate (DUP)
1203370800	378728002(B32D72) Sample Duplicate (DUP)
1203369228	378726002(B320P8) Matrix Spike (MS)
1203370801	378728001(B32D69) Matrix Spike (MS)
1203370802	378728002(B32D72) Matrix Spike (MS)

The samples in this SDG were analyzed on a "dry weight" basis.

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-095 REV# 17.

**Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

**Calibration Information**

The Flow Injection analysis was performed on a Lachat QuickChem FIA+ 8000 Series.

**Initial Calibration**

All initial calibration requirements have been met for this SDG.

**Y Intercept Rule**

The absolute value of the intercept is less than 3 times the MDL.

**Quality Control (QC) Information**

**Method Blank (MB) Statement**

The MBs analyzed with this SDG met the acceptance criteria.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

**Quality Control (QC) Designation**

Samples 378726002 (B320P8)- Batch 1497878, 378728001 (B32D69) and 378728002 (B32D72)- Batch 1499108 were selected for QC analysis.

**Matrix Spike (MS)/Post Spike (PS) Recovery Statement**

The MS/PS recoveries for this sample set were within the required acceptance limits.

**Duplicate Relative Percent Difference (RPD) Statement**

The RPD between the sample and its duplicate met the acceptance limits.

**Technical Information**

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

**Holding Times**

All samples in this SDG met the specified holding time.

**Sample Dilutions**

The following samples were diluted because target analyte concentrations exceeded the calibration range. 1203367685 (LCS)- Batch 1497878 and 1203370798 (LCS)- Batch 1499108.

**Sample Re-analysis**

The samples in this SDG did not require re-analysis.

**Miscellaneous Information**

**Data Exception (DER) Documentation**

Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

**Additional Comments**

Additional comments were not required for this SDG.

**Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted:

Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**Method/Analysis Information**

**Product:** Hexavalent Chromium  
**Analytical Batch:** 1499152 and 1500995      **Method:** 7196\_CR6: COMMON  
**Prep Batch :** 1499151 and 1500973      **Method:** SW846 3060A

**Sample Analysis**

The following samples were analyzed using the analytical protocol as established in 7196\_CR6 :

<b>Sample ID</b>	<b>Client ID</b>
378728001	B32D69
378728002	B32D72
378728003	B32D75
378728004	B32D78
378728005	B32F33
378728006	B32D18
378728007	B32D21
378728008	B32D24
378728009	B32D27
378728010	B32D30
378728011	B32D33
378728012	B32D36
378728013	B32D39
378728014	B32D42
378728015	B32D45
378728016	B32D48
378728017	B32D51
378728018	B32D54
378728019	B32D57
378728020	B32D60
378728021	B32D63
378728022	B32D66
378728023	B32DL3
378728024	B32DL4
378728025	B32F21
378728026	B32F24
378728027	B32F27
378728028	B32F30
1203370977	Method Blank (MB)
1203375810	Method Blank (MB)
1203370978	Laboratory Control Sample (LCS)
1203375811	Laboratory Control Sample (LCS)
1203370980	378728001(B32D69) Sample Duplicate (DUP)
1203370981	378728019(B32D57) Sample Duplicate (DUP)

1203375813	378728021(B32D63) Sample Duplicate (DUP)
1203370983	378728001(B32D69) Matrix Spike (MS)
1203370985	378728019(B32D57) Matrix Spike (MS)
1203375815	378728021(B32D63) Matrix Spike (MS)
1203370987	378728001(B32D69) Matrix Spike Duplicate (MSD)
1203370989	378728019(B32D57) Matrix Spike Duplicate (MSD)
1203375817	378728021(B32D63) Matrix Spike Duplicate (MSD)
1203370979	Insoluble Lab Control Sample (ILCS)
1203375812	Insoluble Lab Control Sample (ILCS)

The samples in this SDG were analyzed on a "dry weight" basis.

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-GC-E-044 REV# 21.

**Preparation/Analytical Method Verification**

The SOP stated above has been prepared based on technical research and testing conducted by GEL Laboratories, LLC. and with guidance from the regulatory documents listed in this "Method/Analysis Information" section.

**Calibration Information**

The Spectrometric analysis was performed on a Spectronic 20D+ Digital Spectrophotometer.

**Initial Calibration**

All initial calibration requirements have been met for this SDG.

**Continuing Calibration Blanks**

All continuing calibration blanks (CCBs) associated with reported data from this batch were within acceptance limits.

**Calibration Verification Information (CCV)**

All continuing calibration verification standards (CCVs) associated with reported data from this batch were within acceptance limits.

**Y Intercept Rule**

The absolute value of the intercept is less than 3 times the MDL.

**Quality Control (QC) Information**

**Method Blank (MB) Statement**

The MBs analyzed with this SDG met the acceptance criteria.

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

**Quality Control (QC) Designation**

Samples 378728001 (B32D69), 378728019 (B32D57)- Batch 1499152 and 378728021 (B32D63)- Batch 1500995 were selected for QC analysis.

**Matrix Spike (MS)/Post Spike (PS) Recovery Statement**

The MS/PS recoveries for this sample set were within the required acceptance limits.

**MS/MSD Relative Percent Difference (RPD) Statement**

The RPDs between the spike and spike duplicate met the acceptance limits.

**Duplicate Relative Percent Difference (RPD) Statement**

The RPD between the sample and its duplicate met the acceptance limits.

**Technical Information**

GEL assigns holding times based on the date and time of sample collection. Those holding times expressed in hours are calculated in the AlphaLims system by hours. Those holding times expressed as days expire at midnight on the day of expiration.

**Holding Times**

All samples in this SDG met the specified holding time.

**Sample Dilutions**

The samples in this SDG did not require dilutions.

**Sample Re-analysis**

The samples in this SDG did not require re-analysis.

**Miscellaneous Information****Data Exception (DER) Documentation**

Data exception reports (DERs) are generated to document procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

**Additional Comments**

Additional comments were not required for this SDG.

**Electronic Packaging Comment**

This data package was generated using an electronic data processing program referred to as virtual packaging. In an effort to increase quality and efficiency, the laboratory has developed systems to generate all data packages electronically. The following change from traditional packages should be noted: Analyst/peer reviewer initials and dates are not present on the electronic data files. Presently, all initials and dates are present on the original raw data. These hard copies are temporarily stored in the laboratory. The data validator will always sign and date the case narrative. Data that are not generated electronically, such as hand written pages, will be scanned and inserted into the electronic package.

**Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

## GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

### Qualifier Definition Report for

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL378728 GEL Work Order: 378728

**The Qualifiers in this report are defined as follows:**

B The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).

D Results are reported from a diluted aliquot of sample.

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

**Review/Validation**

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

**Signature:**



**Name: Thomas Lewis**

**Date: 03 SEP 2015**

**Title: Data Validator**

# Sample Data Summary

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

---

Client Sample ID: B32D69 Project: CPRC0F15048  
Sample ID: 378728001 Client ID: CPRC001  
Matrix: OTHERSOLID  
Collect Date: 05-AUG-15 11:29  
Receive Date: 07-AUG-15  
Collector: Client  
Moisture: 3%

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	73.0	73.0	218	ug/kg	1	AXH3	08/17/15	1358	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium		586	123	411	ug/Kg	1	SXC5	08/12/15	1457	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: September 3, 2015

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Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

---

Client Sample ID: B32D72 Project: CPRC0F15048  
Sample ID: 378728002 Client ID: CPRC001  
Matrix: OTHERSOLID  
Collect Date: 05-AUG-15 10:43  
Receive Date: 07-AUG-15  
Collector: Client  
Moisture: 17.8%

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	77.0	77.0	231	ug/kg	1	AXH3	08/17/15	1401	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	145	145	484	ug/Kg	1	SXC5	08/12/15	1503	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF F15-048

Client Sample ID: B32D75	Project: CPRC0F15048
Sample ID: 378728003	Client ID: CPRC001
Matrix: OTHERSOLID	
Collect Date: 05-AUG-15 09:57	
Receive Date: 07-AUG-15	
Collector: Client	
Moisture: 3.56%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	72.1	72.1	216	ug/kg	1	AXH3	08/17/15	1404	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	124	124	414	ug/Kg	1	SXC5	08/12/15	1506	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

**Notes:**

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

---

Client Sample ID:	B32D78	Project:	CPRC0F15048
Sample ID:	378728004	Client ID:	CPRC001
Matrix:	OTHERSOLID		
Collect Date:	05-AUG-15 10:20		
Receive Date:	07-AUG-15		
Collector:	Client		
Moisture:	8.73%		

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	83.2	83.2	249	ug/kg	1	AXH3	08/17/15	1404	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	B	154	130	434	ug/Kg	1	SXC5	08/12/15	1506	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF F15-048

Client Sample ID: B32F33	Project: CPRC0F15048
Sample ID: 378728005	Client ID: CPRC001
Matrix: OTHERSOLID	
Collect Date: 05-AUG-15 11:05	
Receive Date: 07-AUG-15	
Collector: Client	
Moisture: 7.28%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	77.6	77.6	232	ug/kg	1	AXH3	08/17/15	1405	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	128	128	425	ug/Kg	1	SXC5	08/12/15	1506	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

**Notes:**

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Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF F15-048

Client Sample ID: B32D18	Project: CPRC0F15048
Sample ID: 378728006	Client ID: CPRC001
Matrix: OTHERSOLID	
Collect Date: 06-AUG-15 09:54	
Receive Date: 07-AUG-15	
Collector: Client	
Moisture: 2.15%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	64.6	64.6	194	ug/kg	1	AXH3	08/17/15	1406	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	B	187	122	406	ug/Kg	1	SXC5	08/12/15	1526	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

**Notes:**

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

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Client Sample ID:	B32D21	Project:	CPRC0F15048
Sample ID:	378728007	Client ID:	CPRC001
Matrix:	OTHERSOLID		
Collect Date:	06-AUG-15 10:22		
Receive Date:	07-AUG-15		
Collector:	Client		
Moisture:	2.8%		

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	84.2	84.2	252	ug/kg	1	AXH3	08/17/15	1411	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	122	122	407	ug/Kg	1	SXC5	08/12/15	1526	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: September 3, 2015

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Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

---

Client Sample ID:	B32D24	Project:	CPRC0F15048
Sample ID:	378728008	Client ID:	CPRC001
Matrix:	OTHERSOLID		
Collect Date:	06-AUG-15 09:40		
Receive Date:	07-AUG-15		
Collector:	Client		
Moisture:	2.02%		

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	71.0	71.0	213	ug/kg	1	AXH3	08/17/15	1412	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	122	122	406	ug/Kg	1	SXC5	08/12/15	1527	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

---

Client Sample ID:	B32D27	Project:	CPRC0F15048
Sample ID:	378728009	Client ID:	CPRC001
Matrix:	OTHERSOLID		
Collect Date:	05-AUG-15 11:48		
Receive Date:	07-AUG-15		
Collector:	Client		
Moisture:	2.43%		

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	82.3	82.3	246	ug/kg	1	AXH3	08/17/15	1413	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	123	123	408	ug/Kg	1	SXC5	08/12/15	1528	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

---

Client Sample ID:	B32D30	Project:	CPRC0F15048
Sample ID:	378728010	Client ID:	CPRC001
Matrix:	OTHERSOLID		
Collect Date:	06-AUG-15 08:50		
Receive Date:	07-AUG-15		
Collector:	Client		
Moisture:	2.58%		

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	79.4	79.4	238	ug/kg	1	AXH3	08/17/15	1414	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	B	188	122	408	ug/Kg	1	SXC5	08/12/15	1528	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF F15-048

Client Sample ID: B32D33	Project: CPRC0F15048
Sample ID: 378728011	Client ID: CPRC001
Matrix: OTHERSOLID	
Collect Date: 06-AUG-15 09:05	
Receive Date: 07-AUG-15	
Collector: Client	
Moisture: 3.5%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	80.1	80.1	240	ug/kg	1	AXH3	08/17/15	1415	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	124	124	413	ug/Kg	1	SXC5	08/12/15	1529	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

**Notes:**

# GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

---

Client Sample ID:	B32D36	Project:	CPRC0F15048
Sample ID:	378728012	Client ID:	CPRC001
Matrix:	OTHERSOLID		
Collect Date:	06-AUG-15 08:22		
Receive Date:	07-AUG-15		
Collector:	Client		
Moisture:	1.1%		

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	69.2	69.2	207	ug/kg	1	AXH3	08/17/15	1415	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	B	185	121	402	ug/Kg	1	SXC5	08/12/15	1531	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

# GEL LABORATORIES LLC

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

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Client Sample ID:	B32D39	Project:	CPRC0F15048
Sample ID:	378728013	Client ID:	CPRC001
Matrix:	OTHERSOLID		
Collect Date:	06-AUG-15 08:38		
Receive Date:	07-AUG-15		
Collector:	Client		
Moisture:	9.87%		

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	74.7	74.7	224	ug/kg	1	AXH3	08/17/15	1416	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	133	133	442	ug/Kg	1	SXC5	08/12/15	1532	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

---

Client Sample ID:	B32D42	Project:	CPRC0F15048
Sample ID:	378728014	Client ID:	CPRC001
Matrix:	OTHERSOLID		
Collect Date:	06-AUG-15 07:33		
Receive Date:	07-AUG-15		
Collector:	Client		
Moisture:	2.91%		

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	79.6	79.6	238	ug/kg	1	AXH3	08/17/15	1417	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	123	123	411	ug/Kg	1	SXC5	08/12/15	1533	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF F15-048

Client Sample ID: B32D45	Project: CPRC0F15048
Sample ID: 378728015	Client ID: CPRC001
Matrix: OTHERSOLID	
Collect Date: 06-AUG-15 08:10	
Receive Date: 07-AUG-15	
Collector: Client	
Moisture: 3.62%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	86.6	86.6	259	ug/kg	1	AXH3	08/17/15	1418	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	B	146	124	414	ug/Kg	1	SXC5	08/12/15	1534	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

**Notes:**

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF F15-048

Client Sample ID: B32D48	Project: CPRC0F15048
Sample ID: 378728016	Client ID: CPRC001
Matrix: OTHERSOLID	
Collect Date: 06-AUG-15 07:15	
Receive Date: 07-AUG-15	
Collector: Client	
Moisture: 2.23%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	77.6	77.6	232	ug/kg	1	AXH3	08/17/15	1419	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	122	122	407	ug/Kg	1	SXC5	08/12/15	1534	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

**Notes:**

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

---

Client Sample ID: B32D51 Project: CPRC0F15048  
Sample ID: 378728017 Client ID: CPRC001  
Matrix: OTHERSOLID  
Collect Date: 05-AUG-15 13:47  
Receive Date: 07-AUG-15  
Collector: Client  
Moisture: 18.5%

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	88.3	88.3	264	ug/kg	1	AXH3	08/17/15	1424	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium		591	147	489	ug/Kg	1	SXC5	08/12/15	1542	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

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Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF F15-048

Client Sample ID: B32D54	Project: CPRC0F15048
Sample ID: 378728018	Client ID: CPRC001
Matrix: OTHERSOLID	
Collect Date: 05-AUG-15 13:22	
Receive Date: 07-AUG-15	
Collector: Client	
Moisture: 4.47%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	80.9	80.9	242	ug/kg	1	AXH3	08/17/15	1425	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	125	125	416	ug/Kg	1	SXC5	08/12/15	1543	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

**Notes:**

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Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

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Client Sample ID:	B32D57	Project:	CPRC0F15048
Sample ID:	378728019	Client ID:	CPRC001
Matrix:	OTHERSOLID		
Collect Date:	05-AUG-15 13:22		
Receive Date:	07-AUG-15		
Collector:	Client		
Moisture:	4.56%		

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	82.5	82.5	247	ug/kg	1	AXH3	08/17/15	1425	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	125	125	417	ug/Kg	1	SXC5	08/12/15	1544	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

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Client Sample ID: B32D60 Project: CPRC0F15048  
Sample ID: 378728020 Client ID: CPRC001  
Matrix: OTHERSOLID  
Collect Date: 05-AUG-15 12:51  
Receive Date: 07-AUG-15  
Collector: Client  
Moisture: 3.26%

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	69.6	69.6	208	ug/kg	1	AXH3	08/17/15	1426	1499108	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	124	124	413	ug/Kg	1	SXC5	08/12/15	1545	1499152	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/11/15	1621	1499151
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/17/15	1303	1499106

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF F15-048

Client Sample ID: B32D63	Project: CPRC0F15048
Sample ID: 378728021	Client ID: CPRC001
Matrix: OTHERSOLID	
Collect Date: 05-AUG-15 12:35	
Receive Date: 07-AUG-15	
Collector: Client	
Moisture: 1.16%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	78.2	78.2	234	ug/kg	1	AXH3	08/12/15	1056	1497878	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium		458	121	404	ug/Kg	1	SXC5	08/19/15	1125	1500995	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/17/15	1328	1500973
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/11/15	1255	1497877

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

**Notes:**

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF F15-048

Client Sample ID: B32D66	Project: CPRC0F15048
Sample ID: 378728022	Client ID: CPRC001
Matrix: OTHERSOLID	
Collect Date: 05-AUG-15 12:23	
Receive Date: 07-AUG-15	
Collector: Client	
Moisture: 8.94%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	81.9	81.9	245	ug/kg	1	AXH3	08/12/15	1057	1497878	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	131	131	438	ug/Kg	1	SXC5	08/19/15	1128	1500995	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/17/15	1328	1500973
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/11/15	1255	1497877

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

**Notes:**

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

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Client Sample ID:	B32DL3	Project:	CPRC0F15048
Sample ID:	378728023	Client ID:	CPRC001
Matrix:	OTHERSOLID		
Collect Date:	06-AUG-15 10:33		
Receive Date:	07-AUG-15		
Collector:	Client		
Moisture:	2.32%		

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	66.8	66.8	200	ug/kg	1	AXH3	08/12/15	1058	1497878	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	122	122	408	ug/Kg	1	SXC5	08/19/15	1129	1500995	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/17/15	1328	1500973
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/11/15	1255	1497877

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF F15-048

Client Sample ID: B32DL4	Project: CPRC0F15048
Sample ID: 378728024	Client ID: CPRC001
Matrix: OTHERSOLID	
Collect Date: 06-AUG-15 10:45	
Receive Date: 07-AUG-15	
Collector: Client	
Moisture: 14.2%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	88.5	88.5	265	ug/kg	1	AXH3	08/12/15	1059	1497878	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	139	139	462	ug/Kg	1	SXC5	08/19/15	1130	1500995	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/17/15	1328	1500973
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/11/15	1255	1497877

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

**Notes:**

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

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Client Sample ID:	B32F21	Project:	CPRC0F15048
Sample ID:	378728025	Client ID:	CPRC001
Matrix:	OTHERSOLID		
Collect Date:	06-AUG-15 10:06		
Receive Date:	07-AUG-15		
Collector:	Client		
Moisture:	3.75%		

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	73.5	73.5	220	ug/kg	1	AXH3	08/12/15	1103	1497878	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	B	227	124	413	ug/Kg	1	SXC5	08/19/15	1131	1500995	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/17/15	1328	1500973
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/11/15	1255	1497877

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF F15-048

Client Sample ID: B32F24	Project: CPRC0F15048
Sample ID: 378728026	Client ID: CPRC001
Matrix: OTHERSOLID	
Collect Date: 06-AUG-15 09:28	
Receive Date: 07-AUG-15	
Collector: Client	
Moisture: 3.17%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	59.9	59.9	179	ug/kg	1	AXH3	08/12/15	1104	1497878	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	U	124	124	412	ug/Kg	1	SXC5	08/19/15	1132	1500995	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/17/15	1328	1500973
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/11/15	1255	1497877

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

**Notes:**

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## Certificate of Analysis

Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
Address : MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352  
Contact: Mr. Scot Fitzgerald  
Project: CHPRC SAF F15-048

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Client Sample ID:	B32F27	Project:	CPRC0F15048
Sample ID:	378728027	Client ID:	CPRC001
Matrix:	OTHERSOLID		
Collect Date:	06-AUG-15 07:50		
Receive Date:	07-AUG-15		
Collector:	Client		
Moisture:	2.77%		

---

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	82.6	82.6	247	ug/kg	1	AXH3	08/12/15	1105	1497878	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium		415	122	408	ug/Kg	1	SXC5	08/19/15	1132	1500995	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/17/15	1328	1500973
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/11/15	1255	1497877

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

Notes:

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Report Date: September 3, 2015

Company : CH2MHill Plateau Remediation Company  
 Address : MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington 99352  
 Contact: Mr. Scot Fitzgerald  
 Project: CHPRC SAF F15-048

Client Sample ID: B32F30	Project: CPRC0F15048
Sample ID: 378728028	Client ID: CPRC001
Matrix: OTHERSOLID	
Collect Date: 05-AUG-15 13:06	
Receive Date: 07-AUG-15	
Collector: Client	
Moisture: 3.54%	

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Flow Injection Analysis											
9012_CYANIDE: COMMON "Dry Weight Corrected"											
Cyanide, Total	U	73.4	73.4	220	ug/kg	1	AXH3	08/12/15	1106	1497878	1
Spectrometric Analysis											
7196_CR6: COMMON "Dry Weight Corrected"											
Hexavalent Chromium	B	179	124	414	ug/Kg	1	SXC5	08/19/15	1133	1500995	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3060A	SW846_7196A Hexavalent Chromium in Soil	SXC5	08/17/15	1328	1500973
SW846 9010C Distillation	SW846 9010C Prep	AXH3	08/11/15	1255	1497877

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 9012B	
2	7196_CR6	

**Notes:**

# **Quality Control Summary**

# GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

## QC Summary

Report Date: September 3, 2015

Page 1 of 3

**CH2M Hill Plateau Remediation Company**

**MSIN R3-50 CHPRC**

**PO Box 1600**

**Richland, Washington**

**Mr. Scot Fitzgerald**

**Contact:**

**Workorder: 378728**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Flow Injection Analysis</b>											
Batch	1497878										
QC1203369227	378726002	DUP									
Cyanide, Total	B	186	U	75.9	ug/kg	85.3 ^		(+/-227)	AXH3	08/12/15	10:54
QC1203367685	LCS										
Cyanide, Total	90600		D	86100	ug/kg		95	(59%-139%)		08/12/15	10:43
QC1203367684	MB										
Cyanide, Total			U	83.5	ug/kg					08/12/15	10:42
QC1203369228	378726002	MS									
Cyanide, Total	5180	B	186	6110	ug/kg		114	(47%-133%)		08/12/15	10:55
Batch	1499108										
QC1203370799	378728001	DUP									
Cyanide, Total		U	73.0	U	70.6	ug/kg	N/A		AXH3	08/17/15	13:59
QC1203370800	378728002	DUP									
Cyanide, Total		U	77.0	U	78.2	ug/kg	N/A			08/17/15	14:02
QC1203370798	LCS										
Cyanide, Total	90600		D	121000	ug/kg		134	(59%-139%)		08/17/15	13:54
QC1203370797	MB										
Cyanide, Total			U	83.5	ug/kg					08/17/15	13:53
QC1203370801	378728001	MS									
Cyanide, Total	4230	U	73.0	4480	ug/kg		106	(47%-133%)		08/17/15	14:00
QC1203370802	378728002	MS									
Cyanide, Total	4680	U	77.0	4820	ug/kg		103	(47%-133%)		08/17/15	14:03
<b>Spectrometric Analysis</b>											
Batch	1499152										
QC1203370980	378728001	DUP									
Hexavalent Chromium			586		497	ug/Kg	16.4 ^		(+/-411)	SXC5	08/12/15 14:58
QC1203370981	378728019	DUP									
Hexavalent Chromium		U	125	U	125	ug/Kg	N/A			08/12/15	15:44
QC1203370979	ILCS										
Hexavalent Chromium	7950			6520	ug/Kg		82.1	(80%-120%)		08/12/15	14:56
QC1203370978	LCS										

# GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

## QC Summary

Workorder: 378728

Page 2 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Spectrometric Analysis</b>											
Batch	1499152										
Hexavalent Chromium	3970			3500	ug/Kg		88.1	(80%-120%)		08/12/15	14:56
QC1203370977	MB										
Hexavalent Chromium			U	119	ug/Kg				SXC5	08/12/15	14:56
QC1203370983	378728001		MS								
Hexavalent Chromium	4120	586		3850	ug/Kg		79.3	(75%-125%)		08/12/15	14:59
QC1203370985	378728019		MS								
Hexavalent Chromium	4180	U	125	3820	ug/Kg		90	(75%-125%)		08/12/15	15:44
QC1203370987	378728001		MSD								
Hexavalent Chromium	4110		586	3800	ug/Kg	1.23	78.2	(0%-30%)		08/12/15	15:03
QC1203370989	378728019		MSD								
Hexavalent Chromium	4160	U	125	3800	ug/Kg	0.378	90	(0%-30%)		08/12/15	15:45
Batch	1500995										
QC1203375813	378728021		DUP								
Hexavalent Chromium		458		411	ug/Kg	10.8 ^		(+/-404)	SXC5	08/19/15	11:25
QC1203375812	ILCS										
Hexavalent Chromium	8000			8630	ug/Kg		108	(80%-120%)		08/19/15	11:24
QC1203375811	LCS										
Hexavalent Chromium	4000			3960	ug/Kg		99	(80%-120%)		08/19/15	11:23
QC1203375810	MB										
Hexavalent Chromium			U	120	ug/Kg					08/19/15	11:23
QC1203375815	378728021		MS								
Hexavalent Chromium	4040	458		3710	ug/Kg		80.6	(75%-125%)		08/19/15	11:26
QC1203375817	378728021		MSD								
Hexavalent Chromium	4010	458		3690	ug/Kg	0.656	80.6	(0%-30%)		08/19/15	11:26

**Notes:**

The Qualifiers in this report are defined as follows:

- < Sample is below the EPA guidance level for Reactive Releasable Cyanide and/or Reactive Releasable Sulfide
- > Result greater than quantifiable range or greater than upper limit of the analysis range
- B The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).
- C Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.
- D Results are reported from a diluted aliquot of sample.

# GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

## QC Summary

Workorder: 378728

Page 3 of 3

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N										
U										
X										
Y										
Z										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.



September 11, 2015

Mr. Scot Fitzgerald  
CH2MHill Plateau Remediation Company  
MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352

Re: CHPRC SAF F15-048  
Work Order: 378840  
SDG: GEL378840

Dear Mr. Fitzgerald:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on August 07, 2015. This revised data report has been prepared and reviewed in accordance with GEL's standard operating procedures. Per client P&D, this package was revised to correct the scanned Chain of Custody.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4505.

Sincerely,

Heather Shaffer  
Project Manager

Purchase Order: 303757 - 8H  
Chain of Custody: F15-048-011, F15-048-035, F15-048-038, F15-048-041, F15-048-044, F15-048-047,  
F15-048-050, F15-048-053, F15-048-056, F15-048-059, F15-048-062, F15-048-080 and F15-048-083  
Enclosures



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# **Problem and Discrepancy Report**

# Problem and Discrepancy Report

GEL

SDG GEL378840

09/10/15

---

**The data package has the following issues:**

GEL reported results for sample B32D53. There isn't a COC for this sample in the report, nor is it setup in this SDG.

**Resolution:** *Provide correction.*

## Lab Response:

The chain of custody for B32D53 was skipped during the scanning process. The chain has been rescanned and a new package will be sent.

Provide a resolution to each issue noted on the report

Page 1 of 1

# **Case Narrative**

Per client P&D, this package was revised to correct the scanned Chain of Custody.

**General Narrative  
for  
CH2MHill Plateau Remediation Company  
CHPRC SAF F15-048  
SDG: GEL378840**

**September 11, 2015**

**Laboratory Identification:**

GEL Laboratories LLC  
2040 Savage Road  
Charleston, South Carolina 29407  
(843) 556-8171

**Summary**

**Sample receipt**

The sample(s) arrived at GEL Laboratories, LLC, Charleston, South Carolina on August 07, 2015, for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

**Items of Note** All efforts were made by the lab to meet any short hold times. Samples that were analyzed outside of the initial hold time but still within 2X hold time will be noted in the lab case narrative and DER

**Sample Identification**

The laboratory received the following samples:

<b><u>Laboratory Identification</u></b>	<b><u>Sample Description</u></b>
378840001	B32D26
378840002	B32D50
378840003	B32D53
378840004	B32D56
378840005	B32D59
378840006	B32D62
378840007	B32D65
378840008	B32D68
378840009	B32D71
378840010	B32D74
378840011	B32D77
378840012	B32F29
378840013	B32F32

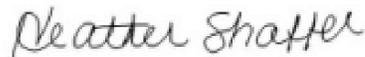
**Case Narrative**

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

**Data Package**

The enclosed data package contains the following sections: General Narrative, Chain of Custody and Supporting Documentation, and data from the following fractions: GC/MS Volatile.

This package, to the best of my knowledge, is in compliance with the SOW, both technically and for completeness, including a full description of, explanation of, and corrective actions for, any and all deviations, from either the analyses requested or the case narrative requested. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manger (or designee) and the laboratory's client services representative as verified by their signatures on this report.



Heather Shaffer  
Project Manager

# **Chain of Custody and Supporting Documentation**

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378840</b>			F15-048-011	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-4		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>GW5-463</b>		FIELD LOGBOOK NO. INF -N-507- <u>31-67</u>	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>		BILL OF LADING/AIR BILL NO. <b>7742 24984939</b>		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION Cool <-7C and >-20C			
			HOLDING TIME 14 Days			
			TYPE OF CONTAINER aGs			
			NO. OF CONTAINER(S) 5			
			VOLUME 40mL			
	SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D26	SOIL	AUG 05 2015	1148	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015/412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015/412	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0930	RECEIVED BY/STORED IN L.D. Wall	DATE/TIME AUG 06 2015 0930		
RELINQUISHED BY/REMOVED FROM L.D. Wall	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FED ex	DATE/TIME	RECEIVED BY/STORED IN M. Kuslow	DATE/TIME 8-775 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-4

Sampler Initials and Date: FMH 8-5-15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32D26	K	28.32	34.22	5.9
	L	28.02	34.30	6.28
	M	28.65	34.02	5.37
	N	28.22	34.39	6.17
	P	28.24	34.65	6.41

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378840</b>		F15-048-035	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H
SAMPLING LOCATION FS-1 Closure Confirmation: 1-12		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO. <b>GWS-464</b>		FIELD LOGBOOK NO. HNF-N-507- <b>31-67</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>		BILL OF LADING/AIR BILL NO. <b>7742 24984803</b>	

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C
		HOLDING TIME	14 Days
		TYPE OF CONTAINER	aGs
		NO. OF CONTAINER(S)	5
		VOLUME	40mL
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B32D50	SOIL	AUG 05 2015	1347 ✓

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0805	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0805	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME	
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME	
RELINQUISHED BY/REMOVED FROM Fed ex	DATE/TIME	RECEIVED BY/STORED IN M. Kinslow	DATE/TIME 8-7-15 0910	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-12

Sampler Initials and Date: FMA 8-5-15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B37-D50 ↓	K	28.74	34.28	5.54
	L	28.36	34.08	5.72
	M	28.96	34.56	5.6
	N	28.59	33.04	4.45
	P	28.26	34.02	5.76

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378840</b>			F15-048-038	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H
SAMPLING LOCATION FS-1 Closure Confirmation: 1-13		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	DATA TURNAROUND 30 Days / 30 Days	
ICE CHEST NO. <b>605-463</b>		FIELD LOGBOOK NO. HNF-N-507- <u>31-67</u>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>		BILL OF LADING/AIR BILL NO. <b>7742 2498 4939</b>		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION Cool <-7C and >-20C	HOLDING TIME 14 Days	TYPE OF CONTAINER aGs	NO. OF CONTAINER(S) 5	VOLUME 40mL
SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D53	SOIL	AUG 05 2015	1322	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0930	RECEIVED BY/STORED IN L.D. Wall	DATE/TIME AUG 06 2015 0930		
RELINQUISHED BY/REMOVED FROM L.D. Wall	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM <i>(ex)</i>	DATE/TIME	RECEIVED BY/STORED IN M. Kinslow	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-13

Sampler Initials and Date: FMH

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32053 ↓	K	28.52	34.07	5.55
	L	28.34	34.51	6.17
	M	28.29	35.08	6.79
	N	28.41	34.05	5.64
	P	28.43	34.52	6.09

- <sup>1</sup> Enter sample number associated with the sampling event.
- <sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.
- <sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.
- <sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378840</b>			F15-048-041	PAGE 1 OF 1
COLLECTOR P.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-13 Duplicate		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>GWS-464</b>		FIELD LOGBOOK NO. <b>HNF-N-507-31-67</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>		BILL OF LADING/AIR BILL NO. <b>7742 2498 4803</b>		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C			
		HOLDING TIME	14 Days			
		TYPE OF CONTAINER	aGs			
		NO. OF CONTAINER(S)	5			
		SPECIAL HANDLING AND/OR STORAGE N/A	VOLUME	40mL		
		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D56	SOIL	AUG 05 2015	1322			✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM <i>F.M. Hall/CHPRC</i>	DATE/TIME <b>AUG 05 2015 1412</b>	RECEIVED BY/STORED IN <b>SSU-1</b>	DATE/TIME <b>AUG 05 2015 1412</b>	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM <b>SSU-1</b>	DATE/TIME <b>AUG 06 2015 0805</b>	RECEIVED BY/STORED IN <i>E.L. Kauer</i>	DATE/TIME <b>AUG 06 2015 0805</b>		
RELINQUISHED BY/REMOVED FROM <i>E.L. Kauer</i>	DATE/TIME <b>AUG 06 2015 1400</b>	RECEIVED BY/STORED IN <b>CHPRC</b>	DATE/TIME <b>AUG 06 2015 0805</b>		
RELINQUISHED BY/REMOVED FROM <b>CHPRC</b>	DATE/TIME <b>AUG 06 2015 1400</b>	RECEIVED BY/STORED IN <b>FEDEX</b>	DATE/TIME <b>AUG 06 2015 0805</b>		
RELINQUISHED BY/REMOVED FROM <b>FEDEX</b>	DATE/TIME <b>AUG 06 2015 1400</b>	RECEIVED BY/STORED IN <i>m. Kuslow</i>	DATE/TIME <b>8-75 0910</b>		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-13 Duplicate

Sampler Initials and Date: FMH 8-5-15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32056	K	28.19	34.31	6.12
	L	28.70	34.87	6.17
	M	28.55	34.48	5.93
	N	28.44	34.06	5.62
	P	28.68	34.22	5.54

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		378840	F15-048-044	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-14		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-463		FIELD LOGBOOK NO. HNF-N-507-31.67	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. 5867		BILL OF LADING/AIR BILL NO. 7742 2498 4939		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION Cool <-7C and >-20C	HOLDING TIME 14 Days	TYPE OF CONTAINER aGs	NO. OF CONTAINER(S) 5	VOLUME 40mL
	SPECIAL HANDLING AND/OR STORAGE N/A	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D59	SOIL	AUG 05 2015	1251	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0930	RECEIVED BY/STORED IN L.D. Wall	DATE/TIME AUG 06 2015 0930		
RELINQUISHED BY/REMOVED FROM L.D. Wall	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME	RECEIVED BY/STORED IN M. Kinslow	DATE/TIME 875 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-14

Sampler Initials and Date: FMH 8-5-15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32059	K	28.85	34.09	5.24
	L	28.58	33.10	4.52
	M	28.59	34.38	5.79
	N	28.03	33.39	5.36
	P	28.12	33.66	5.54

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378840</b>			F15-048-047	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-15		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b> <b>6WS-463</b>		<b>FIELD LOGBOOK NO.</b> HNF-N-507- <u>31-67</u>	<b>ACTUAL SAMPLE DEPTH</b> <b>0-12"</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	<b>ORIGINAL</b>
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b> <b>5867</b>		<b>BILL OF LADING/AIR BILL NO.</b> <b>7742 2498 4939</b>		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b> Cool <-7C and >-20C	<b>HOLDING TIME</b> 14 Days	<b>TYPE OF CONTAINER</b> aGs	<b>NO. OF CONTAINER(S)</b> 5
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>VOLUME</b> 40mL	<b>SAMPLE ANALYSIS</b> SEE ITEM (1) IN SPECIAL INSTRUCTIONS			
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32D62	SOIL	AUG 05 2015	1235			✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412	<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0930	RECEIVED BY/STORED IN L.D. Wall	DATE/TIME AUG 06 2015 0930		
RELINQUISHED BY/REMOVED FROM L.D. Wall	DATE/TIME AUG 06 2015 1406	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN M. Kuslaw	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-15

Sampler Initials and Date: FMA 8-5-15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32D62	K	28.47	33.46	4.99
	L	28.37	34.60	6.23
	M	28.64	33.90	5.26
	N	28.67	34.08	5.41
	P	28.40	33.86	5.46

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378840</b>			F15-048-050	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-16		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>6WS-463</b>		FIELD LOGBOOK NO. HNF-N-507- <u>31-67</u>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>		BILL OF LADING/AIR BILL NO. <b>7742 2498 4939</b>		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C
		HOLDING TIME	14 Days
		TYPE OF CONTAINER	aGs
		NO. OF CONTAINER(S)	5
		VOLUME	40mL
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B32D65	SOIL	AUG 05 2015	1223 ✓

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0930	RECEIVED BY/STORED IN L.D. Wall
RELINQUISHED BY/REMOVED FROM L.D. Wall	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN M. Kinston
RELINQUISHED BY/REMOVED FROM FedEx	DATE/TIME	RECEIVED BY/STORED IN M. Kinston
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

**SPECIAL INSTRUCTIONS**  
 TRVL-15-136  
 (1) 5035/8260\_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260\_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-16

Sampler Initials and Date: FMA 8-5-15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32065 ↓	K	28.77	34.16	5.39
	L	28.14	33.72	5.58
	M	28.48	34.05	6.02
	N	28.82	34.33	5.51
	P	28.10	33.61	5.51

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <sup>67112</sup> 378890			F15-048-053	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-17		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-464		FIELD LOGBOOK NO. HNF-N-507-31.67	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS ORIGINAL	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. 5867		BILL OF LADING/AIR BILL NO. 7742 2498 4803		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>		Cool <-7C and >-20C
		<b>HOLDING TIME</b>		14 Days
		<b>TYPE OF CONTAINER</b>		aGs
		<b>NO. OF CONTAINER(S)</b>		5
		<b>VOLUME</b>		40mL
<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>		SEE ITEM (1) IN SPECIAL INSTRUCTIONS
N/A				
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32D68	SOIL	AUG 05 2015	1129	✓

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1140	RECEIVED BY/STORED IN L.D. Wall CHPRC
RELINQUISHED BY/REMOVED FROM L.D. Wall CHPRC	DATE/TIME AUG 05 2015 1225	RECEIVED BY/STORED IN SSU-1
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0905	RECEIVED BY/STORED IN E.L. Kauer CHPRC
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEx
RELINQUISHED BY/REMOVED FROM FEDEx	DATE/TIME AUG 08 2015 0910	RECEIVED BY/STORED IN M. K... 8-715 0910
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

TRVL-15-136  
 (1) 5035/8260\_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260\_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-17

Sampler Initials and Date: FMH 8-5-15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32-D68	K	28.25	32.35	
	L	28.30	33.31	
	M	28.30	33.96	
	N	28.59	34.18	
	P	28.58	34.08	

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378840</b>			F15-048-056	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-18		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b> <b>GWS-464</b>		<b>FIELD LOGBOOK NO.</b> <b>HNF-N-507-31-67</b>	<b>ACTUAL SAMPLE DEPTH</b> <b>0-12"</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	<b>ORIGINAL</b>
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b> <b>5867</b>		<b>BILL OF LADING/AIR BILL NO.</b> <b>7742 2498 4803</b>		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		<b>PRESERVATION</b> Cool <-7C and >-20C			
			<b>HOLDING TIME</b> 14 Days			
			<b>TYPE OF CONTAINER</b> aGs			
			<b>NO. OF CONTAINER(S)</b> 5			
			<b>VOLUME</b> 40mL			
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>		SEE ITEM (1) IN SPECIAL INSTRUCTIONS		
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32D71	SOIL	AUG 05 2015	1043	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1140	RECEIVED BY/STORED IN L.D. Wall	DATE/TIME AUG 05 2015 1140	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM L.D. Wall	DATE/TIME AUG 05 2015 1225	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 05 2015 1225		
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0800	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 06 2015 0801		
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME	RECEIVED BY/STORED IN M. Kaulow	DATE/TIME 8-7-15 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

RS-1-18

Sampler Initials and Date: FMH 8-5-15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32071	K	28.26	33.50	5.24
	L	28.93	34.45	5.52
	M	28.12	33.00	4.88
	N	28.46	34.03	5.57
	P	28.29	34.00	5.71

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378810</b>			F15-048-059	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-19		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>GWS-464</b>		FIELD LOGBOOK NO. HNF-N-507-31-67	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>58607</b>		BILL OF LADING/AIR BILL NO. <b>7742 2498 4803</b>		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C	
		HOLDING TIME	14 Days	
		TYPE OF CONTAINER	aGs	
		NO. OF CONTAINER(S)	5	
		VOLUME	40mL	
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B32D74	SOIL	AUG 05 2015	0955	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1140	RECEIVED BY/STORED IN L.D. Wall	DATE/TIME AUG 05 2015 1140	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM L.D. Wall	DATE/TIME AUG 05 2015 1225	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1225	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0805	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0805	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME FEDEX	
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME FEDEX	RECEIVED BY/STORED IN M. Kuslow	DATE/TIME 8-25 0910	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS 4 - L-109

Sampler Initials and Date: FMH 8-5-15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32074	K	29.30	34.12	4.82
B32074	L	29.09	34.63	5.54
B32074	M	28.65	33.84	5.19
B32074	N	28.36	33.55	5.19
B32074	P	28.88	34.79	5.91

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378840</b>		F15-048-062	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H
SAMPLING LOCATION FS-1 Closure Confirmation: 1-20		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO. <b>GWS-464</b>		FIELD LOGBOOK NO. HNF-N-507- <b>31-67</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>	BILL OF LADING/AIR BILL NO. <b>774224984803</b>		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C
	SPECIAL HANDLING AND/OR STORAGE N/A	HOLDING TIME	14 Days
		TYPE OF CONTAINER	aGs
		NO. OF CONTAINER(S)	5
		VOLUME	40mL
		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B32D77	SOIL	AUG 05 2015	1020	V

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1140	RECEIVED BY/STORED IN L.D. Wall/CHPRC
RELINQUISHED BY/REMOVED FROM L.D. Wall/CHPRC	DATE/TIME AUG 05 2015 1225	RECEIVED BY/STORED IN SSU-1
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0805	RECEIVED BY/STORED IN E.L. Kauer/CHPRC
RELINQUISHED BY/REMOVED FROM E.L. Kauer/CHPRC	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME	RECEIVED BY/STORED IN M. Krosow
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

SPECIAL INSTRUCTIONS  
 TRVL-15-136  
 (1) 5035/8260\_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260\_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-20

Sampler Initials and Date: FMA 8-5-15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32077	K	28.82	34.22	5.4
	L	29.00	34.50	5.5
	M	28.31	33.83	5.52
	N	28.45	33.49	5.04
	P	28.61	33.58	4.97

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378840</b>			F15-048-080	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: Optional 6		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b> 665-464		<b>FIELD LOGBOOK NO.</b> HNF-N-507-31-67	<b>ACTUAL SAMPLE DEPTH</b> 0-12"	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> GEL Laboratories, LLC		<b>OFFSITE PROPERTY NO.</b> 5867		<b>BILL OF LADING/AIR BILL NO.</b> 7742 2498 4803		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C	
		<b>HOLDING TIME</b>	14 Days	
		<b>TYPE OF CONTAINER</b>	aGs	
		<b>NO. OF CONTAINER(S)</b>	5	
		<b>SPECIAL HANDLING AND/OR STORAGE</b>	<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
<b>VOLUME</b>	40mL			
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32F29	SOIL	AUG 05 2015	1706	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0807	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0807		
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 06 2015 1400		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME AUG 06 2015 1400		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN M. Knicker	DATE/TIME AUG 06 2015 0910		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

~~FS-106~~ <sup>8/5/15</sup> FS-106      F5-1 optional - 6

Sampler Initials and Date: FMA 8-5-15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32 F29	K	28.86	34.68	5.82
	L	28.20	33.87	5.67
	M	28.30	33.97	5.67
	N	28.75	34.44	5.69
	P	28.57	34.16	5.59

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378840</b>		F15-048-083	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 7		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	DATA TURNAROUND 30 Days / 30 Days
ICE CHEST NO. <b>GWS-464</b>		FIELD LOGBOOK NO. HNF -N-507- <u>31-67</u>	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5867</b>		BILL OF LADING/AIR BILL NO. <b>7742 2498 4803</b>	

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <-7C and >-20C
		<b>HOLDING TIME</b>	14 Days
		<b>TYPE OF CONTAINER</b>	aGs
		<b>NO. OF CONTAINER(S)</b>	5
		<b>VOLUME</b>	40mL
<b>SPECIAL HANDLING AND/OR STORAGE</b>		<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32F32	SOIL	AUG 05 2015	1105 ✓

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	RECEIVED BY/STORED IN L.D. Wall CHPRC	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
DATE/TIME AUG 05 2015 1140	DATE/TIME AUG 05 2015 1140	
RELINQUISHED BY/REMOVED FROM L.D. Wall CHPRC	RECEIVED BY/STORED IN SSU-1	
DATE/TIME AUG 05 2015 1225	DATE/TIME AUG 05 2015 1225	
RELINQUISHED BY/REMOVED FROM SSU-1	RECEIVED BY/STORED IN E.L. Kauer CHPRC	
DATE/TIME AUG 06 2015 0805	DATE/TIME AUG 06 2015 0805	
RELINQUISHED BY/REMOVED FROM E.L. Kauer CHPRC	RECEIVED BY/STORED IN FEDEX	
DATE/TIME AUG 06 2015 1400	DATE/TIME AUG 06 2015 1400	
RELINQUISHED BY/REMOVED FROM FedEx	RECEIVED BY/STORED IN M. Krawlow	
DATE/TIME AUG 06 2015 1400	DATE/TIME AUG 06 2015 1400	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
DATE/TIME	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	RECEIVED BY/STORED IN	
DATE/TIME	DATE/TIME	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-7

Sampler Initials and Date: FMA 8-5-15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32AF32	K	28.71	34.28	5.57
	L	28.28	32.96	4.68
	M	28.78	34.38	5.6
	N	28.13	33.99	5.86
	P	28.31	33.87	5.56

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

SAMPLE RECEIPT & REVIEW FORM

Client: <u>CPRC</u>		SDG/AR/COC/Work Order:	
Received By: <u>ME</u>		Date Received: <u>8-7-15</u>	
Suspected Hazard Information		Yes	No
COC/Samples marked as radioactive?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Classified Radioactive II or III by RSO?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
COC/Samples marked containing PCBs?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Package, COC, and/or Samples marked as beryllium or asbestos containing?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Shipped as a DOT Hazardous?		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Samples identified as Foreign Soil?		<input checked="" type="checkbox"/>	<input type="checkbox"/>

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Preservation Method: <u>Ice bags</u> Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius
2a Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Temperature Device Serial #: <u>E5D52015820</u> Secondary Temperature Device Serial # (If Applicable):
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4 Sample containers intact and sealed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 Do Low Level Perchlorate samples (EPA 6850) have headspace as required?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
7 VOA vials free of headspace (defined as < 6mm bubble)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
8 Are Encore containers present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(If yes, immediately deliver to Volatiles laboratory)
9 Samples received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ID's and tests affected:
10 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's and containers affected:
11 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's affected:
12 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sample ID's affected:
13 Are sample containers identifiable as GEL provided?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15 Carrier and tracking number.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Circle Applicable: FedEx Air <input checked="" type="checkbox"/> FedEx Ground <input type="checkbox"/> UPS <input type="checkbox"/> Field Services <input type="checkbox"/> Courier <input type="checkbox"/> Other <u>7742 2498 4939 1C</u> <u>4803 1C</u> <u>5074 2C</u> <u>4814 1C</u> <u>5166 2C</u> <u>5074 2C</u>

Comments (Use Continuation Form if needed):

# **Data Review Qualifier Definitions**

## Project Specific Qualifier Definitions for GEL Client Code: **CPRC**

Code	Status	Qualifier Definition	CofA	Department	Fraction	Additional Comments
U	Programmed	Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.	Y			Includes MDA, TPU, count uncert.
J	Programmed	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated	Y	Organics		Organics only
P	Programmed	Aroclor target analyte with greater than 25% difference between column analyses.	Y	Organics		PCB only
C	Manual	Analyte has been confirmed by GC/MS analysis	Y	Organics	Pesticide	IF GC/MS confirmation was attempted but unsuccessful do not qualify with C
B	Programmed	The analyte was detected in both the associated QC blank and in the sample.	Y	Organics		
E	Manual	Concentration exceeds the calibration range of the instrument	Y	Organics		Qualifier Uploaded
A	Manual	The TIC is a suspected aldol-condensation product	Y	Organics	Semi-Volatile	Uploaded with TIC
X	Programmed	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier	Y			Replaces H Hold Date In RAD replaces UI. Same usage as standard X as well.
N	Programmed	Spike Sample recovery is outside control limits.	Y			
*	Programmed	Duplicate analysis not within control limits	Y	Inorganics		
>	Programmed	Result greater than quantifiable range or greater than upper limit of the analysis range	Y	General Chemistry		
Z	Manual	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier	Y			
B	Programmed	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).	Y	Inorganics	Metals	Replaces J Estimated Value
D	Programmed	Results are reported from a diluted aliquot of sample.	Y			Dilution
E	Programmed	Reported value is estimated due to interferences. See comment in narrative.	Y	Inorganics	Metals	GEL E
M	Manual	Duplicate precision not met.	Y	Inorganics	Metals	Replaces *
o	Programmed	Analyte failed to recover within LCS limits (Organics only)	Y	Organics		
S	Manual	Reported value determined by the Method of Standard Additions (MSA)	Y	Inorganics		Not coded B/C Rarely performed
T	Programmed	Spike and/or spike duplicate sample recovery is outside control limits.	Y	Organics		GC/MS only
W	Manual	Post-digestion spike recovery for GFAA out of control limit. Sample absorbency < 50% of spike absorbency.	Y	Inorganics		No GFAA in house.
B	Programmed	The associated QC sample blank has a result >= 2X the MDA and, after corrections, result is >= MDA for this sample	Y	Radiological		
Y	Manual	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier	Y			
+	Manual	Correlation coefficient for Method of Standard Additions (MSA) is < 0.995	Y	Inorganics		
B	Programmed	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).	Y	General Chemistry		Replaces J Estimated Value
C	Programmed	Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.	Y	Inorganics	Metals	Replaces B Blank Detection
C	Programmed	Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.	Y	General Chemistry		Replaces B Blank Detection
<	Programmed	Sample is below the EPA guidance level for Reactive Releasable Cyanide and/or Reactive Releasable Sulfide	Y	General Chemistry		for Reactive CN/S

**Project Specific Qualifier Definitions for GEL Client Code: CPRC**

<b>Code</b>	<b>Status</b>	<b>Qualifier Definition</b>	<b>CofA</b>	<b>Department</b>	<b>Fraction</b>	<b>Additional Comments</b>
UX	Manual	Gamma Spectroscopy--Uncertain identification	Y	Radiological		

# **Laboratory Certifications**

**List of current GEL Certifications as of 11 September 2015**

<b>State</b>	<b>Certification</b>
Alaska	UST-110
Arkansas	88-0651
CLIA	42D0904046
California	2940 Interim
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC000122013-10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-12-00283, P330-12-00284
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013-10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA150001
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC000122013-10
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
Oklahoma	9904
Pennsylvania NELAP	68-00485
Plant Material Permit	PDEP-12-00260
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-15-10
Utah NELAP	SC000122015-18
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404

# **Volatile Analysis**

# Case Narrative

**GC/MS Volatile  
Technical Case Narrative  
CH2MHill Plateau Remediation Company (CPRC)  
SDG #: GEL378840  
Work Order #: 378840**

**Method/Analysis Information**

<b>Procedure:</b>	<b>Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer</b>
Analytical Method:	SW846 5035/8260C
Prep Method:	SW846 5035
Analytical Batch Number:	1499858
Prep Batch Number:	1499857

**Sample Analysis**

The following client and quality control samples were analyzed to complete this SDG using the methods referenced in the Analysis Information section:

<b>Sample ID</b>	<b>Client ID</b>
378840001	B32D26
378840002	B32D50
378840003	B32D53
378840004	B32D56
378840005	B32D59
378840006	B32D62
378840007	B32D65
378840008	B32D68
378840009	B32D71
378840010	B32D74
378840011	B32D77
378840012	B32F29
378840013	B32F32
1203372762	Method Blank (MB)
1203372763	Laboratory Control Sample (LCS)
1203372764	378840002(B32D50) Post Spike (PS)
1203372765	378840002(B32D50) Post Spike Duplicate (PSD)
1203372766	Laboratory Control Sample (LCS)
1203380566	Method Blank (MB)
1203380567	Laboratory Control Sample (LCS)
1203380568	Laboratory Control Sample (LCS)

NOTE: For volatile organic analyses the matrix spike designations may be indicated as "PS" or "PSD". The "PS" designation (post spike) indicates that the matrix was fortified prior to analysis but after applying any prep factors, such as a dilution. The laboratory considers the MS/MSD and PS/PSD designations interchangeable.

The data results reported met all SOP and method criteria, unless otherwise discussed below.

**SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-038 REV# 21.

**Calibration Information**

A complete list of the initial calibration data files with the correct dates and times of analysis are shown in the Calibration History report located in the Standard Data section of the data package. The surrogate compounds were calibrated using a minimum five-point calibration curve. The surrogates were added by the auto sampler at a concentration of 50 ug/L or 20 ug/L for low level analyses. GEL Laboratories LLC will not have surrogate recoveries reported for Dibromofluoromethane. This is due to increased regulations for this analyte and an industry shortage.

**Initial Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).

**Continuing Calibration Verification Requirements**

The calibration verification standard requirements were not all met for samples 1203372762 (MB), 1203372763 (LCS), 378840003 (B32D53), 378840005 (B32D59), 378840007 (B32D65), 378840008 (B32D68) and 378840009 (B32D71). There were no positive results for any of the analytes that were outside the calibration criteria. The results are reported.

**Quality Control (QC) Information****Blank (MB) Statement**

Target analytes were detected in the blank 1203372762 (MB) below the reporting limit.

**Surrogate Recoveries**

Surrogate recoveries, in samples (See Below) were outside the acceptance limits. Sample re-analysis confirmed matrix interference. The re-analysis results are reported.

Sample	Analyte	Value
378840001 (B32D26)	1,2-Dichloroethane-d4	134* (70%-128%)
	Toluene-d8	128* (80%-120%)
378840012 (B32F29)	1,2-Dichloroethane-d4	205* (70%-128%)
	Bromofluorobenzene	182* (63%-138%)
	Toluene-d8	186* (80%-120%)

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

**QC Sample Designation**

Sample 378840002 (B32D50) was designated for spike analysis.

**Matrix Spike/Matrix Spike Duplicate Recovery Statement**

The matrix spike (MS) and matrix spike duplicate (MSD) recoveries were within the required acceptance limits.

**Relative Percent Difference (RPD) Statement**

The RPD between the matrix spike pair (See Below) were not all within the acceptance limits. The unacceptable RPD may be attributed to matrix interference and/or sample non-homogeneity.

Sample	Analyte	Value
1203372764PS and 1203372765PSD (B32D50)	n-Butyl alcohol	22* (0%-20%)

### Internal Standard (ISTD) Acceptance

In sample 378840006 (B32D62), internal standard response were outside the required acceptance criteria. Sample re-analysis confirmed matrix interference. The re-analysis results are reported.

### Technical Information

#### Holding Time Specifications

All samples in this SDG met the specified holding time. GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection or sample receipt. Those holding times expressed in hours are calculated in the ALPHALIMS system. Those holding times expressed as days expire at midnight on the day of expiration.

#### Sample Preservation and Integrity

All samples met the sample preservation and integrity requirements.

#### Sample Dilutions/Methanol Dilutions

The samples in this SDG did not require dilutions.

#### Sample Re-extraction/Re-analysis

Samples 378840001 (B32D26), 378840002 (B32D50), 378840004 (B32D56), 378840006 (B32D62), 378840010 (B32D74), 378840011 (B32D77), 378840012 (B32F29) and 378840013 (B32F32) were re-analyzed due to unacceptable surrogate or internal standard recoveries in the initial analysis. The re-analyses confirmed/and or passed and were reported.

### Miscellaneous Information

#### Data Exception (DER) Documentation

A data exception report (DER) 1443755 was generated for samples in this SDG/batch.

#### Manual Integrations

Data files associated with the initial calibration, continuing calibration check, and samples did not require manual integrations.

#### TIC Comment

Tentatively identified compounds (TIC) were not required for this SDG.

#### Additional Comments

Additional comments were not required for this SDG.

### System Configuration

The Volatile-GC/MS analysis was performed on the following instrument configuration:

The Volatile-GC/MS analysis was performed on the following instrument configuration:

Instrument ID	Instrument	System Configuration	Column ID	Column Description	P & T Trap
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VOA3.I	Agilent 6890/5973 GC/MS w/ OI 4560/Archon Autosampler	HP6890/HP5973	DB-624	J&W, 60m x 0.25mm x 1.4um	Trap 10
VOA2.I	Agilent 7890/5975 GC/MS w/ OI Eclipse/Archon Autosampler	HP7890N/HP5975C	DB-624	J&W, 60m x 0.25mm x 1.4um	Trap 10

**Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

# GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

## Qualifier Definition Report for

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL378840 GEL Work Order: 378840

### The Qualifiers in this report are defined as follows:

B The analyte was detected in both the associated QC blank and in the sample.

J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated

U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.

DL Indicates that sample is diluted.

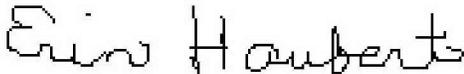
RA Indicates that sample is re-analyzed without re-extraction.

RE Indicates that sample is re-extracted.

### Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Erin Haubert

Date: 02 SEP 2015

Title: Data Validator

# Sample Data Summary

**Volatile**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

<b>SDG Number:</b> GEL378840	<b>Date Collected:</b> 08/05/2015 11:48	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378840001	<b>Date Received:</b> 08/07/2015 08:45	<b>%Moisture:</b> 1.2
<b>Client ID:</b> B32D26	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1499858	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/14/2015 11:06	<b>Inst:</b> VOA3.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/05/2015 11:48	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081415V3/3V510.D	<b>Aliquot:</b> 6.2 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.245	ug/kg	0.245	1.63
79-00-5	1,1,2-Trichloroethane	U	0.245	ug/kg	0.245	1.63
123-91-1	1,4-Dioxane	U	12.2	ug/kg	12.2	40.8
78-93-3	2-Butanone	U	2.45	ug/kg	2.45	8.16
79-46-9	2-Nitropropane	U	6.77	ug/kg	6.77	20.4
108-10-1	4-Methyl-2-pentanone	U	2.45	ug/kg	2.45	8.16
67-64-1	Acetone	U	2.45	ug/kg	2.45	8.16
71-43-2	Benzene	U	0.245	ug/kg	0.245	1.63
75-15-0	Carbon disulfide	U	1.31	ug/kg	1.31	8.16
56-23-5	Carbon tetrachloride	U	0.245	ug/kg	0.245	1.63
108-90-7	Chlorobenzene	U	0.245	ug/kg	0.245	1.63
108-94-1	Cyclohexanone	U	13.6	ug/kg	13.6	40.8
141-78-6	Ethyl acetate	U	1.22	ug/kg	1.22	8.16
60-29-7	Ethyl ether	U	0.245	ug/kg	0.245	1.63
100-41-4	Ethylbenzene	U	0.245	ug/kg	0.245	1.63
78-83-1	Isobutyl alcohol	U	26.9	ug/kg	26.9	81.6
80-62-6	Methyl methacrylate	U	2.45	ug/kg	2.45	8.16
75-09-2	Methylene chloride	U	1.31	ug/kg	1.31	4.08
127-18-4	Tetrachloroethylene	U	0.245	ug/kg	0.245	1.63
108-88-3	Toluene	J	0.506	ug/kg	0.245	1.63
79-01-6	Trichloroethylene	U	0.245	ug/kg	0.245	1.63
76-13-1	Trichlorotrifluoroethane	U	1.31	ug/kg	1.31	4.08
1330-20-7	Xylenes (total)	J	0.294	ug/kg	0.245	4.90
71-36-3	n-Butyl alcohol	U	68.0	ug/kg	68.0	204

**Volatile**  
**Certificate of Analysis**  
**Sample Summary**

<b>SDG Number:</b> GEL378840	<b>Date Collected:</b> 08/05/2015 13:47	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378840002	<b>Date Received:</b> 08/07/2015 08:45	<b>%Moisture:</b> 1.4
<b>Client ID:</b> B32D50	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1499858	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/14/2015 11:36	<b>Inst:</b> VOA3.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/05/2015 13:47	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081415V3/3V511.D	<b>Aliquot:</b> 5.7 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.267	ug/kg	0.267	1.78
79-00-5	1,1,2-Trichloroethane	U	0.267	ug/kg	0.267	1.78
123-91-1	1,4-Dioxane	U	13.3	ug/kg	13.3	44.5
78-93-3	2-Butanone	U	2.67	ug/kg	2.67	8.89
79-46-9	2-Nitropropane	U	7.38	ug/kg	7.38	22.2
108-10-1	4-Methyl-2-pentanone	U	2.67	ug/kg	2.67	8.89
67-64-1	Acetone	U	2.67	ug/kg	2.67	8.89
71-43-2	Benzene	U	0.267	ug/kg	0.267	1.78
75-15-0	Carbon disulfide	U	1.42	ug/kg	1.42	8.89
56-23-5	Carbon tetrachloride	U	0.267	ug/kg	0.267	1.78
108-90-7	Chlorobenzene	U	0.267	ug/kg	0.267	1.78
108-94-1	Cyclohexanone	U	14.9	ug/kg	14.9	44.5
141-78-6	Ethyl acetate	U	1.33	ug/kg	1.33	8.89
60-29-7	Ethyl ether	U	0.267	ug/kg	0.267	1.78
100-41-4	Ethylbenzene	U	0.267	ug/kg	0.267	1.78
78-83-1	Isobutyl alcohol	U	29.3	ug/kg	29.3	88.9
80-62-6	Methyl methacrylate	U	2.67	ug/kg	2.67	8.89
75-09-2	Methylene chloride	U	1.42	ug/kg	1.42	4.45
127-18-4	Tetrachloroethylene	U	0.267	ug/kg	0.267	1.78
108-88-3	Toluene	J	0.382	ug/kg	0.267	1.78
79-01-6	Trichloroethylene	U	0.267	ug/kg	0.267	1.78
76-13-1	Trichlorotrifluoroethane	U	1.42	ug/kg	1.42	4.45
1330-20-7	Xylenes (total)	J	0.276	ug/kg	0.267	5.34
71-36-3	n-Butyl alcohol	U	74.1	ug/kg	74.1	222

**Volatile**  
**Certificate of Analysis**  
**Sample Summary**

Page 1 of 1

SDG Number: GEL378840  
Lab Sample ID: 378840003  
  
Client ID: B32D53  
Batch ID: 1499858  
Run Date: 08/12/2015 13:51  
Prep Date: 08/05/2015 13:22  
Data File: 081215V2.b\2V312.D

Date Collected: 08/05/2015 13:22  
Date Received: 08/07/2015 08:45  
Client: CPRC001  
Method: SW846 5035/8260C  
Inst: VOA2.I  
Analyst: CDS1  
Aliquot: 6.2 g  
Column: DB-624

Matrix: OTHERSOLID  
%Moisture: .6  
Project: CPRC0F15048  
SOP Ref: GL-OA-E-038  
Dilution: 1  
Purge Vol: 5 mL  
Final Volume: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.243	ug/kg	0.243	1.62
79-00-5	1,1,2-Trichloroethane	U	0.243	ug/kg	0.243	1.62
123-91-1	1,4-Dioxane	U	12.2	ug/kg	12.2	40.6
78-93-3	2-Butanone	U	2.43	ug/kg	2.43	8.12
79-46-9	2-Nitropropane	U	6.74	ug/kg	6.74	20.3
108-10-1	4-Methyl-2-pentanone	U	2.43	ug/kg	2.43	8.12
67-64-1	Acetone	U	2.43	ug/kg	2.43	8.12
71-43-2	Benzene	U	0.243	ug/kg	0.243	1.62
75-15-0	Carbon disulfide	U	1.30	ug/kg	1.30	8.12
56-23-5	Carbon tetrachloride	U	0.243	ug/kg	0.243	1.62
108-90-7	Chlorobenzene	U	0.243	ug/kg	0.243	1.62
108-94-1	Cyclohexanone	U	13.6	ug/kg	13.6	40.6
141-78-6	Ethyl acetate	U	1.22	ug/kg	1.22	8.12
60-29-7	Ethyl ether	U	0.243	ug/kg	0.243	1.62
100-41-4	Ethylbenzene	U	0.243	ug/kg	0.243	1.62
78-83-1	Isobutyl alcohol	U	26.8	ug/kg	26.8	81.2
80-62-6	Methyl methacrylate	U	2.43	ug/kg	2.43	8.12
75-09-2	Methylene chloride	U	1.30	ug/kg	1.30	4.06
127-18-4	Tetrachloroethylene	U	0.243	ug/kg	0.243	1.62
108-88-3	Toluene	J	0.438	ug/kg	0.243	1.62
79-01-6	Trichloroethylene	U	0.243	ug/kg	0.243	1.62
76-13-1	Trichlorotrifluoroethane	U	1.30	ug/kg	1.30	4.06
1330-20-7	Xylenes (total)	U	0.243	ug/kg	0.243	4.87
71-36-3	n-Butyl alcohol	U	67.6	ug/kg	67.6	203

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<b>SDG Number:</b> GEL378840	<b>Date Collected:</b> 08/05/2015 13:22	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378840004	<b>Date Received:</b> 08/07/2015 08:45	<b>%Moisture:</b> 2.5
<b>Client ID:</b> B32D56	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1499858	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/14/2015 12:07	<b>Inst:</b> VOA3.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/05/2015 13:22	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081415V3/3V512.D	<b>Aliquot:</b> 5.6 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.275	ug/kg	0.275	1.83
79-00-5	1,1,2-Trichloroethane	U	0.275	ug/kg	0.275	1.83
123-91-1	1,4-Dioxane	U	13.7	ug/kg	13.7	45.8
78-93-3	2-Butanone	U	2.75	ug/kg	2.75	9.16
79-46-9	2-Nitropropane	U	7.60	ug/kg	7.60	22.9
108-10-1	4-Methyl-2-pentanone	U	2.75	ug/kg	2.75	9.16
67-64-1	Acetone	U	2.75	ug/kg	2.75	9.16
71-43-2	Benzene	U	0.275	ug/kg	0.275	1.83
75-15-0	Carbon disulfide	U	1.47	ug/kg	1.47	9.16
56-23-5	Carbon tetrachloride	U	0.275	ug/kg	0.275	1.83
108-90-7	Chlorobenzene	U	0.275	ug/kg	0.275	1.83
108-94-1	Cyclohexanone	U	15.3	ug/kg	15.3	45.8
141-78-6	Ethyl acetate	U	1.37	ug/kg	1.37	9.16
60-29-7	Ethyl ether	U	0.275	ug/kg	0.275	1.83
100-41-4	Ethylbenzene	U	0.275	ug/kg	0.275	1.83
78-83-1	Isobutyl alcohol	U	30.2	ug/kg	30.2	91.6
80-62-6	Methyl methacrylate	U	2.75	ug/kg	2.75	9.16
75-09-2	Methylene chloride	U	1.47	ug/kg	1.47	4.58
127-18-4	Tetrachloroethylene	U	0.275	ug/kg	0.275	1.83
108-88-3	Toluene	J	0.458	ug/kg	0.275	1.83
79-01-6	Trichloroethylene	U	0.275	ug/kg	0.275	1.83
76-13-1	Trichlorotrifluoroethane	U	1.47	ug/kg	1.47	4.58
1330-20-7	Xylenes (total)	J	0.284	ug/kg	0.275	5.50
71-36-3	n-Butyl alcohol	U	76.3	ug/kg	76.3	229

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<b>SDG Number:</b> GEL378840	<b>Date Collected:</b> 08/05/2015 12:51	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378840005	<b>Date Received:</b> 08/07/2015 08:45	<b>%Moisture:</b> 1.3
<b>Client ID:</b> B32D59	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1499858	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/12/2015 14:50	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/05/2015 12:51	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081215V2.b\2V314.D	<b>Aliquot:</b> 5.2 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.292	ug/kg	0.292	1.95
79-00-5	1,1,2-Trichloroethane	U	0.292	ug/kg	0.292	1.95
123-91-1	1,4-Dioxane	U	14.6	ug/kg	14.6	48.7
78-93-3	2-Butanone	U	2.92	ug/kg	2.92	9.74
79-46-9	2-Nitropropane	U	8.09	ug/kg	8.09	24.4
108-10-1	4-Methyl-2-pentanone	U	2.92	ug/kg	2.92	9.74
67-64-1	Acetone	U	2.92	ug/kg	2.92	9.74
71-43-2	Benzene	U	0.292	ug/kg	0.292	1.95
75-15-0	Carbon disulfide	U	1.56	ug/kg	1.56	9.74
56-23-5	Carbon tetrachloride	U	0.292	ug/kg	0.292	1.95
108-90-7	Chlorobenzene	U	0.292	ug/kg	0.292	1.95
108-94-1	Cyclohexanone	U	16.3	ug/kg	16.3	48.7
141-78-6	Ethyl acetate	U	1.46	ug/kg	1.46	9.74
60-29-7	Ethyl ether	U	0.292	ug/kg	0.292	1.95
100-41-4	Ethylbenzene	U	0.292	ug/kg	0.292	1.95
78-83-1	Isobutyl alcohol	U	32.2	ug/kg	32.2	97.4
80-62-6	Methyl methacrylate	U	2.92	ug/kg	2.92	9.74
75-09-2	Methylene chloride	U	1.56	ug/kg	1.56	4.87
127-18-4	Tetrachloroethylene	U	0.292	ug/kg	0.292	1.95
108-88-3	Toluene	J	0.487	ug/kg	0.292	1.95
79-01-6	Trichloroethylene	U	0.292	ug/kg	0.292	1.95
76-13-1	Trichlorotrifluoroethane	U	1.56	ug/kg	1.56	4.87
1330-20-7	Xylenes (total)	U	0.292	ug/kg	0.292	5.85
71-36-3	n-Butyl alcohol	U	81.2	ug/kg	81.2	244

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<b>SDG Number:</b> GEL378840	<b>Date Collected:</b> 08/05/2015 12:35	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378840006	<b>Date Received:</b> 08/07/2015 08:45	<b>%Moisture:</b> .4
<b>Client ID:</b> B32D62	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1499858	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/14/2015 12:38	<b>Inst:</b> VOA3.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/05/2015 12:35	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081415V3/3V513.D	<b>Aliquot:</b> 5.4 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.279	ug/kg	0.279	1.86
79-00-5	1,1,2-Trichloroethane	U	0.279	ug/kg	0.279	1.86
123-91-1	1,4-Dioxane	U	13.9	ug/kg	13.9	46.5
78-93-3	2-Butanone	U	2.79	ug/kg	2.79	9.30
79-46-9	2-Nitropropane	U	7.72	ug/kg	7.72	23.2
108-10-1	4-Methyl-2-pentanone	U	2.79	ug/kg	2.79	9.30
67-64-1	Acetone	U	2.79	ug/kg	2.79	9.30
71-43-2	Benzene	U	0.279	ug/kg	0.279	1.86
75-15-0	Carbon disulfide	U	1.49	ug/kg	1.49	9.30
56-23-5	Carbon tetrachloride	U	0.279	ug/kg	0.279	1.86
108-90-7	Chlorobenzene	U	0.279	ug/kg	0.279	1.86
108-94-1	Cyclohexanone	U	15.5	ug/kg	15.5	46.5
141-78-6	Ethyl acetate	U	1.39	ug/kg	1.39	9.30
60-29-7	Ethyl ether	U	0.279	ug/kg	0.279	1.86
100-41-4	Ethylbenzene	U	0.279	ug/kg	0.279	1.86
78-83-1	Isobutyl alcohol	U	30.7	ug/kg	30.7	93.0
80-62-6	Methyl methacrylate	U	2.79	ug/kg	2.79	9.30
75-09-2	Methylene chloride	U	1.49	ug/kg	1.49	4.65
127-18-4	Tetrachloroethylene	U	0.279	ug/kg	0.279	1.86
108-88-3	Toluene	U	0.279	ug/kg	0.279	1.86
79-01-6	Trichloroethylene	U	0.279	ug/kg	0.279	1.86
76-13-1	Trichlorotrifluoroethane	U	1.49	ug/kg	1.49	4.65
1330-20-7	Xylenes (total)	U	0.279	ug/kg	0.279	5.58
71-36-3	n-Butyl alcohol	U	77.4	ug/kg	77.4	232

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<b>SDG Number:</b> GEL378840	<b>Date Collected:</b> 08/05/2015 12:23	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378840007	<b>Date Received:</b> 08/07/2015 08:45	<b>%Moisture:</b> 7.1
<b>Client ID:</b> B32D65	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1499858	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/12/2015 15:50	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/05/2015 12:23	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081215V2.b\2V316.D	<b>Aliquot:</b> 5.5 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.294	ug/kg	0.294	1.96
79-00-5	1,1,2-Trichloroethane	U	0.294	ug/kg	0.294	1.96
123-91-1	1,4-Dioxane	U	14.7	ug/kg	14.7	48.9
78-93-3	2-Butanone	U	2.94	ug/kg	2.94	9.78
79-46-9	2-Nitropropane	U	8.12	ug/kg	8.12	24.5
108-10-1	4-Methyl-2-pentanone	U	2.94	ug/kg	2.94	9.78
67-64-1	Acetone	U	2.94	ug/kg	2.94	9.78
71-43-2	Benzene	U	0.294	ug/kg	0.294	1.96
75-15-0	Carbon disulfide	U	1.57	ug/kg	1.57	9.78
56-23-5	Carbon tetrachloride	U	0.294	ug/kg	0.294	1.96
108-90-7	Chlorobenzene	U	0.294	ug/kg	0.294	1.96
108-94-1	Cyclohexanone	U	16.3	ug/kg	16.3	48.9
141-78-6	Ethyl acetate	U	1.47	ug/kg	1.47	9.78
60-29-7	Ethyl ether	U	0.294	ug/kg	0.294	1.96
100-41-4	Ethylbenzene	U	0.294	ug/kg	0.294	1.96
78-83-1	Isobutyl alcohol	U	32.3	ug/kg	32.3	97.8
80-62-6	Methyl methacrylate	U	2.94	ug/kg	2.94	9.78
75-09-2	Methylene chloride	U	1.57	ug/kg	1.57	4.89
127-18-4	Tetrachloroethylene	U	0.294	ug/kg	0.294	1.96
108-88-3	Toluene	J	0.616	ug/kg	0.294	1.96
79-01-6	Trichloroethylene	U	0.294	ug/kg	0.294	1.96
76-13-1	Trichlorotrifluoroethane	U	1.57	ug/kg	1.57	4.89
1330-20-7	Xylenes (total)	J	0.313	ug/kg	0.294	5.87
71-36-3	n-Butyl alcohol	U	81.5	ug/kg	81.5	245

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SDG Number: GEL378840  
Lab Sample ID: 378840008  
  
Client ID: B32D68  
Batch ID: 1499858  
Run Date: 08/12/2015 16:20  
Prep Date: 08/05/2015 11:29  
Data File: 081215V2.b\2V317.D

Date Collected: 08/05/2015 11:29  
Date Received: 08/07/2015 08:45  
Client: CPRC001  
Method: SW846 5035/8260C  
Inst: VOA2.I  
Analyst: CDS1  
Aliquot: 5 g  
Column: DB-624

Matrix: OTHERSOLID  
%Moisture: 2.2  
Project: CPRC0F15048  
SOP Ref: GL-OA-E-038  
Dilution: 1  
Purge Vol: 5 mL  
Final Volume: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.307	ug/kg	0.307	2.04
79-00-5	1,1,2-Trichloroethane	U	0.307	ug/kg	0.307	2.04
123-91-1	1,4-Dioxane	U	15.3	ug/kg	15.3	51.1
78-93-3	2-Butanone	U	3.07	ug/kg	3.07	10.2
79-46-9	2-Nitropropane	U	8.48	ug/kg	8.48	25.6
108-10-1	4-Methyl-2-pentanone	U	3.07	ug/kg	3.07	10.2
67-64-1	Acetone	U	3.07	ug/kg	3.07	10.2
71-43-2	Benzene	U	0.307	ug/kg	0.307	2.04
75-15-0	Carbon disulfide	U	1.64	ug/kg	1.64	10.2
56-23-5	Carbon tetrachloride	U	0.307	ug/kg	0.307	2.04
108-90-7	Chlorobenzene	U	0.307	ug/kg	0.307	2.04
108-94-1	Cyclohexanone	U	17.1	ug/kg	17.1	51.1
141-78-6	Ethyl acetate	U	1.53	ug/kg	1.53	10.2
60-29-7	Ethyl ether	U	0.307	ug/kg	0.307	2.04
100-41-4	Ethylbenzene	U	0.307	ug/kg	0.307	2.04
78-83-1	Isobutyl alcohol	U	33.7	ug/kg	33.7	102
80-62-6	Methyl methacrylate	U	3.07	ug/kg	3.07	10.2
75-09-2	Methylene chloride	U	1.64	ug/kg	1.64	5.11
127-18-4	Tetrachloroethylene	U	0.307	ug/kg	0.307	2.04
108-88-3	Toluene	J	0.685	ug/kg	0.307	2.04
79-01-6	Trichloroethylene	U	0.307	ug/kg	0.307	2.04
76-13-1	Trichlorotrifluoroethane	U	1.64	ug/kg	1.64	5.11
1330-20-7	Xylenes (total)	J	0.337	ug/kg	0.307	6.13
71-36-3	n-Butyl alcohol	U	85.2	ug/kg	85.2	256

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SDG Number: GEL378840  
Lab Sample ID: 378840009  
  
Client ID: B32D71  
Batch ID: 1499858  
Run Date: 08/12/2015 16:50  
Prep Date: 08/05/2015 10:43  
Data File: 081215V2.b\2V318.D

Date Collected: 08/05/2015 10:43  
Date Received: 08/07/2015 08:45  
Client: CPRC001  
Method: SW846 5035/8260C  
Inst: VOA2.I  
Analyst: CDS1  
Aliquot: 5.7 g  
Column: DB-624

Matrix: OTHERSOLID  
%Moisture: 10.8  
Project: CPRC0F15048  
SOP Ref: GL-OA-E-038  
Dilution: 1  
Purge Vol: 5 mL  
Final Volume: 5 mL

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.295	ug/kg	0.295	1.97
79-00-5	1,1,2-Trichloroethane	U	0.295	ug/kg	0.295	1.97
123-91-1	1,4-Dioxane	U	14.8	ug/kg	14.8	49.2
78-93-3	2-Butanone	U	2.95	ug/kg	2.95	9.84
79-46-9	2-Nitropropane	U	8.17	ug/kg	8.17	24.6
108-10-1	4-Methyl-2-pentanone	U	2.95	ug/kg	2.95	9.84
67-64-1	Acetone	U	2.95	ug/kg	2.95	9.84
71-43-2	Benzene	U	0.295	ug/kg	0.295	1.97
75-15-0	Carbon disulfide	U	1.57	ug/kg	1.57	9.84
56-23-5	Carbon tetrachloride	U	0.295	ug/kg	0.295	1.97
108-90-7	Chlorobenzene	U	0.295	ug/kg	0.295	1.97
108-94-1	Cyclohexanone	U	16.4	ug/kg	16.4	49.2
141-78-6	Ethyl acetate	U	1.48	ug/kg	1.48	9.84
60-29-7	Ethyl ether	U	0.295	ug/kg	0.295	1.97
100-41-4	Ethylbenzene	U	0.295	ug/kg	0.295	1.97
78-83-1	Isobutyl alcohol	U	32.5	ug/kg	32.5	98.4
80-62-6	Methyl methacrylate	U	2.95	ug/kg	2.95	9.84
75-09-2	Methylene chloride	U	1.57	ug/kg	1.57	4.92
127-18-4	Tetrachloroethylene	U	0.295	ug/kg	0.295	1.97
108-88-3	Toluene	J	0.600	ug/kg	0.295	1.97
79-01-6	Trichloroethylene	U	0.295	ug/kg	0.295	1.97
76-13-1	Trichlorotrifluoroethane	U	1.57	ug/kg	1.57	4.92
1330-20-7	Xylenes (total)	U	0.295	ug/kg	0.295	5.90
71-36-3	n-Butyl alcohol	U	82.0	ug/kg	82.0	246

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<b>SDG Number:</b> GEL378840	<b>Date Collected:</b> 08/05/2015 09:55	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378840010	<b>Date Received:</b> 08/07/2015 08:45	<b>%Moisture:</b> 1.2
<b>Client ID:</b> B32D74	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1499858	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/14/2015 13:08	<b>Inst:</b> VOA3.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/05/2015 09:55	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081415V3/3V514.D	<b>Aliquot:</b> 5.2 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.292	ug/kg	0.292	1.95
79-00-5	1,1,2-Trichloroethane	U	0.292	ug/kg	0.292	1.95
123-91-1	1,4-Dioxane	U	14.6	ug/kg	14.6	48.7
78-93-3	2-Butanone	U	2.92	ug/kg	2.92	9.74
79-46-9	2-Nitropropane	U	8.08	ug/kg	8.08	24.3
108-10-1	4-Methyl-2-pentanone	U	2.92	ug/kg	2.92	9.74
67-64-1	Acetone	U	2.92	ug/kg	2.92	9.74
71-43-2	Benzene	U	0.292	ug/kg	0.292	1.95
75-15-0	Carbon disulfide	U	1.56	ug/kg	1.56	9.74
56-23-5	Carbon tetrachloride	U	0.292	ug/kg	0.292	1.95
108-90-7	Chlorobenzene	U	0.292	ug/kg	0.292	1.95
108-94-1	Cyclohexanone	U	16.3	ug/kg	16.3	48.7
141-78-6	Ethyl acetate	U	1.46	ug/kg	1.46	9.74
60-29-7	Ethyl ether	U	0.292	ug/kg	0.292	1.95
100-41-4	Ethylbenzene	U	0.292	ug/kg	0.292	1.95
78-83-1	Isobutyl alcohol	U	32.1	ug/kg	32.1	97.4
80-62-6	Methyl methacrylate	U	2.92	ug/kg	2.92	9.74
75-09-2	Methylene chloride	U	1.56	ug/kg	1.56	4.87
127-18-4	Tetrachloroethylene	U	0.292	ug/kg	0.292	1.95
108-88-3	Toluene	J	0.409	ug/kg	0.292	1.95
79-01-6	Trichloroethylene	U	0.292	ug/kg	0.292	1.95
76-13-1	Trichlorotrifluoroethane	U	1.56	ug/kg	1.56	4.87
1330-20-7	Xylenes (total)	U	0.292	ug/kg	0.292	5.84
71-36-3	n-Butyl alcohol	U	81.1	ug/kg	81.1	243

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SDG Number: GEL378840	Date Collected: 08/05/2015 10:20	Matrix: OTHERSOLID
Lab Sample ID: 378840011	Date Received: 08/07/2015 08:45	%Moisture: 6.3
Client ID: B32D77	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1499858	Method: SW846 5035/8260C	SOP Ref: GL-OA-E-038
Run Date: 08/14/2015 13:39	Inst: VOA3.I	Dilution: 1
Prep Date: 08/05/2015 10:20	Analyst: CDS1	Purge Vol: 5 mL
Data File: 081415V3/3V515.D	Aliquot: 5.5 g	Final Volume: 5 mL
	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.291	ug/kg	0.291	1.94
79-00-5	1,1,2-Trichloroethane	U	0.291	ug/kg	0.291	1.94
123-91-1	1,4-Dioxane	U	14.6	ug/kg	14.6	48.5
78-93-3	2-Butanone	U	2.91	ug/kg	2.91	9.70
79-46-9	2-Nitropropane	U	8.05	ug/kg	8.05	24.3
108-10-1	4-Methyl-2-pentanone	U	2.91	ug/kg	2.91	9.70
67-64-1	Acetone	U	2.91	ug/kg	2.91	9.70
71-43-2	Benzene	U	0.291	ug/kg	0.291	1.94
75-15-0	Carbon disulfide	U	1.55	ug/kg	1.55	9.70
56-23-5	Carbon tetrachloride	U	0.291	ug/kg	0.291	1.94
108-90-7	Chlorobenzene	U	0.291	ug/kg	0.291	1.94
108-94-1	Cyclohexanone	U	16.2	ug/kg	16.2	48.5
141-78-6	Ethyl acetate	U	1.46	ug/kg	1.46	9.70
60-29-7	Ethyl ether	U	0.291	ug/kg	0.291	1.94
100-41-4	Ethylbenzene	U	0.291	ug/kg	0.291	1.94
78-83-1	Isobutyl alcohol	U	32.0	ug/kg	32.0	97.0
80-62-6	Methyl methacrylate	U	2.91	ug/kg	2.91	9.70
75-09-2	Methylene chloride	U	1.55	ug/kg	1.55	4.85
127-18-4	Tetrachloroethylene	U	0.291	ug/kg	0.291	1.94
108-88-3	Toluene	J	0.310	ug/kg	0.291	1.94
79-01-6	Trichloroethylene	U	0.291	ug/kg	0.291	1.94
76-13-1	Trichlorotrifluoroethane	U	1.55	ug/kg	1.55	4.85
1330-20-7	Xylenes (total)	U	0.291	ug/kg	0.291	5.82
71-36-3	n-Butyl alcohol	U	80.8	ug/kg	80.8	243

**Volatile**  
**Certificate of Analysis**  
**Sample Summary**

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<b>SDG Number:</b> GEL378840	<b>Date Collected:</b> 08/05/2015 13:06	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378840012	<b>Date Received:</b> 08/07/2015 08:45	<b>%Moisture:</b> 3.2
<b>Client ID:</b> B32F29	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1499858	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/14/2015 14:10	<b>Inst:</b> VOA3.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/05/2015 13:06	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081415V3/3V516.D	<b>Aliquot:</b> 5.8 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.267	ug/kg	0.267	1.78
79-00-5	1,1,2-Trichloroethane	U	0.267	ug/kg	0.267	1.78
123-91-1	1,4-Dioxane	U	13.4	ug/kg	13.4	44.5
78-93-3	2-Butanone	U	2.67	ug/kg	2.67	8.91
79-46-9	2-Nitropropane	U	7.39	ug/kg	7.39	22.3
108-10-1	4-Methyl-2-pentanone	U	2.67	ug/kg	2.67	8.91
67-64-1	Acetone	U	2.67	ug/kg	2.67	8.91
71-43-2	Benzene	U	0.267	ug/kg	0.267	1.78
75-15-0	Carbon disulfide	U	1.43	ug/kg	1.43	8.91
56-23-5	Carbon tetrachloride	U	0.267	ug/kg	0.267	1.78
108-90-7	Chlorobenzene	U	0.267	ug/kg	0.267	1.78
108-94-1	Cyclohexanone	U	14.9	ug/kg	14.9	44.5
141-78-6	Ethyl acetate	U	1.34	ug/kg	1.34	8.91
60-29-7	Ethyl ether	U	0.267	ug/kg	0.267	1.78
100-41-4	Ethylbenzene	U	0.267	ug/kg	0.267	1.78
78-83-1	Isobutyl alcohol	U	29.4	ug/kg	29.4	89.1
80-62-6	Methyl methacrylate	U	2.67	ug/kg	2.67	8.91
75-09-2	Methylene chloride	U	1.43	ug/kg	1.43	4.45
127-18-4	Tetrachloroethylene	U	0.267	ug/kg	0.267	1.78
108-88-3	Toluene	J	0.588	ug/kg	0.267	1.78
79-01-6	Trichloroethylene	U	0.267	ug/kg	0.267	1.78
76-13-1	Trichlorotrifluoroethane	U	1.43	ug/kg	1.43	4.45
1330-20-7	Xylenes (total)	J	0.303	ug/kg	0.267	5.34
71-36-3	n-Butyl alcohol	U	74.2	ug/kg	74.2	223

**Volatile**  
**Certificate of Analysis**  
**Sample Summary**

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SDG Number: GEL378840	Date Collected: 08/05/2015 11:05	Matrix: OTHERSOLID
Lab Sample ID: 378840013	Date Received: 08/07/2015 08:45	%Moisture: 5.4
Client ID: B32F32	Client: CPRC001	Project: CPRC0F15048
Batch ID: 1499858	Method: SW846 5035/8260C	SOP Ref: GL-OA-E-038
Run Date: 08/14/2015 14:40	Inst: VOA3.I	Dilution: 1
Prep Date: 08/05/2015 11:05	Analyst: CDS1	Purge Vol: 5 mL
Data File: 081415V3/3V517.D	Aliquot: 5.9 g	Final Volume: 5 mL
	Column: DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.269	ug/kg	0.269	1.79
79-00-5	1,1,2-Trichloroethane	U	0.269	ug/kg	0.269	1.79
123-91-1	1,4-Dioxane	U	13.4	ug/kg	13.4	44.8
78-93-3	2-Butanone	U	2.69	ug/kg	2.69	8.95
79-46-9	2-Nitropropane	U	7.43	ug/kg	7.43	22.4
108-10-1	4-Methyl-2-pentanone	U	2.69	ug/kg	2.69	8.95
67-64-1	Acetone	U	2.69	ug/kg	2.69	8.95
71-43-2	Benzene	U	0.269	ug/kg	0.269	1.79
75-15-0	Carbon disulfide	U	1.43	ug/kg	1.43	8.95
56-23-5	Carbon tetrachloride	U	0.269	ug/kg	0.269	1.79
108-90-7	Chlorobenzene	U	0.269	ug/kg	0.269	1.79
108-94-1	Cyclohexanone	U	15.0	ug/kg	15.0	44.8
141-78-6	Ethyl acetate	U	1.34	ug/kg	1.34	8.95
60-29-7	Ethyl ether	U	0.269	ug/kg	0.269	1.79
100-41-4	Ethylbenzene	U	0.269	ug/kg	0.269	1.79
78-83-1	Isobutyl alcohol	U	29.5	ug/kg	29.5	89.5
80-62-6	Methyl methacrylate	U	2.69	ug/kg	2.69	8.95
75-09-2	Methylene chloride	U	1.43	ug/kg	1.43	4.48
127-18-4	Tetrachloroethylene	U	0.269	ug/kg	0.269	1.79
108-88-3	Toluene	J	0.510	ug/kg	0.269	1.79
79-01-6	Trichloroethylene	U	0.269	ug/kg	0.269	1.79
76-13-1	Trichlorotrifluoroethane	U	1.43	ug/kg	1.43	4.48
1330-20-7	Xylenes (total)	J	0.322	ug/kg	0.269	5.37
71-36-3	n-Butyl alcohol	U	74.6	ug/kg	74.6	224

# **Quality Control Summary**

# GEL LABORATORIES LLC

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## QC Summary

Report Date: September 1, 2015

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CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Mr. Scot Fitzgerald

Contact:

Workorder: 378840

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Volatile-GC/MS</b>										
Batch	1499858									
QC1203372763	LCS									
1,1,1-Trichloroethane	50.0		54.1	ug/kg		108	(70%-130%)	CDS1	08/12/15	09:14
1,1,2-Trichloroethane	50.0		50.1	ug/kg		100	(70%-130%)			
2-Butanone	250		219	ug/kg		88	(70%-130%)			
4-Methyl-2-pentanone	250		243	ug/kg		97	(70%-130%)			
Acetone	250		215	ug/kg		86	(70%-130%)			
Benzene	50.0		49.6	ug/kg		99	(70%-130%)			
Carbon disulfide	250		266	ug/kg		106	(70%-130%)			
Carbon tetrachloride	50.0		55.5	ug/kg		111	(70%-130%)			
Chlorobenzene	50.0		50.8	ug/kg		102	(70%-130%)			
Ethyl ether	50.0		54.3	ug/kg		109	(70%-130%)			
Ethylbenzene	50.0		51.9	ug/kg		104	(70%-130%)			
Methylene chloride	50.0	B	48.0	ug/kg		96	(70%-130%)			
Tetrachloroethylene	50.0		52.4	ug/kg		105	(70%-130%)			
Toluene	50.0		50.3	ug/kg		101	(70%-130%)			
Trichloroethylene	50.0		50.5	ug/kg		101	(70%-130%)			
Xylenes (total)	150		155	ug/kg		103	(70%-130%)			
n-Butyl alcohol	5000		4700	ug/kg		94	(70%-130%)			
**1,2-Dichloroethane-d4	50.0		51.7	ug/L		103	(70%-128%)			
**Bromofluorobenzene	50.0		50.2	ug/L		100	(63%-138%)			
**Toluene-d8	50.0		49.7	ug/L		99	(80%-120%)			

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## QC Summary

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS									
Batch	1499858								
QC1203372766 LCS									
1,4-Dioxane	2500		2230	ug/kg		89	(70%-130%)	CDS1	08/12/15 09:44
2-Nitropropane	250		261	ug/kg		104	(70%-130%)		
Cyclohexanone	1250		1280	ug/kg		103	(70%-130%)		
Ethyl acetate	250		235	ug/kg		94	(70%-130%)		
Isobutyl alcohol	2500		2380	ug/kg		95	(70%-130%)		
Methyl methacrylate	250		247	ug/kg		99	(70%-130%)		
Trichlorotrifluoroethane	250		261	ug/kg		104	(70%-130%)		
**1,2-Dichloroethane-d4	50.0		50.1	ug/L		100	(70%-128%)		
**Bromofluorobenzene	50.0		50.7	ug/L		101	(63%-138%)		
**Toluene-d8	50.0		48.6	ug/L		97	(80%-120%)		
QC1203380567 LCS									
1,1,1-Trichloroethane	50.0		55.8	ug/kg		112	(70%-130%)		08/14/15 07:31
1,1,2-Trichloroethane	50.0		51.3	ug/kg		103	(70%-130%)		
2-Butanone	250		232	ug/kg		93	(70%-130%)		
4-Methyl-2-pentanone	250		224	ug/kg		89	(70%-130%)		
Acetone	250		256	ug/kg		102	(70%-130%)		
Benzene	50.0		52.9	ug/kg		106	(70%-130%)		
Carbon disulfide	250		273	ug/kg		109	(70%-130%)		
Carbon tetrachloride	50.0		55.4	ug/kg		111	(70%-130%)		
Chlorobenzene	50.0		52.9	ug/kg		106	(70%-130%)		
Ethyl ether	50.0		56.4	ug/kg		113	(70%-130%)		
Ethylbenzene	50.0		50.8	ug/kg		102	(70%-130%)		

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## QC Summary

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Volatile-GC/MS</b>											
Batch	1499858										
Methylene chloride	50.0			54.3	ug/kg		109	(70%-130%)	CDS1	08/14/15	07:31
Tetrachloroethylene	50.0			56.0	ug/kg		112	(70%-130%)			
Toluene	50.0			52.9	ug/kg		106	(70%-130%)			
Trichloroethylene	50.0			55.0	ug/kg		110	(70%-130%)			
Xylenes (total)	150			151	ug/kg		100	(70%-130%)			
n-Butyl alcohol	5000			4390	ug/kg		88	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			49.0	ug/L		98	(70%-128%)			
**Bromofluorobenzene	50.0			50.6	ug/L		101	(63%-138%)			
**Toluene-d8	50.0			50.5	ug/L		101	(80%-120%)			
QC1203380568	LCS										
1,4-Dioxane	2500			2410	ug/kg		96	(70%-130%)		08/14/15	08:02
2-Nitropropane	250			267	ug/kg		107	(70%-130%)			
Cyclohexanone	1250			1100	ug/kg		88	(70%-130%)			
Ethyl acetate	250			248	ug/kg		99	(70%-130%)			
Isobutyl alcohol	2500			2470	ug/kg		99	(70%-130%)			
Methyl methacrylate	250			234	ug/kg		94	(70%-130%)			
Trichlorotrifluoroethane	250			244	ug/kg		98	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			51.7	ug/L		103	(70%-128%)			
**Bromofluorobenzene	50.0			42.4	ug/L		85	(63%-138%)			
**Toluene-d8	50.0			54.5	ug/L		109	(80%-120%)			
QC1203372762	MB										
1,1,1-Trichloroethane			U	0.300	ug/kg					08/12/15	10:44
1,1,2-Trichloroethane			U	0.300	ug/kg						

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## QC Summary

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1499858										
1,4-Dioxane			U	15.0	ug/kg				CDS1	08/12/15	10:44
2-Butanone			U	3.00	ug/kg						
2-Nitropropane			U	8.30	ug/kg						
4-Methyl-2-pentanone			U	3.00	ug/kg						
Acetone			U	3.00	ug/kg						
Benzene			U	0.300	ug/kg						
Carbon disulfide			U	1.60	ug/kg						
Carbon tetrachloride			U	0.300	ug/kg						
Chlorobenzene			U	0.300	ug/kg						
Cyclohexanone			U	16.7	ug/kg						
Ethyl acetate			U	1.50	ug/kg						
Ethyl ether			U	0.300	ug/kg						
Ethylbenzene			U	0.300	ug/kg						
Isobutyl alcohol			U	33.0	ug/kg						
Methyl methacrylate			U	3.00	ug/kg						
Methylene chloride			J	2.37	ug/kg						
Tetrachloroethylene			U	0.300	ug/kg						
Toluene			U	0.300	ug/kg						
Trichloroethylene			U	0.300	ug/kg						
Trichlorotrifluoroethane			U	1.60	ug/kg						
Xylenes (total)			U	0.300	ug/kg						

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Volatile-GC/MS</b>											
Batch	1499858										
n-Butyl alcohol			U	83.3	ug/kg						
**1,2-Dichloroethane-d4	50.0			49.9	ug/L		100	(70%-128%)	CDS1	08/12/15	10:44
**Bromofluorobenzene	50.0			49.1	ug/L		98	(63%-138%)			
**Toluene-d8	50.0			48.9	ug/L		98	(80%-120%)			
QC1203380566 MB											
1,1,1-Trichloroethane			U	0.300	ug/kg					08/14/15	10:35
1,1,2-Trichloroethane			U	0.300	ug/kg						
1,4-Dioxane			U	15.0	ug/kg						
2-Butanone			U	3.00	ug/kg						
2-Nitropropane			U	8.30	ug/kg						
4-Methyl-2-pentanone			U	3.00	ug/kg						
Acetone			U	3.00	ug/kg						
Benzene			U	0.300	ug/kg						
Carbon disulfide			U	1.60	ug/kg						
Carbon tetrachloride			U	0.300	ug/kg						
Chlorobenzene			U	0.300	ug/kg						
Cyclohexanone			U	16.7	ug/kg						
Ethyl acetate			U	1.50	ug/kg						
Ethyl ether			U	0.300	ug/kg						
Ethylbenzene			U	0.300	ug/kg						
Isobutyl alcohol			U	33.0	ug/kg						
Methyl methacrylate			U	3.00	ug/kg						
Methylene chloride			U	1.60	ug/kg						

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Volatile-GC/MS</b>											
Batch	1499858										
Tetrachloroethylene			U	0.300	ug/kg				CDS1	08/14/15	10:35
Toluene			U	0.300	ug/kg						
Trichloroethylene			U	0.300	ug/kg						
Trichlorotrifluoroethane			U	1.60	ug/kg						
Xylenes (total)			U	0.300	ug/kg						
n-Butyl alcohol			U	83.3	ug/kg						
**1,2-Dichloroethane-d4	50.0			53.6	ug/L		107	(70%-128%)			
**Bromofluorobenzene	50.0			45.8	ug/L		92	(63%-138%)			
**Toluene-d8	50.0			50.1	ug/L		100	(80%-120%)			
QC1203372764 378840002 PS											
1,1,1-Trichloroethane	50.0	U	0.00	47.7	ug/L		95	(70%-130%)		08/14/15	15:11
1,1,2-Trichloroethane	50.0	U	0.00	50.2	ug/L		100	(70%-130%)			
2-Butanone	250	U	0.00	275	ug/L		110	(70%-130%)			
4-Methyl-2-pentanone	250	U	0.00	238	ug/L		95	(70%-130%)			
Acetone	250	U	0.00	311	ug/L		124	(70%-130%)			
Benzene	50.0	U	0.00	47.9	ug/L		96	(70%-130%)			
Carbon disulfide	250	U	0.00	243	ug/L		97	(70%-130%)			
Carbon tetrachloride	50.0	U	0.00	46.6	ug/L		93	(70%-130%)			
Chlorobenzene	50.0	U	0.00	46.9	ug/L		94	(70%-130%)			
Ethyl ether	50.0	U	0.00	57.8	ug/L		116	(70%-130%)			
Ethylbenzene	50.0	U	0.00	43.4	ug/L		87	(70%-130%)			
Methylene chloride	50.0	U	0.00	51.0	ug/L		102	(70%-130%)			

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## QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1499858										
Tetrachloroethylene	50.0	U	0.00	47.3	ug/L		95	(70%-130%)	CDS1	08/14/15	15:11
Toluene	50.0	J	0.430	45.8	ug/L		91	(70%-130%)			
Trichloroethylene	50.0	U	0.00	47.9	ug/L		96	(70%-130%)			
Xylenes (total)	150	J	0.310	131	ug/L		87	(70%-130%)			
n-Butyl alcohol	5000	U	0.00	4980	ug/L		100	(70%-130%)			
**1,2-Dichloroethane-d4	50.0		57.9	51.7	ug/L		103	(70%-128%)			
**Bromofluorobenzene	50.0		50.5	52.4	ug/L		105	(63%-138%)			
**Toluene-d8	50.0		53.8	50.6	ug/L		101	(80%-120%)			
QC1203372765 378840002 PSD											
1,1,1-Trichloroethane	50.0	U	0.00	49.2	ug/L	3	98	(0%-20%)		08/14/15	15:42
1,1,2-Trichloroethane	50.0	U	0.00	47.5	ug/L	6	95	(0%-20%)			
2-Butanone	250	U	0.00	231	ug/L	18	92	(0%-20%)			
4-Methyl-2-pentanone	250	U	0.00	210	ug/L	13	84	(0%-20%)			
Acetone	250	U	0.00	256	ug/L	20	102	(0%-20%)			
Benzene	50.0	U	0.00	48.2	ug/L	1	96	(0%-20%)			
Carbon disulfide	250	U	0.00	244	ug/L	1	98	(0%-20%)			
Carbon tetrachloride	50.0	U	0.00	47.9	ug/L	3	96	(0%-20%)			
Chlorobenzene	50.0	U	0.00	46.4	ug/L	1	93	(0%-20%)			
Ethyl ether	50.0	U	0.00	53.8	ug/L	7	108	(0%-20%)			
Ethylbenzene	50.0	U	0.00	43.4	ug/L	0	87	(0%-20%)			
Methylene chloride	50.0	U	0.00	51.7	ug/L	1	103	(0%-20%)			
Tetrachloroethylene	50.0	U	0.00	47.4	ug/L	0	95	(0%-20%)			

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## QC Summary

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Volatile-GC/MS</b>											
Batch	1499858										
Toluene	50.0	J	0.430	47.0	ug/L	3	93	(0%-20%)	CDS1	08/14/15	15:42
Trichloroethylene	50.0	U	0.00	49.5	ug/L	3	99	(0%-20%)			
Xylenes (total)	150	J	0.310	130	ug/L	0	86	(0%-20%)			
n-Butyl alcohol	5000	U	0.00	3990	ug/L	22*	80	(0%-20%)			
**1,2-Dichloroethane-d4	50.0		57.9	48.3	ug/L		97	(70%-128%)			
**Bromofluorobenzene	50.0		50.5	52.3	ug/L		105	(63%-138%)			
**Toluene-d8	50.0		53.8	48.8	ug/L		98	(80%-120%)			

**Notes:**

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- N Spike Sample recovery is outside control limits.
- P Aroclor target analyte with greater than 25% difference between column analyses.
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- o Analyte failed to recover within LCS limits (Organics only)

# GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

## QC Summary

Workorder: 378840

Page 9 of 9

<u>Parmname</u>	<u>NOM</u>	<u>Sample Qual</u>	<u>QC</u>	<u>Units</u>	<u>RPD%</u>	<u>REC%</u>	<u>Range</u>	<u>Anlst</u>	<u>Date</u>	<u>Time</u>
-----------------	------------	--------------------	-----------	--------------	-------------	-------------	--------------	--------------	-------------	-------------

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Volatile  
Surrogate Recovery Report

Page 1 of 1

SDG Number: GEL378840

Matrix Type: SOLID

Sample ID	Client ID	DCED4 %REC	TOL %REC	BFB %REC
1203372763	LCS for batch 1499857	103	99	100
1203372766	LCS for batch 1499857	100	97	101
1203372762	MB for batch 1499857	100	98	98
378840003	B32D53	115	104	116
378840005	B32D59	121	111	123
378840007	B32D65	113	104	118
378840008	B32D68	116	106	120
378840009	B32D71	111	102	115
1203380567	LCS for batch 1499857	98	101	101
1203380568	LCS for batch 1499857	103	109	85
1203380566	MB for batch 1499857	107	100	92
378840001	B32D26	134 *	128 *	116
378840002	B32D50	116	108	101
378840004	B32D56	111	108	102
378840006	B32D62	108	105	110
378840010	B32D74	107	100	96
378840011	B32D77	109	102	97
378840012	B32F29	205 *	186 *	182 *
378840013	B32F32	113	109	100
1203372764	B32D50PS	103	101	105
1203372765	B32D50PSD	97	98	105

**Surrogate**

DCED4 = 1,2-Dichloroethane-d4

TOL = Toluene-d8

BFB = Bromofluorobenzene

**Acceptance Limits**

(70%-128%)

(80%-120%)

(63%-138%)

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

# Miscellaneous

**DATA EXCEPTION REPORT**

<b>Mo.Day Yr.</b> 28-AUG-15	<b>Division:</b> Industrial	<b>Quality Criteria:</b> Specifications	<b>Type:</b> Process
<b>Instrument Type:</b> VOA GC/MS	<b>Test / Method:</b> SW846 5035/8260C	<b>Matrix Type:</b> Solid	<b>Client Code:</b> CPRC
<b>Batch ID:</b> 1499858	<b>Sample Numbers:</b> See Below		

**Potentially affected work order(s)(SDG): 378840(GEL378840)**

**Application Issues:**

Failed RPD for MS/MSD, or PS/PSD

Other

Failed Yield for Surrogates

**Specification and Requirements  
Exception Description:**

- Failed RPD for MS/MSD, or PS/PSD:  
QC 1203372765PSD
- Failed Yield for Surrogates:  
378840 001,012
- All internal standard recoveries were outside of acceptance limits in samples 37884006. The sample was re-analyzed with similar results for the recoveries.
- The percent drift for ethyl ether was outside of the acceptance limits in the calibration verification sample with high bias. The compound was not detected in any of the associated samples. The associated samples are: 378840003, 37884005, 378840007-009

**DER Disposition:**

- The RPD between the matrix spike pair (See Below) were not all within the acceptance limits. The unacceptable RPD may be attributed to matrix interference and/or sample non-homogeneity. 1203372764PS and 1203372765PSD (B32D50) n-Butyl alcohol [22\* (0%-20%)].
- Surrogate recoveries, in samples (See Below) were outside the acceptance limits. Sample re-analysis confirmed matrix interference. The re-analysis results are reported. 378840001 (B32D26) 1,2-Dichloroethane-d4 [134\* (70%-128%)], Toluene-d8 [128\* (80%-120%)], 378840012 (B32F29) 1,2-Dichloroethane-d4 [205\* (70%-128%)], Bromofluorobenzene [182\* (63%-138%)] and Toluene-d8 [186\* (80%-120%)].
- The re-analysis results are reported.
- There were no positive results for any of the analytes that were outside the calibration criteria. The results are reported.

**Originator's Name:**

Crystal Stacey 29-AUG-15

**Data Validator/Group Leader:**

Erin Haubert 02-SEP-15



September 02, 2015

Mr. Scot Fitzgerald  
CH2MHill Plateau Remediation Company  
MSIN R3-50 CHPRC  
PO Box 1600  
Richland, Washington 99352

Re: CHPRC SAF F15-048  
Work Order: 378965  
SDG: GEL378965

Dear Mr. Fitzgerald:

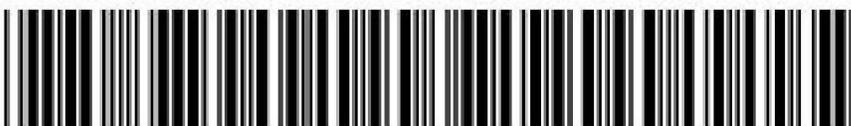
GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on August 08, 2015. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4505.

Sincerely,

*Chelsea Seagle*  
Chelsea Seagle for  
Heather Shaffer  
Project Manager

Purchase Order: 303757 - 8H  
Chain of Custody: F15-048-002, F15-048-005, F15-048-008, F15-048-014, F15-048-017, F15-048-020,  
F15-048-023, F15-048-026, F15-048-029, F15-048-032, F15-048-066, F15-048-067, F15-048-071, F15-048-074  
and F15-048-077  
Enclosures



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# **Sample Issue Resolution**

# SAMPLE ISSUE RESOLUTION

<b>SIR NUM</b>	SIR15-435
<b>REV NUM</b>	0
<b>DATE INITIATED</b>	8/26/2015

## SAMPLE EVENT INFORMATION

**SAF NUM(S)** F15-048  
**OPERABLE UNIT(S)**  
**PROJECT(S)** DWF&RS  
**SAMPLE EVENT TITLE(S)** FS-1 Outdoor Container Storage Area  
**LABORATORY** GEL Laboratories, LLC

## SAMPLING INFORMATION

**NUMBER OF SAMPLES** 1  
**SAMPLE NUMBERS** B32D17  
**SAMPLE MATRIX** SOIL  
**COLLECTION DATE** 8/6/2015 - 8/6/2015  
**SDG NUM** GEL378965

## ISSUE BACKGROUND

**CLASS** General Laboratory Direction  
**TYPE** Other General Laboratory Direction (Specify)  
**DESCRIPTION** The volatiles lab chose sample B32D17 for the MS/MSD sample in this SDG. The volume was consumed before our soil prep lab could take their aliquot for %moisture analysis.

## DISPOSITION

**DESCRIPTION** The lab will need to report this sample As Received with no %moisture.

**JUSTIFICATION** Final Resolution: Accept the proposal by GEL.

Submitted by: Heather Shaffer Date: 08/25/15  
Accepted by: Scot Fitzgerald Date: 08/26/2015

# **Case Narrative**

**General Narrative  
for  
CH2MHill Plateau Remediation Company  
CHPRC SAF F15-048  
SDG: GEL378965**

**September 02, 2015**

**Laboratory Identification:**

GEL Laboratories LLC  
2040 Savage Road  
Charleston, South Carolina 29407  
(843) 556-8171

**Summary**

**Sample receipt**

The sample(s) arrived at GEL Laboratories, LLC, Charleston, South Carolina on August 08, 2015, for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

**Items of Note** All efforts were made by the lab to meet any short hold times. Samples that were analyzed outside of the initial hold time but still within 2X hold time will be noted in the lab case narrative and DER

**Sample Identification**

The laboratory received the following samples:

<b>Laboratory Identification</b>	<b>Sample Description</b>
378965001	B32D17
378965002	B32D20
378965003	B32D23
378965004	B32D29
378965005	B32D32
378965006	B32D35
378965007	B32D38
378965008	B32D41
378965009	B32D44
378965010	B32D47
378965011	B32DL2
378965012	B32DL1
378965013	B32F26
378965014	B32F23
378965015	B32F20

**Case Narrative**

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

**Data Package**

The enclosed data package contains the following sections: General Narrative, Chain of Custody and Supporting Documentation, and data from the following fractions: GC/MS Volatile.

This package, to the best of my knowledge, is in compliance with the SOW, both technically and for completeness, including a full description of, explanation of, and corrective actions for, any and all deviations, from either the analyses requested or the case narrative requested. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manger (or designee) and the laboratory's client services representative as verified by their signatures on this report.

*Chelsea Seagle*  
Chelsea Seagle for  
Heather Shaffer  
Project Manager

# **Chain of Custody and Supporting Documentation**

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378965</b>		F15-048-074	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 4		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>
ICE CHEST NO. <b>GWS-407</b>		FIELD LOGBOOK NO. HNF -N-507- <b>3171</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>S875</b>	BILL OF LADING/AIR BILL NO. <b>774237595729</b>		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C
		HOLDING TIME	14 Days
		TYPE OF CONTAINER	aGs
		NO. OF CONTAINER(S)	5
		VOLUME	40mL
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	<b>SAMPLE ANALYSIS</b>	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32F23	SOIL	AUG 06 2015	0928 ✓

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 1110	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 06 2015 1110	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 07 2015 1200	RECEIVED BY/STORED IN CHRIS FULTON	DATE/TIME AUG 07 2015 1200	
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME AUG 07 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME	
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME	
RELINQUISHED BY/REMOVED FROM Fonseca	DATE/TIME	RECEIVED BY/STORED IN M. Kinlaw	DATE/TIME 8-8-15 0840	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
<b>LABORATORY SECTION</b>	RECEIVED BY	<b>TITLE</b>		<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	DISPOSAL METHOD	<b>DISPOSED BY</b>		<b>DATE/TIME</b>

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-optional 4

Sampler Initials and Date:

F.M. Hall/CHPRC

AUG 06 2015

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32 F23	K	28.79	35.03	6.24
	L	28.93	34.92	5.99
	M	28.91	34.88	5.97
	N	29.01	35.28	6.27
	P	28.98	34.81	5.83

- <sup>1</sup> Enter sample number associated with the sampling event.
- <sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.
- <sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.
- <sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378965</b>			F15-048-071	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 3		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>GLWS-407</b>		FIELD LOGBOOK NO. <b>HNF-N-507-31-71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5875</b>	BILL OF LADING/AIR BILL NO. <b>774237595729</b>			
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C			
		HOLDING TIME	14 Days			
		TYPE OF CONTAINER	aGs			
		NO. OF CONTAINER(S)	5			
		SPECIAL HANDLING AND/OR STORAGE	VOLUME	40mL		
		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32F20	SOIL	AUG 06 2015	1006			✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 06 2015	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM SSU#1	DATE/TIME AUG 07 2015 1200	RECEIVED BY/STORED IN CHRIS FULTON	DATE/TIME AUG 07 2015 1200		
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME AUG 07 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME	RECEIVED BY/STORED IN M. Kingston	DATE/TIME 8-8-15 0840		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1 - optional 3

Sampler Initials and Date:

F.M. Hall/CHPRG

AUG 06 2015

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32F20	K	28.94	34.99	6.05
	L	29.00	35.00	6.0
	M	28.90	35.03	6.13
	N	28.74	34.17	5.43
	P	28.81	34.78	5.97

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378965</b>			F15-048-067	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 2		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>GL09-407</b>	FIELD LOGBOOK NO. HNF-N-507- <b>31-71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>		COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5875</b>		BILL OF LADING/AIR BILL NO. <b>774237595729</b>		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C			
		HOLDING TIME	14 Days			
		TYPE OF CONTAINER	aGs			
		NO. OF CONTAINER(S)	5			
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS			
VOLUME	40mL					
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32DL2	SOIL	AUG 0 6 2015	1045	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 0 6 2015	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 0 6 2015	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 0 7 2015 1200	RECEIVED BY/STORED IN CHRIS FULTON	DATE/TIME AUG 0 7 2015 1200		
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME AUG 0 7 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM Fej ex	DATE/TIME	RECEIVED BY/STORED IN m.kristow ml-kohs	DATE/TIME 8-3-15 0340		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-optional 2

Sampler Initials and Date:

F.M. Hall/CHPRO

8/6/15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32DL2	K	29.18	35.40	6.22
	L	28.88	34.73	5.85
	M	28.83	34.88	6.05
	N	28.97	34.70	5.73
	P	28.89	35.05	6.16

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378965</b>			F15-048-066	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 1		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>GWS-407</b>		FIELD LOGBOOK NO. <b>HNF-N-507-31-71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5875</b>		BILL OF LADING/AIR BILL NO. <b>774237595729</b>		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION Cool <-7C and >-20C	HOLDING TIME 14 Days	TYPE OF CONTAINER aGs	NO. OF CONTAINER(S) 5	VOLUME 40mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32DL1	SOIL	AUG 06 2015	1033	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 <sup>1110</sup>	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 06 2015 <sup>1110</sup>	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 07 2015 1200	RECEIVED BY/STORED IN CHRIS FULTON	DATE/TIME AUG 07 2015 1200		
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME AUG 07 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN M. Kruslow	DATE/TIME 8-8-15 0845		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-Optional 1

Sampler Initials and Date:

F.M. Hall/CHPRC

8/6/15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32 DLI	K	28.99	35.10	6.11
B32 DLI	L	28.94	34.73	5.79
B32 DLI	M	28.81	37.01	8.20
B32 DLI	N	29.06	34.83	5.77
B32 DLI	P	28.89	33.59	4.70

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378965</b>			F15-048-008	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-3		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>GWS-407</b>		FIELD LOGBOOK NO. <b>HNF-N-507-31.71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5875</b>		BILL OF LADING/AIR BILL NO. <b>774237595929</b>		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C			
		HOLDING TIME	14 Days			
		TYPE OF CONTAINER	aGs			
		NO. OF CONTAINER(S)	5			
		VOLUME	40mL			
	SPECIAL HANDLING AND/OR STORAGE N/A	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D23	SOIL	AUG 06 2015	0940			✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME <b>AUG 06 2015 1110</b>	RECEIVED BY/STORED IN SSU-1	DATE/TIME <b>AUG 06 2015 1110</b>	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME <b>AUG 07 2015 1200</b>	RECEIVED BY/STORED IN CHRIS FULTON	DATE/TIME <b>AUG 07 2015 1200</b>		
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME <b>AUG 07 2015 1400</b>	RECEIVED BY/STORED IN CHPRC	DATE/TIME <b>AUG 07 2015 1200</b>		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME <b>AUG 07 2015 1400</b>	RECEIVED BY/STORED IN FEDEX	DATE/TIME <b>AUG 07 2015 1200</b>		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME <b>AUG 07 2015 1400</b>	RECEIVED BY/STORED IN M. Kristow	DATE/TIME <b>8-3-15 0840</b>		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-3

Sampler Initials and Date:

F.M. Hall/CHPRE

AUG 06 2015

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32D23	K	28.86	34.55	5.69
	L	29.00	35.43	6.43
	M	28.77	34.49	5.72
	N	28.88	35.51	6.63
	P	28.89	35.00	6.11

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378965</b>			F15-048-005	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-2		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>GWS-407</b>		FIELD LOGBOOK NO. <b>HNF-N-507-31-71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>S875</b>		BILL OF LADING/AIR BILL NO. <b>774237595729</b>		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION Cool <-7C and >-20C	HOLDING TIME 14 Days	TYPE OF CONTAINER aGs	NO. OF CONTAINER(S) 5	VOLUME 40mL
	SPECIAL HANDLING AND/OR STORAGE N/A	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D20	SOIL	AUG 06 2015	1022	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 1110	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 06 2015 1110	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 07 2015 1200	RECEIVED BY/STORED IN CHRIS FULTON	DATE/TIME AUG 07 2015 1200		
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME AUG 07 2015 1100	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME AUG 07 2015 1200	RECEIVED BY/STORED IN M. Kershaw	DATE/TIME 8-8-15 0840		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-2

Sampler Initials and Date:

F.M. Hall/CHPRC

AUG 06 2015

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32 D20	K	28.97	35.99	7.02
	L	28.98	34.81	5.83
	M	28.82	35.03	6.21
	N	28.88	34.68	5.80
	P	28.86	34.65	5.79

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <sup>6-1-12-5</sup> 378965			F15-048-002	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-1		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. 669-407		FIELD LOGBOOK NO. HNF-N507-31-71	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. 5875		BILL OF LADING/AIR BILL NO. 774237595729		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C			
		HOLDING TIME	14 Days			
		TYPE OF CONTAINER	aGs			
		NO. OF CONTAINER(S)	5			
		VOLUME	40mL			
	SPECIAL HANDLING AND/OR STORAGE N/A	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D17	SOIL	AUG 06 2015	0954			✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME 1110	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 06 2015	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 07 2015 1200	RECEIVED BY/STORED IN CHRIS FULTON CHPRC	DATE/TIME AUG 07 2015 1200		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME AUG 07 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FED	DATE/TIME	RECEIVED BY/STORED IN M. Kruslow	DATE/TIME 8/6/15 0840		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-1

Sampler Initials and Date:

P.M. Hall/CHPRC

AUG 06 2015

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32D17	K	28.86	33.08	4.22
	L	28.85	34.42	5.57
	M	29.08	34.52	5.44
	N	28.69	34.79	6.1
	P	28.86	34.44	5.58

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378965</b>			F15-048-032	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-11		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>C-WS-461</b>		FIELD LOGBOOK NO. HNF-N-507-31-71	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5874</b>		BILL OF LADING/AIR BILL NO. <b>774237248276</b>		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C			
		HOLDING TIME	14 Days			
		TYPE OF CONTAINER	aGs			
		NO. OF CONTAINER(S)	5			
		VOLUME	40mL			
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D47	SOIL	AUG 06 2015	0715	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0915	RECEIVED BY/STORED IN R.A. Shepard/CHPRC	DATE/TIME AUG 06 2015 0915	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM R.A. Shepard/CHPRC	DATE/TIME 8/6/15 0930	RECEIVED BY/STORED IN SSU-1	DATE/TIME 8/6/15 0930		
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 07 2015 1200	RECEIVED BY/STORED IN CHRIS FULTON CHPRC	DATE/TIME AUG 07 2015 1200		
RELINQUISHED BY/REMOVED FROM CHRIS FULTON CHPRC	DATE/TIME AUG 07 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FeDEX	DATE/TIME	RECEIVED BY/STORED IN M. Knowlton	DATE/TIME 8-8-15 0840		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-11

Sampler Initials and Date: FNA 8-6-15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32D47	K	28.93	33.96	5.03
	L	28.26	34.38	6.12
	M	28.44	34.22	5.78
	N	28.23	35.20	6.97
	P	28.16	33.84	5.68

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378965</b>			F15-048-017	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-6		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>G25-461</b>		FIELD LOGBOOK NO. <b>HNF-N-507-31.71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5874</b>		BILL OF LADING/AIR BILL NO. <b>774237248296</b>		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION Cool <-7C and >-20C	HOLDING TIME 14 Days	TYPE OF CONTAINER aGs	NO. OF CONTAINER(S) 5	VOLUME 40mL
SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D32	SOIL	AUG 06 2015	0905	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0915	RECEIVED BY/STORED IN R.A. Shepard/CHPRC	DATE/TIME AUG 06 2015 0915	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM R.A. Shepard/CHPRC	DATE/TIME 8/6/15 0930	RECEIVED BY/STORED IN SSU-1	DATE/TIME 8/6/15 0930		
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 07 2015 1200	RECEIVED BY/STORED IN CHRIS FULTON	DATE/TIME AUG 07 2015 1200		
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME AUG 07 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME	RECEIVED BY/STORED IN M. Kinslow	DATE/TIME 8-8-15 0840		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-6

Sampler Initials and Date:

F.M. Hall/CHPRC

AUG 06 2015

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32D32	K	28.94	35.29	6.35
	L	28.84	35.33	6.49
	M	28.80	35.12	6.32
	N	28.73	34.86	6.13
	P	28.76	35.30	6.54

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

65 165

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378965</b>			F15-048-077	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 5		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>GWS-461</b>		FIELD LOGBOOK NO. HNF-N-507- <u>31-71</u>	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5874</b>		BILL OF LADING/AIR BILL NO. <b>774237248276</b>		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION Cool <-7C and >-20C	HOLDING TIME 14 Days	TYPE OF CONTAINER aGs	NO. OF CONTAINER(S) 5	VOLUME 40mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32F26	SOIL	AUG 06 2015	0750	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0915	RECEIVED BY/STORED IN <i>[Signature]</i>	DATE/TIME AUG 06 2015 0915	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM R.A. Shepard/CHPRC	DATE/TIME 8/6/15 0930	RECEIVED BY/STORED IN SSU-1	DATE/TIME 8/6/15 0930		
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 07 2015 1200	RECEIVED BY/STORED IN CHRIS FULTON	DATE/TIME AUG 07 2015 1200		
RELINQUISHED BY/REMOVED FROM CHRIS FULTON CHPRC	DATE/TIME AUG 07 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM <i>[Signature]</i>	DATE/TIME	RECEIVED BY/STORED IN Mr. Konlaw	DATE/TIME 8-8-15 0840		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-optional-5

Sampler Initials and Date: FMA

AUG 06 2015

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32 F26	K	29.29	34.55	3.56
	L	29.75	34.18	4.43
	M	29.86	34.56	4.70
	N	29.82	34.50	4.68
	P	29.51	33.88	4.37

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378905</b>			F15-048-014	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-5		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>GWS-461</b>		FIELD LOGBOOK NO. INF-N-507- <b>76.71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5874</b>		BILL OF LADING/AIR BILL NO. <b>774237248276</b>		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <-7C and >-20C			
		HOLDING TIME	14 Days			
		TYPE OF CONTAINER	aGs			
		NO. OF CONTAINER(S)	5			
		VOLUME	40mL			
		SPECIAL HANDLING AND/OR STORAGE N/A	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D29	SOIL	AUG 06 2015	0850			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0915	RECEIVED BY/STORED IN R.A. Shepard/CHPRC	DATE/TIME AUG 06 2015 0915	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM R.A. Shepard/CHPRC	DATE/TIME 8/6/15 0930	RECEIVED BY/STORED IN SSU-1	DATE/TIME 8/6/15 0930		
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 07 2015 1200	RECEIVED BY/STORED IN CHRIS FULTON CHPRC	DATE/TIME AUG 07 2015 1200		
RELINQUISHED BY/REMOVED FROM CHRIS FULTON CHPRC	DATE/TIME AUG 07 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME	RECEIVED BY/STORED IN M. Kinslow	DATE/TIME 8-8-15 0840		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-5

Sampler Initials and Date:

F.M. Hall/CHPRC

AUG 06 2015

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32D29	K	28.75	35.17	6.42
	L	28.89	35.50	6.61
	M	28.77	34.35	5.58
	N	28.72	33.34	4.62
	P	28.83	35.17	6.34

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378965</b>			F15-048-020	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-7		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>GWS-461</b>		FIELD LOGBOOK NO. HNF-N-507- <u>31-71</u>	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO GEL Laboratories, LLC <b>508-215</b>		OFFSITE PROPERTY NO. <b>5874</b>	BILL OF LADING/AIR BILL NO. <b>774237248276</b>			
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION Cool <-7C and >-20C	HOLDING TIME 14 Days	TYPE OF CONTAINER aGs	NO. OF CONTAINER(S) 5	VOLUME 40mL
	SPECIAL HANDLING AND/OR STORAGE N/A	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D35	SOIL	AUG 06 2015	0822	✓		

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0915	RECEIVED BY/STORED IN R.A. Shepard/CHPRC
RELINQUISHED BY/REMOVED FROM R.A. Shepard/CHPRC	DATE/TIME 8/6/15 0930	RECEIVED BY/STORED IN SSU-1
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 07 2015 1200	RECEIVED BY/STORED IN CHRIS FULTON CHPRC
RELINQUISHED BY/REMOVED FROM CHRIS FULTON CHPRC	DATE/TIME AUG 07 2015 1400	RECEIVED BY/STORED IN FEDEX
RELINQUISHED BY/REMOVED FROM Fedex	DATE/TIME	RECEIVED BY/STORED IN M. Kriskow
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

SPECIAL INSTRUCTIONS  
TRVL-15-136  
(1) 5035/8260\_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260\_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-7

Sampler Initials and Date:

F.M. HalvCHPRC

AUG 06 2015

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32D35	K	28.97	35.22	6.25
	L	28.80	34.25	5.45
	M	28.83	34.04	5.21
	N	28.89	31.69	2.8
	P	28.96	33.82	4.86

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378965</b>			F15-048-026	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-9		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>GWS-461</b>		FIELD LOGBOOK NO. <b>HNF-N-507-31-71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5874</b>		BILL OF LADING/AIR BILL NO. <b>774237248276</b>		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION Cool <-7C and >-20C	HOLDING TIME 14 Days	TYPE OF CONTAINER aGs	NO. OF CONTAINER(S) 5	VOLUME 40mL
	SPECIAL HANDLING AND/OR STORAGE N/A	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D41	SOIL	AUG 06 2015	0733	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0915	RECEIVED BY/STORED IN R.A. Shepard/CHPRC	DATE/TIME AUG 06 2015 0915	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM R.A. Shepard/CHPRC	DATE/TIME 8/6/15 0930	RECEIVED BY/STORED IN SSU-1	DATE/TIME 8/6/15 0930		
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 07 2015 1200	RECEIVED BY/STORED IN CHRIS FULTON	DATE/TIME AUG 07 2015 1200		
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME AUG 07 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FedEx	DATE/TIME	RECEIVED BY/STORED IN M Kinslow	DATE/TIME 8-8-15 0840		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-9

Sampler Initials and Date: FMA 8-6-15

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32D41	K	28.97	34.92	5.95
	L	28.80	33.89	5.09
	M	28.73	32.63	3.9
	N	28.80	34.39	5.59
	P	28.92	34.78	5.86

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378965</b>			F15-048-023	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-8		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>CWS-461</b>		FIELD LOGBOOK NO. <b>HNF-N-507-31.71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5874</b>		BILL OF LADING/AIR BILL NO. <b>774237248276</b>		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION Cool <-7C and >-20C			
			HOLDING TIME 14 Days			
			TYPE OF CONTAINER aGs			
			NO. OF CONTAINER(S) 5			
			VOLUME 40mL			
SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS		SEE ITEM (1) IN SPECIAL INSTRUCTIONS		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D38	SOIL	AUG 06 2015	0838	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0915	RECEIVED BY/STORED IN R.A. Shepard/CHPRC	DATE/TIME AUG 06 2015 0915	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM R.A. Shepard/CHPRC	DATE/TIME 8/6/15 0930	RECEIVED BY/STORED IN SSU-1	DATE/TIME 8/6/15 0930		
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 07 2015 1200	RECEIVED BY/STORED IN CHRIS FULTON	DATE/TIME AUG 07 2015 1200		
RELINQUISHED BY/REMOVED FROM CHRIS FULTON	DATE/TIME AUG 07 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FeDEX	DATE/TIME	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN M. Kinlaw	DATE/TIME 8-3-15 0840		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-8

Sampler Initials and Date:

F.M. Hall/CHPRC

AUG 06 2015

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32D38	K	29.06	35.10	6.04
	L	28.79	35.01	6.22
	M	28.92	35.21	6.29
	N	28.76	34.81	6.05
	P	28.76	34.97	6.21

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>378965</b>			F15-048-029	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H
SAMPLING LOCATION FS-1 Closure Confirmation: 1-10		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	DATA TURNAROUND 30 Days / 30 Days	
ICE CHEST NO. <b>GWS-4161</b>		FIELD LOGBOOK NO. HNF-N-507- <b>32.71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
SHIPPED TO GEL Laboratories, LLC		OFFSITE PROPERTY NO. <b>5874</b>		BILL OF LADING/AIR BILL NO. <b>77423724896</b>		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.		PRESERVATION	Cool <-7C and >-20C		
			HOLDING TIME	14 Days		
			TYPE OF CONTAINER	aGs		
			NO. OF CONTAINER(S)	5		
			VOLUME	40mL		
SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS		SEE ITEM (1) IN SPECIAL INSTRUCTIONS		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D44	SOIL	AUG 06 2015	0810	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0915	RECEIVED BY/STORED IN R.A. Shepard/CHPRC	DATE/TIME AUG 06 2015 0915	TRVL-15-136 (1) 5035/8260_VOA: LOW LEVEL: COMMON {1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 2-Butanone, 4-Methyl-2-pentanone, Acetone, Benzene, Carbon disulfide, Carbon tetrachloride, Chlorobenzene, Ethylbenzene, Methylene chloride, Tetrachloroethene, Toluene, Trichloroethene, Xylenes (total)}; 5035/8260_VOA: LOW LEVEL: COMMON (Add-On) {1,1,2-Trichloro-1,2,2-trifluoroethane, 1,4-Dioxane, 1-Butanol, 2-Nitropropane, Cyclohexanone, Diethyl ether, Ethyl acetate, Isobutyl alcohol, Methyl methacrylate};	
RELINQUISHED BY/REMOVED FROM R.A. Shepard/CHPRC	DATE/TIME 8/6/15 0930	RECEIVED BY/STORED IN SSU-1	DATE/TIME 8/6/15 0930		
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 07 2015 1200	RECEIVED BY/STORED IN CHRIS FULTON/CHPRC	DATE/TIME AUG 07 2015 1200		
RELINQUISHED BY/REMOVED FROM CHRIS FULTON/CHPRC	DATE/TIME AUG 07 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM Fei) ex	DATE/TIME	RECEIVED BY/STORED IN M. Kinshaw	DATE/TIME 8-8-15 0840		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

## SAMPLE RECORD SHEET FOR VOC SAMPLE COLLECTION

Location:

FS-1-10

Sampler Initials and Date:

F.M. Hall/CHPRC

AUG 06 2015

Sample Number <sup>1</sup>	Sample Suffix	Initial Weight <sup>2</sup> (grams)	Total Weight <sup>3</sup> (grams)	Soil Weight <sup>4</sup> (grams)
B32044	K	28.98	34.91	5.93
	L	28.89	34.70	5.81
	M	28.84	35.38	6.54
	N	28.96	34.80	5.84
	P	28.73	34.62	5.89

<sup>1</sup> Enter sample number associated with the sampling event.

<sup>2</sup> Initial weight is to include all labels, stickers, bags, spin bars (for samples with suffix K, L, M, N and P) and anything else that will be associated with the bottle when it is weighed with the sample.

<sup>3</sup> Ensure that everything weighed for the empty bottle and no additional items (besides the sample) is weighed.

<sup>4</sup> Soil weight is the vial with sample minus Initial Weight.

A-6005-526 (REV 0)

**SAMPLE RECEIPT & REVIEW FORM**

Client: <u>OPRE</u>		SDG/AR/COC/Work Order:	
Received By: <u>MIC</u>		Date Received: <u>8-8-15</u>	
Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?			Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>0</u>
Classified Radioactive II or III by RSO?			If yes, Were swipes taken of sample containers < action levels?
COC/Samples marked containing PCBs?			
Package, COC, and/or Samples marked as beryllium or asbestos containing?			If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?			Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?			

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	<input checked="" type="checkbox"/>			1c Preservation Method: Ice bags <u>Blue ice</u> Dry ice None Other (describe) *All temperatures are recorded in Celsius
2a Daily check performed and passed on IR temperature gun?	<input checked="" type="checkbox"/>			Temperature Device Serial #: <u>E5032015850</u> Secondary Temperature Device Serial # (if Applicable):
3 Chain of custody documents included with shipment?	<input checked="" type="checkbox"/>			
4 Sample containers intact and sealed?	<input checked="" type="checkbox"/>			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Samples requiring chemical preservation at proper pH?	<input checked="" type="checkbox"/>			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 Do Low Level Perchlorate samples (EPA 6850) have headspace as required?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
7 VOA vials free of headspace (defined as < 6mm bubble)?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
8 Are Encore containers present?	<input checked="" type="checkbox"/>			(If yes, immediately deliver to Volatiles laboratory)
9 Samples received within holding time?	<input checked="" type="checkbox"/>			ID's and tests affected:
10 Sample ID's on COC match ID's on bottles?	<input checked="" type="checkbox"/>			Sample ID's and containers affected:
11 Date & time on COC match date & time on bottles?	<input checked="" type="checkbox"/>			Sample ID's affected:
12 Number of containers received match number indicated on COC?	<input checked="" type="checkbox"/>			Sample ID's affected:
13 Are sample containers identifiable as GEL provided?	<input checked="" type="checkbox"/>			
14 COC form is properly signed in relinquished/received sections?	<input checked="" type="checkbox"/>			
15 Carrier and tracking number.	<input checked="" type="checkbox"/>			Circle Applicable: FedEx Air <u>FedEx Ground</u> UPS Field Services Courier Other  7742 3724 8276 1c 7742 3759 5729 1c

Comments (Use Continuation Form if needed):

**CHPRC PARTS AND TOOLS RETURN (PTR) FORM**  
**PROJECT HANFORD, 2355 STEVENS DR., RICHLAND, WA 99354**

**REFERENCE BUSINESS PROCESS GUIDE - MATERIAL RETURNS**

**SECTION A - Material Information**

Company <u>CHPRC</u> Date <u>8-7-15</u>	Contract Specialist Name <u>D. Capelle</u>	PTR No.  5875
One of the following is <b>REQUIRED</b> : PO/Release No. _____ Contract/Rel. No. _____ P-Card Log No. _____ Other _____	Phone Number <u>5093720460</u> Material Coordinator/P-Card Holder Name _____ Phone Number _____	

Line Item No.	Quantity	U/M	Q Level	Description (Catalog ID No., S/N, Gov. Tag No.)/Include Reason for Return	Unit Price	Value
1	1	EA		Cooler# GWS-407 Gross Weight:62 lbs		

**SECTION B - Financial Transaction Information**

Passport Purchase Order Financial Transaction - Check One

<input type="checkbox"/> <b>Credit</b> - Return for Credit - PP Receipt Required	<input type="checkbox"/> <b>Contract/P-Card/Other</b> - No Financial Transaction Created from PTR
<input type="checkbox"/> <b>Replace</b> - Return for Replacement - PP Receipt Required	<input type="checkbox"/> Credit - Contract/P-Card
<input type="checkbox"/> <b>Inventory</b> - Return to PHMC Inventory	<input type="checkbox"/> Repair
<input type="checkbox"/> <b>Return</b> - QA-Non-NCR Material (Credit)	<input type="checkbox"/> Ship Supplier Owned Materials, Containers, Samples, etc.

\*Requires identification of controlling Purchase Order, Contract, or PHMC Property Custodian accountable for the Govt. property in accordance with Regulations.

\*Ship Govt. Owned Materials, Containers, Samples, etc.

Other \_\_\_\_\_

**SECTION C - Hazardous Material Information**

Hazardous Material <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	*T&P Inspections (req'd) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Certified Free of Contamination <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Radioactive Material <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Include appropriate shipping document.	Certifier's Name/Date _____
Rad. Control Survey <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Radioactive Material is also Hazardous.	

Custodian: C Fulton Current Location of Material: \_\_\_\_\_ Date Available to Ship: 8-7-15  
 Telephone: 5093733547

**SECTION D - Vendor/Ship To Information**

Ship To: Gel Contractor: \_\_\_\_\_  
2040 Savage Road  
Charleston, SC 29407

Contact: Heather Shaffer EXT:4505  
 Contact Phone: 843-556-8171  
 RA No.: \_\_\_\_\_  
 F.O.B.: \_\_\_\_\_

Item	% Cost	Cost Center	CACN	COA	SECTION E - Shipping Information - To be completed by Shipping Department	SECTION F - OSD&D/Shipping Notice Information To be completed by Shipping/Procurement
All	100	2EK00	303757	JDBA	Routing _____ B/L No. <u>774237595729</u> B/L Wt. <u>62 lbs</u> Frt. Collect _____ Acct. No. _____	By _____ Date Shipped _____ OSD&D No. _____ Shipping Notice No. _____ Receipt No. _____

**CHPRC PARTS AND TOOLS RETURN (PTR) FORM**  
**PROJECT HANFORD, 2355 STEVENS DR., RICHLAND, WA 99354**

**REFERENCE BUSINESS PROCESS GUIDE - MATERIAL RETURNS**

**SECTION A - Material Information**

Company <u>CHPRC</u> Date <u>8-7-15</u>	Contract Specialist Name <u>D. Capelle</u>	PTR No.  5874
One of the following is <b>REQUIRED</b> : PO/Release No. _____ Contract/Rel. No. _____ P-Card Log No. _____ Other _____	Phone Number <u>5093720460</u> Material Coordinator/P-Card Holder Name _____ Phone Number _____	

Line Item No.	Quantity	U/M	Q Level	Description (Catalog ID No., S/N, Gov. Tag No.)/Include Reason for Return	Unit Price	Value
1	1	EA		Cooler# GWS-461 Gross Weight: 65 lbs		

**SECTION B - Financial Transaction Information**

Passport Purchase Order Financial Transaction - Check One

<input type="checkbox"/> Credit - Return for Credit - PP Receipt Required	<input type="checkbox"/> Contract/P-Card/Other - No Financial Transaction Created from PTR
<input type="checkbox"/> Replace - Return for Replacement - PP Receipt Required	<input type="checkbox"/> Credit - Contract/P-Card
<input type="checkbox"/> Inventory - Return to PHMC Inventory	<input type="checkbox"/> Repair
<input type="checkbox"/> Return - QA-Non-NCR Material (Credit)	<input type="checkbox"/> Ship Supplier Owned Materials, Containers, Samples, etc.
	<input type="checkbox"/> Core Charge - Return for Credit of Deposit
	<input type="checkbox"/> Replace
	<input type="checkbox"/> Over Shipment

\*Requires identification of controlling Purchase Order, Contract, or PHMC Property Custodian accountable for the Govt. property in accordance with Regulations.

\*Ship Govt. Owned Materials, Containers, Samples, etc.

Other \_\_\_\_\_

**SECTION C - Hazardous Material Information**

Hazardous Material <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	*T&P Inspections (req'd) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Certified Free of Contamination <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Radioactive Material <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Include appropriate shipping document.	Certifier's Name/Date
Rad. Control Survey <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Radioactive Material is also Hazardous.	

Custodian: <u>C Fulton</u>	Current Location of Material:	Date Available to Ship: <u>8-7-15</u>
Telephone: <u>5093733547</u>		

**SECTION D - Vendor/Ship To Information**

Ship To: <u>Gel</u> <u>2040 Savage Road</u> <u>Charleston, SC 29407</u>	Contractor: _____ _____ _____ _____
--	---

Contact: Heather Shaffer Ext: 4505  
 Contact Phone: 843-556-8171  
 RA No.: \_\_\_\_\_  
 F.O.B.: \_\_\_\_\_

Item	% Cost	Cost Center	CACN	COA	SECTION E - Shipping Information - To be completed by Shipping Department	SECTION F - OSD&D/Shipping Notice Information To be completed by Shipping/Procurement
All	100	2EK00	303757	JDBA	Routing _____ B/L No. <u>774237248276</u> B/L Wt. <u>65 lbs</u> Frt. Collect _____ Acct. No. _____	By _____ Date Shipped _____ OSD&D No. _____ Shipping Notice No. _____ Receipt No. _____

# **Data Review Qualifier Definitions**

## Project Specific Qualifier Definitions for GEL Client Code: CPRC

Code	Status	Qualifier Definition	CofA	Department	Fraction	Additional Comments
U	Programmed	Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.	Y			Includes MDA, TPU, count uncert.
J	Programmed	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated	Y	Organics		Organics only
P	Programmed	Aroclor target analyte with greater than 25% difference between column analyses.	Y	Organics		PCB only
C	Manual	Analyte has been confirmed by GC/MS analysis	Y	Organics	Pesticide	IF GC/MS confirmation was attempted but unsuccessful do not qualify with C
B	Programmed	The analyte was detected in both the associated QC blank and in the sample.	Y	Organics		
E	Manual	Concentration exceeds the calibration range of the instrument	Y	Organics		Qualifier Uploaded
A	Manual	The TIC is a suspected aldol-condensation product	Y	Organics	Semi-Volatile	Uploaded with TIC
X	Programmed	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier	Y			Replaces H Hold Date In RAD replaces UI. Same usage as standard X as well.
N	Programmed	Spike Sample recovery is outside control limits.	Y			
*	Programmed	Duplicate analysis not within control limits	Y	Inorganics		
>	Programmed	Result greater than quantifiable range or greater than upper limit of the analysis range	Y	General Chemistry		
Z	Manual	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier	Y			
B	Programmed	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).	Y	Inorganics	Metals	Replaces J Estimated Value
D	Programmed	Results are reported from a diluted aliquot of sample.	Y			Dilution
E	Programmed	Reported value is estimated due to interferences. See comment in narrative.	Y	Inorganics	Metals	GEL E
M	Manual	Duplicate precision not met.	Y	Inorganics	Metals	Replaces *
o	Programmed	Analyte failed to recover within LCS limits (Organics only)	Y	Organics		
S	Manual	Reported value determined by the Method of Standard Additions (MSA)	Y	Inorganics		Not coded B/C Rarely performed
T	Programmed	Spike and/or spike duplicate sample recovery is outside control limits.	Y	Organics		GC/MS only
W	Manual	Post-digestion spike recovery for GFAA out of control limit. Sample absorbency < 50% of spike absorbency.	Y	Inorganics		No GFAA in house.
B	Programmed	The associated QC sample blank has a result >= 2X the MDA and, after corrections, result is >= MDA for this sample	Y	Radiological		
Y	Manual	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier	Y			
+	Manual	Correlation coefficient for Method of Standard Additions (MSA) is < 0.995	Y	Inorganics		
B	Programmed	The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).	Y	General Chemistry		Replaces J Estimated Value
C	Programmed	Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.	Y	Inorganics	Metals	Replaces B Blank Detection
C	Programmed	Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.	Y	General Chemistry		Replaces B Blank Detection
<	Programmed	Sample is below the EPA guidance level for Reactive Releasable Cyanide and/or Reactive Releasable Sulfide	Y	General Chemistry		for Reactive CN/S

**Project Specific Qualifier Definitions for GEL Client Code: CPRC**

<b>Code</b>	<b>Status</b>	<b>Qualifier Definition</b>	<b>CofA</b>	<b>Department</b>	<b>Fraction</b>	<b>Additional Comments</b>
UX	Manual	Gamma Spectroscopy--Uncertain identification	Y	Radiological		

# **Laboratory Certifications**

**List of current GEL Certifications as of 02 September 2015**

<b>State</b>	<b>Certification</b>
Alaska	UST-110
Arkansas	88-0651
CLIA	42D0904046
California	2940 Interim
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC000122013-10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-12-00283, P330-12-00284
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013-10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA150001
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC000122013-10
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
Oklahoma	9904
Pennsylvania NELAP	68-00485
Plant Material Permit	PDEP-12-00260
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-15-10
Utah NELAP	SC000122015-18
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404

# **Volatile Analysis**

# Case Narrative

**GC/MS Volatile  
Technical Case Narrative  
CH2MHill Plateau Remediation Company (CPRC)  
SDG #: GEL378965  
Work Order #: 378965**

**Method/Analysis Information**

**Procedure:** Volatile Organic Compounds (VOC) by Gas Chromatograph/Mass Spectrometer

Analytical Method: SW846 5035/8260C

Prep Method: SW846 5035

Analytical Batch Number: 1500550

Prep Batch Number: 1500548

**Sample Analysis**

The following client and quality control samples were analyzed to complete this SDG using the methods referenced in the Analysis Information section:

<b>Sample ID</b>	<b>Client ID</b>
378965001	B32D17
378965002	B32D20
378965003	B32D23
378965004	B32D29
378965005	B32D32
378965006	B32D35
378965007	B32D38
378965008	B32D41
378965009	B32D44
378965010	B32D47
378965011	B32DL2
378965012	B32DL1
378965013	B32F26
378965014	B32F23
378965015	B32F20
1203374678	Method Blank (MB)
1203374679	Laboratory Control Sample (LCS)
1203374680	Laboratory Control Sample (LCS)
1203376213	378965001(B32D17) Post Spike (PS)
1203376214	378965001(B32D17) Post Spike Duplicate (PSD)
1203380436	Method Blank (MB)
1203380437	Laboratory Control Sample (LCS)
1203380438	Laboratory Control Sample (LCS)

NOTE: For volatile organic analyses the matrix spike designations may be indicated as "PS" or "PSD". The "PS" designation (post spike) indicates that the matrix was fortified prior to analysis but after applying any prep factors, such as a dilution. The laboratory considers the MS/MSD and PS/PSD designations interchangeable.

The data results reported met all SOP and method criteria, unless otherwise discussed below.

### **SOP Reference**

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-OA-E-038 REV# 21.

### **Calibration Information**

A complete list of the initial calibration data files with the correct dates and times of analysis are shown in the Calibration History report located in the Standard Data section of the data package. The surrogate compounds were calibrated using a minimum five-point calibration curve. The surrogates were added by the auto sampler at a concentration of 50 ug/L or 20 ug/L for low level analyses. GEL Laboratories LLC will not have surrogate recoveries reported for Dibromofluoromethane. This is due to increased regulations for this analyte and an industry shortage.

### **Initial Calibration**

All initial calibration requirements have been met for this sample delivery group (SDG).

### **Continuing Calibration Verification Requirements**

The calibration verification standard requirements were not all met for samples 1203380436 (MB), 1203380437 (LCS), 1203380438 (LCS), 378965004 (B32D29), 378965006 (B32D35), 378965008 (B32D41), 378965010 (B32D47), 378965011 (B32DL2), 378965012 (B32DL1), 378965013 (B32F26), 378965014 (B32F23) and 378965015 (B32F20). There were no positive results for any of the analytes that were outside the calibration criteria. The results are reported.

### **Quality Control (QC) Information**

#### **Blank (MB) Statement**

Target analytes were detected in the blank 1203374678 (MB) below the reporting limit.

#### **Surrogate Recoveries**

Surrogate recoveries, in samples (See Below) were outside the acceptance limits. Sample re-analysis confirmed matrix interference. The initial results are reported.

<b>Sample</b>	<b>Analyte</b>	<b>Value</b>
378965015 (B32F20)	1,2-Dichloroethane-d4	131* (70%-128%)

Surrogate recoveries, in samples (See Below) were outside the acceptance limits. Sample re-analysis confirmed matrix interference. The re-analysis results are reported.

<b>Sample</b>	<b>Analyte</b>	<b>Value</b>
378965004 (B32D29)	1,2-Dichloroethane-d4	161* (70%-128%)
	Bromofluorobenzene	166* (63%-138%)
	Toluene-d8	143* (80%-120%)
378965011 (B32DL2)	1,2-Dichloroethane-d4	140* (70%-128%)
	Bromofluorobenzene	140* (63%-138%)
	Toluene-d8	124* (80%-120%)
378965012 (B32DL1)	1,2-Dichloroethane-d4	134* (70%-128%)

**Laboratory Control Sample (LCS) Recovery**

The LCS spike recoveries met the acceptance limits.

**QC Sample Designation**

Sample 378965001 (B32D17) was designated for spike analysis.

**Matrix Spike/Matrix Spike Duplicate Recovery Statement**

The spike and/or spike duplicate (See Below) recoveries were not all within the acceptance limits. The recoveries were similar. It is believed possible matrix interference has been demonstrated.

Sample	Analyte	Value
1203376214 (B32D17PSD)	Acetone	136* (70%-130%)

**Relative Percent Difference (RPD) Statement**

The RPDs between the matrix spike pair met the acceptance limits.

**Internal Standard (ISTD) Acceptance**

In sample 378965003 (B32D23), internal standard response were outside the required acceptance criteria. Sample re-analysis confirmed matrix interference. The initial results are reported.

**Technical Information****Holding Time Specifications**

All samples in this SDG met the specified holding time. GEL assigns holding times based on the associated methodology, which assigns the date and time from sample collection or sample receipt. Those holding times expressed in hours are calculated in the ALPHALIMS system. Those holding times expressed as days expire at midnight on the day of expiration.

**Sample Preservation and Integrity**

All samples met the sample preservation and integrity requirements.

**Sample Dilutions/Methanol Dilutions**

The samples in this SDG did not require dilutions.

**Sample Re-extraction/Re-analysis**

Samples 378965003 (B32D23) and 378965015 (B32F20) were re-analyzed due to unacceptable surrogate or internal standard recoveries in the initial analysis. The re-analysis confirmed. The initial results are reported. Samples 378965004 (B32D29), 378965006 (B32D35), 378965008 (B32D41), 378965010 (B32D47), 378965011 (B32DL2) and 378965012 (B32DL1) were re-analyzed due to unacceptable surrogate or internal standard recoveries in the initial analysis. The re-analyses confirmed/and or passed and were reported.

**Miscellaneous Information****Data Exception (DER) Documentation**

A data exception report (DER) 1444123 was generated for samples 378965004 (B32D29), 378965011 (B32DL2), 378965012 (B32DL1), 378965015 (B32F20) and 1203376214 (B32D17PSD) in this SDG/batch.

**Manual Integrations**

Data files associated with the initial calibration, continuing calibration check, and samples did not require manual integrations.

**TIC Comment**

Tentatively identified compounds (TIC) were not required for this SDG.

**Additional Comments**

Additional comments were not required for this SDG.

**System Configuration**

The Volatile-GC/MS analysis was performed on the following instrument configuration:

<b>Instrument ID</b>	<b>Instrument</b>	<b>System Configuration</b>	<b>Column ID</b>	<b>Column Description</b>	<b>P &amp; T Trap</b>
VOA2.I	Agilent 7890/5975 GC/MS w/ OI Eclipse/Archon Autosampler	HP7890N/HP5975C	DB-624	J&W, 60m x 0.25mm x 1.4um	Trap 10

**Certification Statement**

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

## GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

### Qualifier Definition Report for

CPRC001 CH2MHill Plateau Remediation Company

Client SDG: GEL378965 GEL Work Order: 378965

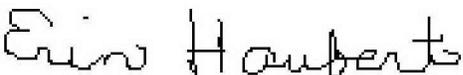
#### The Qualifiers in this report are defined as follows:

- B The analyte was detected in both the associated QC blank and in the sample.
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- DL Indicates that sample is diluted.
- RA Indicates that sample is re-analyzed without re-extraction.
- RE Indicates that sample is re-extracted.

#### Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: 

Name: Erin Haubert

Date: 03 SEP 2015

Title: Data Validator

# Sample Data Summary

**Volatile**  
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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 09:54	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965001	<b>Date Received:</b> 08/08/2015 08:40	
<b>Client ID:</b> B32D17	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/14/2015 10:28	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 09:54	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081415V2.b\2V506.D	<b>Aliquot:</b> 5.6 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.268	ug/kg	0.268	1.79
79-00-5	1,1,2-Trichloroethane	U	0.268	ug/kg	0.268	1.79
123-91-1	1,4-Dioxane	U	13.4	ug/kg	13.4	44.6
78-93-3	2-Butanone	U	2.68	ug/kg	2.68	8.93
79-46-9	2-Nitropropane	U	7.41	ug/kg	7.41	22.3
108-10-1	4-Methyl-2-pentanone	U	2.68	ug/kg	2.68	8.93
67-64-1	Acetone	TU	2.68	ug/kg	2.68	8.93
71-43-2	Benzene	U	0.268	ug/kg	0.268	1.79
75-15-0	Carbon disulfide	U	1.43	ug/kg	1.43	8.93
56-23-5	Carbon tetrachloride	U	0.268	ug/kg	0.268	1.79
108-90-7	Chlorobenzene	U	0.268	ug/kg	0.268	1.79
108-94-1	Cyclohexanone	U	14.9	ug/kg	14.9	44.6
141-78-6	Ethyl acetate	U	1.34	ug/kg	1.34	8.93
60-29-7	Ethyl ether	U	0.268	ug/kg	0.268	1.79
100-41-4	Ethylbenzene	U	0.268	ug/kg	0.268	1.79
78-83-1	Isobutyl alcohol	U	29.5	ug/kg	29.5	89.3
80-62-6	Methyl methacrylate	U	2.68	ug/kg	2.68	8.93
75-09-2	Methylene chloride	U	1.43	ug/kg	1.43	4.46
127-18-4	Tetrachloroethylene	U	0.268	ug/kg	0.268	1.79
108-88-3	Toluene	J	0.464	ug/kg	0.268	1.79
79-01-6	Trichloroethylene	U	0.268	ug/kg	0.268	1.79
76-13-1	Trichlorotrifluoroethane	U	1.43	ug/kg	1.43	4.46
1330-20-7	Xylenes (total)	J	0.295	ug/kg	0.268	5.36
71-36-3	n-Butyl alcohol	U	74.4	ug/kg	74.4	223

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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 10:22	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965002	<b>Date Received:</b> 08/08/2015 08:40	<b>%Moisture:</b> 2.9
<b>Client ID:</b> B32D20	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/14/2015 10:58	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 10:22	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081415V2.b\2V507.D	<b>Aliquot:</b> 5.8 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.266	ug/kg	0.266	1.78
79-00-5	1,1,2-Trichloroethane	U	0.266	ug/kg	0.266	1.78
123-91-1	1,4-Dioxane	U	13.3	ug/kg	13.3	44.4
78-93-3	2-Butanone	U	2.66	ug/kg	2.66	8.88
79-46-9	2-Nitropropane	U	7.37	ug/kg	7.37	22.2
108-10-1	4-Methyl-2-pentanone	U	2.66	ug/kg	2.66	8.88
67-64-1	Acetone	TU	2.66	ug/kg	2.66	8.88
71-43-2	Benzene	U	0.266	ug/kg	0.266	1.78
75-15-0	Carbon disulfide	U	1.42	ug/kg	1.42	8.88
56-23-5	Carbon tetrachloride	U	0.266	ug/kg	0.266	1.78
108-90-7	Chlorobenzene	U	0.266	ug/kg	0.266	1.78
108-94-1	Cyclohexanone	U	14.8	ug/kg	14.8	44.4
141-78-6	Ethyl acetate	U	1.33	ug/kg	1.33	8.88
60-29-7	Ethyl ether	U	0.266	ug/kg	0.266	1.78
100-41-4	Ethylbenzene	U	0.266	ug/kg	0.266	1.78
78-83-1	Isobutyl alcohol	U	29.3	ug/kg	29.3	88.8
80-62-6	Methyl methacrylate	U	2.66	ug/kg	2.66	8.88
75-09-2	Methylene chloride	U	1.42	ug/kg	1.42	4.44
127-18-4	Tetrachloroethylene	U	0.266	ug/kg	0.266	1.78
108-88-3	Toluene	J	0.586	ug/kg	0.266	1.78
79-01-6	Trichloroethylene	U	0.266	ug/kg	0.266	1.78
76-13-1	Trichlorotrifluoroethane	U	1.42	ug/kg	1.42	4.44
1330-20-7	Xylenes (total)	J	0.346	ug/kg	0.266	5.33
71-36-3	n-Butyl alcohol	U	73.9	ug/kg	73.9	222

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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 09:40	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965003	<b>Date Received:</b> 08/08/2015 08:40	<b>%Moisture:</b> 1.8
<b>Client ID:</b> B32D23	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/14/2015 11:28	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 09:40	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081415V2.b\2V508.D	<b>Aliquot:</b> 6.4 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.239	ug/kg	0.239	1.59
79-00-5	1,1,2-Trichloroethane	U	0.239	ug/kg	0.239	1.59
123-91-1	1,4-Dioxane	U	11.9	ug/kg	11.9	39.8
78-93-3	2-Butanone	U	2.39	ug/kg	2.39	7.96
79-46-9	2-Nitropropane	U	6.60	ug/kg	6.60	19.9
108-10-1	4-Methyl-2-pentanone	U	2.39	ug/kg	2.39	7.96
67-64-1	Acetone	TU	2.39	ug/kg	2.39	7.96
71-43-2	Benzene	U	0.239	ug/kg	0.239	1.59
75-15-0	Carbon disulfide	U	1.27	ug/kg	1.27	7.96
56-23-5	Carbon tetrachloride	U	0.239	ug/kg	0.239	1.59
108-90-7	Chlorobenzene	U	0.239	ug/kg	0.239	1.59
108-94-1	Cyclohexanone	U	13.3	ug/kg	13.3	39.8
141-78-6	Ethyl acetate	U	1.19	ug/kg	1.19	7.96
60-29-7	Ethyl ether	U	0.239	ug/kg	0.239	1.59
100-41-4	Ethylbenzene	U	0.239	ug/kg	0.239	1.59
78-83-1	Isobutyl alcohol	U	26.3	ug/kg	26.3	79.6
80-62-6	Methyl methacrylate	U	2.39	ug/kg	2.39	7.96
75-09-2	Methylene chloride	BJ	1.52	ug/kg	1.27	3.98
127-18-4	Tetrachloroethylene	U	0.239	ug/kg	0.239	1.59
108-88-3	Toluene	U	0.239	ug/kg	0.239	1.59
79-01-6	Trichloroethylene	U	0.239	ug/kg	0.239	1.59
76-13-1	Trichlorotrifluoroethane	U	1.27	ug/kg	1.27	3.98
1330-20-7	Xylenes (total)	U	0.239	ug/kg	0.239	4.77
71-36-3	n-Butyl alcohol	U	66.3	ug/kg	66.3	199

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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 08:50	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965004	<b>Date Received:</b> 08/08/2015 08:40	<b>%Moisture:</b> 1.5
<b>Client ID:</b> B32D29	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/17/2015 12:22	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 08:50	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081715V2.b\2W112.D	<b>Aliquot:</b> 6.6 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.231	ug/kg	0.231	1.54
79-00-5	1,1,2-Trichloroethane	U	0.231	ug/kg	0.231	1.54
123-91-1	1,4-Dioxane	U	11.5	ug/kg	11.5	38.4
78-93-3	2-Butanone	U	2.31	ug/kg	2.31	7.69
79-46-9	2-Nitropropane	U	6.38	ug/kg	6.38	19.2
108-10-1	4-Methyl-2-pentanone	U	2.31	ug/kg	2.31	7.69
67-64-1	Acetone	TU	2.31	ug/kg	2.31	7.69
71-43-2	Benzene	U	0.231	ug/kg	0.231	1.54
75-15-0	Carbon disulfide	U	1.23	ug/kg	1.23	7.69
56-23-5	Carbon tetrachloride	U	0.231	ug/kg	0.231	1.54
108-90-7	Chlorobenzene	U	0.231	ug/kg	0.231	1.54
108-94-1	Cyclohexanone	U	12.8	ug/kg	12.8	38.4
141-78-6	Ethyl acetate	U	1.15	ug/kg	1.15	7.69
60-29-7	Ethyl ether	U	0.231	ug/kg	0.231	1.54
100-41-4	Ethylbenzene	U	0.231	ug/kg	0.231	1.54
78-83-1	Isobutyl alcohol	U	25.4	ug/kg	25.4	76.9
80-62-6	Methyl methacrylate	U	2.31	ug/kg	2.31	7.69
75-09-2	Methylene chloride	U	1.23	ug/kg	1.23	3.84
127-18-4	Tetrachloroethylene	U	0.231	ug/kg	0.231	1.54
108-88-3	Toluene	J	0.523	ug/kg	0.231	1.54
79-01-6	Trichloroethylene	U	0.231	ug/kg	0.231	1.54
76-13-1	Trichlorotrifluoroethane	U	1.23	ug/kg	1.23	3.84
1330-20-7	Xylenes (total)	J	0.261	ug/kg	0.231	4.61
71-36-3	n-Butyl alcohol	U	64.1	ug/kg	64.1	192

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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 09:05	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965005	<b>Date Received:</b> 08/08/2015 08:40	<b>%Moisture:</b> 3.1
<b>Client ID:</b> B32D32	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/14/2015 12:27	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 09:05	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081415V2.b\2V510.D	<b>Aliquot:</b> 6.5 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.238	ug/kg	0.238	1.59
79-00-5	1,1,2-Trichloroethane	U	0.238	ug/kg	0.238	1.59
123-91-1	1,4-Dioxane	U	11.9	ug/kg	11.9	39.7
78-93-3	2-Butanone	U	2.38	ug/kg	2.38	7.94
79-46-9	2-Nitropropane	U	6.59	ug/kg	6.59	19.8
108-10-1	4-Methyl-2-pentanone	U	2.38	ug/kg	2.38	7.94
67-64-1	Acetone	TU	2.38	ug/kg	2.38	7.94
71-43-2	Benzene	U	0.238	ug/kg	0.238	1.59
75-15-0	Carbon disulfide	U	1.27	ug/kg	1.27	7.94
56-23-5	Carbon tetrachloride	U	0.238	ug/kg	0.238	1.59
108-90-7	Chlorobenzene	U	0.238	ug/kg	0.238	1.59
108-94-1	Cyclohexanone	U	13.3	ug/kg	13.3	39.7
141-78-6	Ethyl acetate	U	1.19	ug/kg	1.19	7.94
60-29-7	Ethyl ether	U	0.238	ug/kg	0.238	1.59
100-41-4	Ethylbenzene	U	0.238	ug/kg	0.238	1.59
78-83-1	Isobutyl alcohol	U	26.2	ug/kg	26.2	79.4
80-62-6	Methyl methacrylate	U	2.38	ug/kg	2.38	7.94
75-09-2	Methylene chloride	U	1.27	ug/kg	1.27	3.97
127-18-4	Tetrachloroethylene	U	0.238	ug/kg	0.238	1.59
108-88-3	Toluene	J	0.492	ug/kg	0.238	1.59
79-01-6	Trichloroethylene	U	0.238	ug/kg	0.238	1.59
76-13-1	Trichlorotrifluoroethane	U	1.27	ug/kg	1.27	3.97
1330-20-7	Xylenes (total)	J	0.270	ug/kg	0.238	4.76
71-36-3	n-Butyl alcohol	U	66.1	ug/kg	66.1	198

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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 08:22	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965006	<b>Date Received:</b> 08/08/2015 08:40	<b>%Moisture:</b> .3
<b>Client ID:</b> B32D35	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/17/2015 12:52	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 08:22	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081715V2.b\2W113.D	<b>Aliquot:</b> 2.8 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.537	ug/kg	0.537	3.58
79-00-5	1,1,2-Trichloroethane	U	0.537	ug/kg	0.537	3.58
123-91-1	1,4-Dioxane	U	26.9	ug/kg	26.9	89.6
78-93-3	2-Butanone	U	5.37	ug/kg	5.37	17.9
79-46-9	2-Nitropropane	U	14.9	ug/kg	14.9	44.8
108-10-1	4-Methyl-2-pentanone	U	5.37	ug/kg	5.37	17.9
67-64-1	Acetone	TU	5.37	ug/kg	5.37	17.9
71-43-2	Benzene	U	0.537	ug/kg	0.537	3.58
75-15-0	Carbon disulfide	U	2.87	ug/kg	2.87	17.9
56-23-5	Carbon tetrachloride	U	0.537	ug/kg	0.537	3.58
108-90-7	Chlorobenzene	U	0.537	ug/kg	0.537	3.58
108-94-1	Cyclohexanone	U	29.9	ug/kg	29.9	89.6
141-78-6	Ethyl acetate	U	2.69	ug/kg	2.69	17.9
60-29-7	Ethyl ether	U	0.537	ug/kg	0.537	3.58
100-41-4	Ethylbenzene	U	0.537	ug/kg	0.537	3.58
78-83-1	Isobutyl alcohol	U	59.1	ug/kg	59.1	179
80-62-6	Methyl methacrylate	U	5.37	ug/kg	5.37	17.9
75-09-2	Methylene chloride	J	2.88	ug/kg	2.87	8.96
127-18-4	Tetrachloroethylene	U	0.537	ug/kg	0.537	3.58
108-88-3	Toluene	J	0.860	ug/kg	0.537	3.58
79-01-6	Trichloroethylene	U	0.537	ug/kg	0.537	3.58
76-13-1	Trichlorotrifluoroethane	U	2.87	ug/kg	2.87	8.96
1330-20-7	Xylenes (total)	U	0.537	ug/kg	0.537	10.7
71-36-3	n-Butyl alcohol	U	149	ug/kg	149	448

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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 08:38	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965007	<b>Date Received:</b> 08/08/2015 08:40	<b>%Moisture:</b> 2.2
<b>Client ID:</b> B32D38	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/14/2015 13:27	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 08:38	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081415V2.b\2V512.D	<b>Aliquot:</b> 6.1 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.251	ug/kg	0.251	1.68
79-00-5	1,1,2-Trichloroethane	U	0.251	ug/kg	0.251	1.68
123-91-1	1,4-Dioxane	U	12.6	ug/kg	12.6	41.9
78-93-3	2-Butanone	U	2.51	ug/kg	2.51	8.38
79-46-9	2-Nitropropane	U	6.96	ug/kg	6.96	21.0
108-10-1	4-Methyl-2-pentanone	U	2.51	ug/kg	2.51	8.38
67-64-1	Acetone	TU	2.51	ug/kg	2.51	8.38
71-43-2	Benzene	U	0.251	ug/kg	0.251	1.68
75-15-0	Carbon disulfide	U	1.34	ug/kg	1.34	8.38
56-23-5	Carbon tetrachloride	U	0.251	ug/kg	0.251	1.68
108-90-7	Chlorobenzene	U	0.251	ug/kg	0.251	1.68
108-94-1	Cyclohexanone	U	14.0	ug/kg	14.0	41.9
141-78-6	Ethyl acetate	U	1.26	ug/kg	1.26	8.38
60-29-7	Ethyl ether	U	0.251	ug/kg	0.251	1.68
100-41-4	Ethylbenzene	U	0.251	ug/kg	0.251	1.68
78-83-1	Isobutyl alcohol	U	27.7	ug/kg	27.7	83.8
80-62-6	Methyl methacrylate	U	2.51	ug/kg	2.51	8.38
75-09-2	Methylene chloride	U	1.34	ug/kg	1.34	4.19
127-18-4	Tetrachloroethylene	U	0.251	ug/kg	0.251	1.68
108-88-3	Toluene	J	0.427	ug/kg	0.251	1.68
79-01-6	Trichloroethylene	U	0.251	ug/kg	0.251	1.68
76-13-1	Trichlorotrifluoroethane	U	1.34	ug/kg	1.34	4.19
1330-20-7	Xylenes (total)	J	0.285	ug/kg	0.251	5.03
71-36-3	n-Butyl alcohol	U	69.8	ug/kg	69.8	210

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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 07:33	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965008	<b>Date Received:</b> 08/08/2015 08:40	<b>%Moisture:</b> 2.2
<b>Client ID:</b> B32D41	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/17/2015 13:22	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 07:33	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081715V2.b\2W114.D	<b>Aliquot:</b> 6 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.256	ug/kg	0.256	1.70
79-00-5	1,1,2-Trichloroethane	U	0.256	ug/kg	0.256	1.70
123-91-1	1,4-Dioxane	U	12.8	ug/kg	12.8	42.6
78-93-3	2-Butanone	U	2.56	ug/kg	2.56	8.52
79-46-9	2-Nitropropane	U	7.07	ug/kg	7.07	21.3
108-10-1	4-Methyl-2-pentanone	U	2.56	ug/kg	2.56	8.52
67-64-1	Acetone	TU	2.56	ug/kg	2.56	8.52
71-43-2	Benzene	U	0.256	ug/kg	0.256	1.70
75-15-0	Carbon disulfide	U	1.36	ug/kg	1.36	8.52
56-23-5	Carbon tetrachloride	U	0.256	ug/kg	0.256	1.70
108-90-7	Chlorobenzene	U	0.256	ug/kg	0.256	1.70
108-94-1	Cyclohexanone	U	14.2	ug/kg	14.2	42.6
141-78-6	Ethyl acetate	U	1.28	ug/kg	1.28	8.52
60-29-7	Ethyl ether	U	0.256	ug/kg	0.256	1.70
100-41-4	Ethylbenzene	U	0.256	ug/kg	0.256	1.70
78-83-1	Isobutyl alcohol	U	28.1	ug/kg	28.1	85.2
80-62-6	Methyl methacrylate	U	2.56	ug/kg	2.56	8.52
75-09-2	Methylene chloride	U	1.36	ug/kg	1.36	4.26
127-18-4	Tetrachloroethylene	U	0.256	ug/kg	0.256	1.70
108-88-3	Toluene	J	0.537	ug/kg	0.256	1.70
79-01-6	Trichloroethylene	U	0.256	ug/kg	0.256	1.70
76-13-1	Trichlorotrifluoroethane	U	1.36	ug/kg	1.36	4.26
1330-20-7	Xylenes (total)	U	0.256	ug/kg	0.256	5.11
71-36-3	n-Butyl alcohol	U	71.0	ug/kg	71.0	213

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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 08:10	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965009	<b>Date Received:</b> 08/08/2015 08:40	<b>%Moisture:</b> 2.1
<b>Client ID:</b> B32D44	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/14/2015 14:28	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 08:10	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081415V2.b\2V514.D	<b>Aliquot:</b> 5.9 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.260	ug/kg	0.260	1.73
79-00-5	1,1,2-Trichloroethane	U	0.260	ug/kg	0.260	1.73
123-91-1	1,4-Dioxane	U	13.0	ug/kg	13.0	43.3
78-93-3	2-Butanone	U	2.60	ug/kg	2.60	8.66
79-46-9	2-Nitropropane	U	7.19	ug/kg	7.19	21.7
108-10-1	4-Methyl-2-pentanone	U	2.60	ug/kg	2.60	8.66
67-64-1	Acetone	TU	2.60	ug/kg	2.60	8.66
71-43-2	Benzene	U	0.260	ug/kg	0.260	1.73
75-15-0	Carbon disulfide	U	1.39	ug/kg	1.39	8.66
56-23-5	Carbon tetrachloride	U	0.260	ug/kg	0.260	1.73
108-90-7	Chlorobenzene	U	0.260	ug/kg	0.260	1.73
108-94-1	Cyclohexanone	U	14.5	ug/kg	14.5	43.3
141-78-6	Ethyl acetate	U	1.30	ug/kg	1.30	8.66
60-29-7	Ethyl ether	U	0.260	ug/kg	0.260	1.73
100-41-4	Ethylbenzene	U	0.260	ug/kg	0.260	1.73
78-83-1	Isobutyl alcohol	U	28.6	ug/kg	28.6	86.6
80-62-6	Methyl methacrylate	U	2.60	ug/kg	2.60	8.66
75-09-2	Methylene chloride	U	1.39	ug/kg	1.39	4.33
127-18-4	Tetrachloroethylene	U	0.260	ug/kg	0.260	1.73
108-88-3	Toluene	J	0.338	ug/kg	0.260	1.73
79-01-6	Trichloroethylene	U	0.260	ug/kg	0.260	1.73
76-13-1	Trichlorotrifluoroethane	U	1.39	ug/kg	1.39	4.33
1330-20-7	Xylenes (total)	U	0.260	ug/kg	0.260	5.20
71-36-3	n-Butyl alcohol	U	72.1	ug/kg	72.1	217

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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 07:15	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965010	<b>Date Received:</b> 08/08/2015 08:40	<b>%Moisture:</b> 1.5
<b>Client ID:</b> B32D47	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/17/2015 13:52	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 07:15	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081715V2.b\2W115.D	<b>Aliquot:</b> 7 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.218	ug/kg	0.218	1.45
79-00-5	1,1,2-Trichloroethane	U	0.218	ug/kg	0.218	1.45
123-91-1	1,4-Dioxane	U	10.9	ug/kg	10.9	36.3
78-93-3	2-Butanone	U	2.18	ug/kg	2.18	7.25
79-46-9	2-Nitropropane	U	6.02	ug/kg	6.02	18.1
108-10-1	4-Methyl-2-pentanone	U	2.18	ug/kg	2.18	7.25
67-64-1	Acetone	TU	2.18	ug/kg	2.18	7.25
71-43-2	Benzene	U	0.218	ug/kg	0.218	1.45
75-15-0	Carbon disulfide	U	1.16	ug/kg	1.16	7.25
56-23-5	Carbon tetrachloride	U	0.218	ug/kg	0.218	1.45
108-90-7	Chlorobenzene	U	0.218	ug/kg	0.218	1.45
108-94-1	Cyclohexanone	U	12.1	ug/kg	12.1	36.3
141-78-6	Ethyl acetate	U	1.09	ug/kg	1.09	7.25
60-29-7	Ethyl ether	U	0.218	ug/kg	0.218	1.45
100-41-4	Ethylbenzene	U	0.218	ug/kg	0.218	1.45
78-83-1	Isobutyl alcohol	U	23.9	ug/kg	23.9	72.5
80-62-6	Methyl methacrylate	U	2.18	ug/kg	2.18	7.25
75-09-2	Methylene chloride	J	1.25	ug/kg	1.16	3.63
127-18-4	Tetrachloroethylene	U	0.218	ug/kg	0.218	1.45
108-88-3	Toluene	U	0.218	ug/kg	0.218	1.45
79-01-6	Trichloroethylene	U	0.218	ug/kg	0.218	1.45
76-13-1	Trichlorotrifluoroethane	U	1.16	ug/kg	1.16	3.63
1330-20-7	Xylenes (total)	U	0.218	ug/kg	0.218	4.35
71-36-3	n-Butyl alcohol	U	60.4	ug/kg	60.4	181

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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 10:45	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965011	<b>Date Received:</b> 08/08/2015 08:40	<b>%Moisture:</b> 2.9
<b>Client ID:</b> B32DL2	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/17/2015 14:22	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 10:45	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081715V2.b\2W116.D	<b>Aliquot:</b> 6.2 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.249	ug/kg	0.249	1.66
79-00-5	1,1,2-Trichloroethane	U	0.249	ug/kg	0.249	1.66
123-91-1	1,4-Dioxane	U	12.5	ug/kg	12.5	41.5
78-93-3	2-Butanone	U	2.49	ug/kg	2.49	8.31
79-46-9	2-Nitropropane	U	6.89	ug/kg	6.89	20.8
108-10-1	4-Methyl-2-pentanone	U	2.49	ug/kg	2.49	8.31
67-64-1	Acetone	TU	2.49	ug/kg	2.49	8.31
71-43-2	Benzene	U	0.249	ug/kg	0.249	1.66
75-15-0	Carbon disulfide	U	1.33	ug/kg	1.33	8.31
56-23-5	Carbon tetrachloride	U	0.249	ug/kg	0.249	1.66
108-90-7	Chlorobenzene	U	0.249	ug/kg	0.249	1.66
108-94-1	Cyclohexanone	U	13.9	ug/kg	13.9	41.5
141-78-6	Ethyl acetate	U	1.25	ug/kg	1.25	8.31
60-29-7	Ethyl ether	U	0.249	ug/kg	0.249	1.66
100-41-4	Ethylbenzene	U	0.249	ug/kg	0.249	1.66
78-83-1	Isobutyl alcohol	U	27.4	ug/kg	27.4	83.1
80-62-6	Methyl methacrylate	U	2.49	ug/kg	2.49	8.31
75-09-2	Methylene chloride	U	1.33	ug/kg	1.33	4.15
127-18-4	Tetrachloroethylene	U	0.249	ug/kg	0.249	1.66
108-88-3	Toluene	J	0.565	ug/kg	0.249	1.66
79-01-6	Trichloroethylene	U	0.249	ug/kg	0.249	1.66
76-13-1	Trichlorotrifluoroethane	U	1.33	ug/kg	1.33	4.15
1330-20-7	Xylenes (total)	J	0.274	ug/kg	0.249	4.98
71-36-3	n-Butyl alcohol	U	69.2	ug/kg	69.2	208

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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 10:33	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965012	<b>Date Received:</b> 08/08/2015 08:40	<b>%Moisture:</b> 1.2
<b>Client ID:</b> B32DL1	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/17/2015 14:52	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 10:33	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081715V2.b\2W117.D	<b>Aliquot:</b> 5.8 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.262	ug/kg	0.262	1.75
79-00-5	1,1,2-Trichloroethane	U	0.262	ug/kg	0.262	1.75
123-91-1	1,4-Dioxane	U	13.1	ug/kg	13.1	43.6
78-93-3	2-Butanone	U	2.62	ug/kg	2.62	8.73
79-46-9	2-Nitropropane	U	7.24	ug/kg	7.24	21.8
108-10-1	4-Methyl-2-pentanone	U	2.62	ug/kg	2.62	8.73
67-64-1	Acetone	TU	2.62	ug/kg	2.62	8.73
71-43-2	Benzene	U	0.262	ug/kg	0.262	1.75
75-15-0	Carbon disulfide	U	1.40	ug/kg	1.40	8.73
56-23-5	Carbon tetrachloride	U	0.262	ug/kg	0.262	1.75
108-90-7	Chlorobenzene	U	0.262	ug/kg	0.262	1.75
108-94-1	Cyclohexanone	U	14.6	ug/kg	14.6	43.6
141-78-6	Ethyl acetate	U	1.31	ug/kg	1.31	8.73
60-29-7	Ethyl ether	U	0.262	ug/kg	0.262	1.75
100-41-4	Ethylbenzene	U	0.262	ug/kg	0.262	1.75
78-83-1	Isobutyl alcohol	U	28.8	ug/kg	28.8	87.3
80-62-6	Methyl methacrylate	U	2.62	ug/kg	2.62	8.73
75-09-2	Methylene chloride	J	1.69	ug/kg	1.40	4.36
127-18-4	Tetrachloroethylene	U	0.262	ug/kg	0.262	1.75
108-88-3	Toluene	U	0.262	ug/kg	0.262	1.75
79-01-6	Trichloroethylene	U	0.262	ug/kg	0.262	1.75
76-13-1	Trichlorotrifluoroethane	U	1.40	ug/kg	1.40	4.36
1330-20-7	Xylenes (total)	U	0.262	ug/kg	0.262	5.24
71-36-3	n-Butyl alcohol	U	72.7	ug/kg	72.7	218

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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 07:50	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965013	<b>Date Received:</b> 08/08/2015 08:40	<b>%Moisture:</b> 2.6
<b>Client ID:</b> B32F26	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/17/2015 15:22	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 07:50	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081715V2.b\2W118.D	<b>Aliquot:</b> 4.7 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.328	ug/kg	0.328	2.18
79-00-5	1,1,2-Trichloroethane	U	0.328	ug/kg	0.328	2.18
123-91-1	1,4-Dioxane	U	16.4	ug/kg	16.4	54.6
78-93-3	2-Butanone	U	3.28	ug/kg	3.28	10.9
79-46-9	2-Nitropropane	U	9.07	ug/kg	9.07	27.3
108-10-1	4-Methyl-2-pentanone	U	3.28	ug/kg	3.28	10.9
67-64-1	Acetone	TU	3.28	ug/kg	3.28	10.9
71-43-2	Benzene	U	0.328	ug/kg	0.328	2.18
75-15-0	Carbon disulfide	U	1.75	ug/kg	1.75	10.9
56-23-5	Carbon tetrachloride	U	0.328	ug/kg	0.328	2.18
108-90-7	Chlorobenzene	U	0.328	ug/kg	0.328	2.18
108-94-1	Cyclohexanone	U	18.2	ug/kg	18.2	54.6
141-78-6	Ethyl acetate	U	1.64	ug/kg	1.64	10.9
60-29-7	Ethyl ether	U	0.328	ug/kg	0.328	2.18
100-41-4	Ethylbenzene	U	0.328	ug/kg	0.328	2.18
78-83-1	Isobutyl alcohol	U	36.0	ug/kg	36.0	109
80-62-6	Methyl methacrylate	U	3.28	ug/kg	3.28	10.9
75-09-2	Methylene chloride	U	1.75	ug/kg	1.75	5.46
127-18-4	Tetrachloroethylene	U	0.328	ug/kg	0.328	2.18
108-88-3	Toluene	J	0.404	ug/kg	0.328	2.18
79-01-6	Trichloroethylene	U	0.328	ug/kg	0.328	2.18
76-13-1	Trichlorotrifluoroethane	U	1.75	ug/kg	1.75	5.46
1330-20-7	Xylenes (total)	U	0.328	ug/kg	0.328	6.55
71-36-3	n-Butyl alcohol	U	91.0	ug/kg	91.0	273

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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 09:28	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965014	<b>Date Received:</b> 08/08/2015 08:40	<b>%Moisture:</b> 2.7
<b>Client ID:</b> B32F23	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/17/2015 10:53	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 09:28	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081715V2.b\2W109.D	<b>Aliquot:</b> 6 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.257	ug/kg	0.257	1.71
79-00-5	1,1,2-Trichloroethane	U	0.257	ug/kg	0.257	1.71
123-91-1	1,4-Dioxane	U	12.8	ug/kg	12.8	42.8
78-93-3	2-Butanone	U	2.57	ug/kg	2.57	8.56
79-46-9	2-Nitropropane	U	7.11	ug/kg	7.11	21.4
108-10-1	4-Methyl-2-pentanone	U	2.57	ug/kg	2.57	8.56
67-64-1	Acetone	TU	2.57	ug/kg	2.57	8.56
71-43-2	Benzene	U	0.257	ug/kg	0.257	1.71
75-15-0	Carbon disulfide	U	1.37	ug/kg	1.37	8.56
56-23-5	Carbon tetrachloride	U	0.257	ug/kg	0.257	1.71
108-90-7	Chlorobenzene	U	0.257	ug/kg	0.257	1.71
108-94-1	Cyclohexanone	U	14.3	ug/kg	14.3	42.8
141-78-6	Ethyl acetate	U	1.28	ug/kg	1.28	8.56
60-29-7	Ethyl ether	U	0.257	ug/kg	0.257	1.71
100-41-4	Ethylbenzene	U	0.257	ug/kg	0.257	1.71
78-83-1	Isobutyl alcohol	U	28.3	ug/kg	28.3	85.6
80-62-6	Methyl methacrylate	U	2.57	ug/kg	2.57	8.56
75-09-2	Methylene chloride	U	1.37	ug/kg	1.37	4.28
127-18-4	Tetrachloroethylene	U	0.257	ug/kg	0.257	1.71
108-88-3	Toluene	J	0.659	ug/kg	0.257	1.71
79-01-6	Trichloroethylene	U	0.257	ug/kg	0.257	1.71
76-13-1	Trichlorotrifluoroethane	U	1.37	ug/kg	1.37	4.28
1330-20-7	Xylenes (total)	J	0.377	ug/kg	0.257	5.14
71-36-3	n-Butyl alcohol	U	71.3	ug/kg	71.3	214

**Volatile**  
**Certificate of Analysis**  
**Sample Summary**

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<b>SDG Number:</b> GEL378965	<b>Date Collected:</b> 08/06/2015 10:06	<b>Matrix:</b> OTHERSOLID
<b>Lab Sample ID:</b> 378965015	<b>Date Received:</b> 08/08/2015 08:40	<b>%Moisture:</b> 2.5
<b>Client ID:</b> B32F20	<b>Client:</b> CPRC001	<b>Project:</b> CPRC0F15048
<b>Batch ID:</b> 1500550	<b>Method:</b> SW846 5035/8260C	<b>SOP Ref:</b> GL-OA-E-038
<b>Run Date:</b> 08/17/2015 11:23	<b>Inst:</b> VOA2.I	<b>Dilution:</b> 1
<b>Prep Date:</b> 08/06/2015 10:06	<b>Analyst:</b> CDS1	<b>Purge Vol:</b> 5 mL
<b>Data File:</b> 081715V2.b\2W110.D	<b>Aliquot:</b> 5.4 g	<b>Final Volume:</b> 5 mL
	<b>Column:</b> DB-624	

CAS No.	Parmname	Qualifier	Result	Units	MDL/LOD	PQL/LOQ
71-55-6	1,1,1-Trichloroethane	U	0.285	ug/kg	0.285	1.90
79-00-5	1,1,2-Trichloroethane	U	0.285	ug/kg	0.285	1.90
123-91-1	1,4-Dioxane	U	14.2	ug/kg	14.2	47.5
78-93-3	2-Butanone	U	2.85	ug/kg	2.85	9.50
79-46-9	2-Nitropropane	U	7.88	ug/kg	7.88	23.7
108-10-1	4-Methyl-2-pentanone	U	2.85	ug/kg	2.85	9.50
67-64-1	Acetone	TU	2.85	ug/kg	2.85	9.50
71-43-2	Benzene	U	0.285	ug/kg	0.285	1.90
75-15-0	Carbon disulfide	U	1.52	ug/kg	1.52	9.50
56-23-5	Carbon tetrachloride	U	0.285	ug/kg	0.285	1.90
108-90-7	Chlorobenzene	U	0.285	ug/kg	0.285	1.90
108-94-1	Cyclohexanone	U	15.9	ug/kg	15.9	47.5
141-78-6	Ethyl acetate	U	1.42	ug/kg	1.42	9.50
60-29-7	Ethyl ether	U	0.285	ug/kg	0.285	1.90
100-41-4	Ethylbenzene	U	0.285	ug/kg	0.285	1.90
78-83-1	Isobutyl alcohol	U	31.3	ug/kg	31.3	95.0
80-62-6	Methyl methacrylate	U	2.85	ug/kg	2.85	9.50
75-09-2	Methylene chloride	U	1.52	ug/kg	1.52	4.75
127-18-4	Tetrachloroethylene	U	0.285	ug/kg	0.285	1.90
108-88-3	Toluene	J	0.731	ug/kg	0.285	1.90
79-01-6	Trichloroethylene	U	0.285	ug/kg	0.285	1.90
76-13-1	Trichlorotrifluoroethane	U	1.52	ug/kg	1.52	4.75
1330-20-7	Xylenes (total)	J	0.494	ug/kg	0.285	5.70
71-36-3	n-Butyl alcohol	U	79.1	ug/kg	79.1	237

# **Quality Control Summary**

# GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

## QC Summary

Report Date: September 3, 2015

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CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 378965

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Volatile-GC/MS</b>										
Batch	1500550									
QC1203374679	LCS									
1,1,1-Trichloroethane	50.0		56.1	ug/kg		112	(70%-130%)	CDS1	08/14/15	08:51
1,1,2-Trichloroethane	50.0		50.8	ug/kg		102	(70%-130%)			
2-Butanone	250		205	ug/kg		82	(70%-130%)			
4-Methyl-2-pentanone	250		239	ug/kg		95	(70%-130%)			
Acetone	250		199	ug/kg		80	(70%-130%)			
Benzene	50.0		50.7	ug/kg		101	(70%-130%)			
Carbon disulfide	250		274	ug/kg		110	(70%-130%)			
Carbon tetrachloride	50.0		58.0	ug/kg		116	(70%-130%)			
Chlorobenzene	50.0		52.2	ug/kg		104	(70%-130%)			
Ethyl ether	50.0		55.2	ug/kg		110	(70%-130%)			
Ethylbenzene	50.0		53.1	ug/kg		106	(70%-130%)			
Methylene chloride	50.0	B	47.9	ug/kg		96	(70%-130%)			
Tetrachloroethylene	50.0		56.3	ug/kg		113	(70%-130%)			
Toluene	50.0		51.7	ug/kg		103	(70%-130%)			
Trichloroethylene	50.0		52.3	ug/kg		105	(70%-130%)			
Xylenes (total)	150		161	ug/kg		107	(70%-130%)			
n-Butyl alcohol	5000		4960	ug/kg		99	(70%-130%)			
**1,2-Dichloroethane-d4	50.0		50.3	ug/L		101	(70%-128%)			
**Bromofluorobenzene	50.0		49.7	ug/L		99	(63%-138%)			
**Toluene-d8	50.0		49.7	ug/L		99	(80%-120%)			

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## QC Summary

Workorder: 378965

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS									
Batch	1500550								
QC1203374680 LCS									
1,4-Dioxane	2500		2210	ug/kg		88	(70%-130%)	CDS1	08/14/15 09:21
2-Nitropropane	250		233	ug/kg		93	(70%-130%)		
Cyclohexanone	1250		1130	ug/kg		91	(70%-130%)		
Ethyl acetate	250		209	ug/kg		83	(70%-130%)		
Isobutyl alcohol	2500		2120	ug/kg		85	(70%-130%)		
Methyl methacrylate	250		229	ug/kg		92	(70%-130%)		
Trichlorotrifluoroethane	250		266	ug/kg		106	(70%-130%)		
**1,2-Dichloroethane-d4	50.0		48.3	ug/L		97	(70%-128%)		
**Bromofluorobenzene	50.0		49.4	ug/L		99	(63%-138%)		
**Toluene-d8	50.0		49.1	ug/L		98	(80%-120%)		
QC1203380437 LCS									
1,1,1-Trichloroethane	50.0		54.1	ug/kg		108	(70%-130%)		08/17/15 08:23
1,1,2-Trichloroethane	50.0		49.2	ug/kg		98	(70%-130%)		
2-Butanone	250		230	ug/kg		92	(70%-130%)		
4-Methyl-2-pentanone	250		250	ug/kg		100	(70%-130%)		
Acetone	250		211	ug/kg		84	(70%-130%)		
Benzene	50.0		48.8	ug/kg		98	(70%-130%)		
Carbon disulfide	250		261	ug/kg		104	(70%-130%)		
Carbon tetrachloride	50.0		55.2	ug/kg		110	(70%-130%)		
Chlorobenzene	50.0		49.2	ug/kg		98	(70%-130%)		
Ethyl ether	50.0		56.1	ug/kg		112	(70%-130%)		
Ethylbenzene	50.0		52.5	ug/kg		105	(70%-130%)		

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## QC Summary

Workorder: 378965

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Volatile-GC/MS</b>											
Batch	1500550										
Methylene chloride	50.0			45.6	ug/kg		91	(70%-130%)	CDS1	08/17/15	08:23
Tetrachloroethylene	50.0			50.0	ug/kg		100	(70%-130%)			
Toluene	50.0			50.0	ug/kg		100	(70%-130%)			
Trichloroethylene	50.0			51.2	ug/kg		102	(70%-130%)			
Xylenes (total)	150			151	ug/kg		101	(70%-130%)			
n-Butyl alcohol	5000			4840	ug/kg		97	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			55.5	ug/L		111	(70%-128%)			
**Bromofluorobenzene	50.0			54.2	ug/L		108	(63%-138%)			
**Toluene-d8	50.0			50.2	ug/L		100	(80%-120%)			
QC1203380438	LCS										
1,4-Dioxane	2500			2340	ug/kg		93	(70%-130%)		08/17/15	09:23
2-Nitropropane	250			302	ug/kg		121	(70%-130%)			
Cyclohexanone	1250			1360	ug/kg		109	(70%-130%)			
Ethyl acetate	250			269	ug/kg		108	(70%-130%)			
Isobutyl alcohol	2500			2730	ug/kg		109	(70%-130%)			
Methyl methacrylate	250			260	ug/kg		104	(70%-130%)			
Trichlorotrifluoroethane	250			261	ug/kg		105	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			53.1	ug/L		106	(70%-128%)			
**Bromofluorobenzene	50.0			52.4	ug/L		105	(63%-138%)			
**Toluene-d8	50.0			49.3	ug/L		99	(80%-120%)			
QC1203374678	MB										
1,1,1-Trichloroethane			U	0.300	ug/kg					08/14/15	09:51
1,1,2-Trichloroethane			U	0.300	ug/kg						

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 378965

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1500550										
1,4-Dioxane			U	15.0	ug/kg				CDS1	08/14/15	09:51
2-Butanone			U	3.00	ug/kg						
2-Nitropropane			U	8.30	ug/kg						
4-Methyl-2-pentanone			U	3.00	ug/kg						
Acetone			U	3.00	ug/kg						
Benzene			U	0.300	ug/kg						
Carbon disulfide			U	1.60	ug/kg						
Carbon tetrachloride			U	0.300	ug/kg						
Chlorobenzene			U	0.300	ug/kg						
Cyclohexanone			U	16.7	ug/kg						
Ethyl acetate			U	1.50	ug/kg						
Ethyl ether			U	0.300	ug/kg						
Ethylbenzene			U	0.300	ug/kg						
Isobutyl alcohol			U	33.0	ug/kg						
Methyl methacrylate			U	3.00	ug/kg						
Methylene chloride			J	2.76	ug/kg						
Tetrachloroethylene			U	0.300	ug/kg						
Toluene			U	0.300	ug/kg						
Trichloroethylene			U	0.300	ug/kg						
Trichlorotrifluoroethane			U	1.60	ug/kg						
Xylenes (total)			U	0.300	ug/kg						

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## QC Summary

Workorder: 378965

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Volatile-GC/MS</b>											
Batch	1500550										
n-Butyl alcohol			U	83.3	ug/kg						
**1,2-Dichloroethane-d4	50.0			49.4	ug/L		99	(70%-128%)	CDS1	08/14/15	09:51
**Bromofluorobenzene	50.0			48.6	ug/L		97	(63%-138%)			
**Toluene-d8	50.0			49.0	ug/L		98	(80%-120%)			
QC1203380436 MB											
1,1,1-Trichloroethane			U	0.300	ug/kg					08/17/15	10:23
1,1,2-Trichloroethane			U	0.300	ug/kg						
1,4-Dioxane			U	15.0	ug/kg						
2-Butanone			U	3.00	ug/kg						
2-Nitropropane			U	8.30	ug/kg						
4-Methyl-2-pentanone			U	3.00	ug/kg						
Acetone			U	3.00	ug/kg						
Benzene			U	0.300	ug/kg						
Carbon disulfide			U	1.60	ug/kg						
Carbon tetrachloride			U	0.300	ug/kg						
Chlorobenzene			U	0.300	ug/kg						
Cyclohexanone			U	16.7	ug/kg						
Ethyl acetate			U	1.50	ug/kg						
Ethyl ether			U	0.300	ug/kg						
Ethylbenzene			U	0.300	ug/kg						
Isobutyl alcohol			U	33.0	ug/kg						
Methyl methacrylate			U	3.00	ug/kg						
Methylene chloride			U	1.60	ug/kg						

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## QC Summary

Workorder: 378965

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1500550										
Tetrachloroethylene			U	0.300	ug/kg				CDS1	08/17/15	10:23
Toluene			U	0.300	ug/kg						
Trichloroethylene			U	0.300	ug/kg						
Trichlorotrifluoroethane			U	1.60	ug/kg						
Xylenes (total)			U	0.300	ug/kg						
n-Butyl alcohol			U	83.3	ug/kg						
**1,2-Dichloroethane-d4	50.0			54.4	ug/L		109	(70%-128%)			
**Bromofluorobenzene	50.0			53.0	ug/L		106	(63%-138%)			
**Toluene-d8	50.0			48.8	ug/L		98	(80%-120%)			
QC1203376213 378965001 PS											
1,1,1-Trichloroethane	50.0	U	0.00	56.0	ug/L		112	(70%-130%)		08/14/15	15:28
1,1,2-Trichloroethane	50.0	U	0.00	53.2	ug/L		106	(70%-130%)			
2-Butanone	250	U	0.00	294	ug/L		118	(70%-130%)			
4-Methyl-2-pentanone	250	U	0.00	281	ug/L		112	(70%-130%)			
Acetone	250	TU	0.00	316	ug/L		126	(70%-130%)			
Benzene	50.0	U	0.00	52.2	ug/L		104	(70%-130%)			
Carbon disulfide	250	U	0.00	283	ug/L		113	(70%-130%)			
Carbon tetrachloride	50.0	U	0.00	56.0	ug/L		112	(70%-130%)			
Chlorobenzene	50.0	U	0.00	50.6	ug/L		101	(70%-130%)			
Ethyl ether	50.0	U	0.00	58.5	ug/L		117	(70%-130%)			
Ethylbenzene	50.0	U	0.00	53.5	ug/L		107	(70%-130%)			
Methylene chloride	50.0	U	0.00	51.0	ug/L	B	102	(70%-130%)			

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## QC Summary

Workorder: 378965

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch 1500550											
Tetrachloroethylene	50.0	U	0.00	48.7	ug/L		97	(70%-130%)	CDS1	08/14/15	15:28
Toluene	50.0	J	0.520	52.8	ug/L		104	(70%-130%)			
Trichloroethylene	50.0	U	0.00	53.3	ug/L		107	(70%-130%)			
Xylenes (total)	150	J	0.330	153	ug/L		102	(70%-130%)			
n-Butyl alcohol	5000	U	0.00	5260	ug/L		105	(70%-130%)			
**1,2-Dichloroethane-d4	50.0		52.2	53.1	ug/L		106	(70%-128%)			
**Bromofluorobenzene	50.0		51.8	53.1	ug/L		106	(63%-138%)			
**Toluene-d8	50.0		50.0	49.7	ug/L		99	(80%-120%)			
QC1203376214 378965001 PSD											
1,1,1-Trichloroethane	50.0	U	0.00	56.7	ug/L	1	113	(0%-20%)		08/14/15	15:58
1,1,2-Trichloroethane	50.0	U	0.00	53.5	ug/L	0	107	(0%-20%)			
2-Butanone	250	U	0.00	312	ug/L	6	125	(0%-20%)			
4-Methyl-2-pentanone	250	U	0.00	290	ug/L	3	116	(0%-20%)			
Acetone	250	TU	0.00	339	ug/L	7	136*	(0%-20%)			
Benzene	50.0	U	0.00	51.2	ug/L	2	102	(0%-20%)			
Carbon disulfide	250	U	0.00	282	ug/L	0	113	(0%-20%)			
Carbon tetrachloride	50.0	U	0.00	57.1	ug/L	2	114	(0%-20%)			
Chlorobenzene	50.0	U	0.00	48.1	ug/L	5	96	(0%-20%)			
Ethyl ether	50.0	U	0.00	59.9	ug/L	2	120	(0%-20%)			
Ethylbenzene	50.0	U	0.00	50.1	ug/L	7	100	(0%-20%)			
Methylene chloride	50.0	U	0.00	50.0	ug/L	2	100	(0%-20%)			
Tetrachloroethylene	50.0	U	0.00	47.5	ug/L	3	95	(0%-20%)			

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## QC Summary

Workorder: 378965

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Volatile-GC/MS</b>											
Batch	1500550										
Toluene	50.0	J	0.520	50.8	ug/L	4	101	(0%-20%)	CDS1	08/14/15	15:58
Trichloroethylene	50.0	U	0.00	52.0	ug/L	2	104	(0%-20%)			
Xylenes (total)	150	J	0.330	144	ug/L	6	96	(0%-20%)			
n-Butyl alcohol	5000	U	0.00	5650	ug/L	7	113	(0%-20%)			
**1,2-Dichloroethane-d4	50.0		52.2	53.5	ug/L		107	(70%-128%)			
**Bromofluorobenzene	50.0		51.8	53.9	ug/L		108	(63%-138%)			
**Toluene-d8	50.0		50.0	49.6	ug/L		99	(80%-120%)			

**Notes:**

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- N Spike Sample recovery is outside control limits.
- P Aroclor target analyte with greater than 25% difference between column analyses.
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- o Analyte failed to recover within LCS limits (Organics only)

# GEL LABORATORIES LLC

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## QC Summary

Workorder: 378965

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<u>Parmname</u>	<u>NOM</u>	<u>Sample Qual</u>	<u>QC</u>	<u>Units</u>	<u>RPD%</u>	<u>REC%</u>	<u>Range</u>	<u>Anlst</u>	<u>Date</u>	<u>Time</u>
-----------------	------------	--------------------	-----------	--------------	-------------	-------------	--------------	--------------	-------------	-------------

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Volatile  
Surrogate Recovery Report

SDG Number: GEL378965

Matrix Type: SOLID

Sample ID	Client ID	DCED4 %REC	TOL %REC	BFB %REC
1203374679	LCS for batch 1500548	101	99	99
1203374680	LCS for batch 1500548	97	98	99
1203374678	MB for batch 1500548	99	98	97
378965001	B32D17	104	100	104
378965002	B32D20	120	117	121
378965003	B32D23	118	107	112
378965005	B32D32	118	109	116
378965007	B32D38	118	108	119
378965009	B32D44	119	108	119
1203376213	B32D17PS	106	99	106
1203376214	B32D17PSD	107	99	108
1203380437	LCS for batch 1500548	111	100	108
1203380438	LCS for batch 1500548	106	99	105
1203380436	MB for batch 1500548	109	98	106
378965014	B32F23	124	110	122
378965015	B32F20	131 *	115	128
378965004	B32D29	161 *	143 *	166 *
378965006	B32D35	124	111	128
378965008	B32D41	126	113	132
378965010	B32D47	127	113	131
378965011	B32DL2	140 *	124 *	140 *
378965012	B32DL1	134 *	118	135
378965013	B32F26	126	111	128

**Surrogate**

DCED4 = 1,2-Dichloroethane-d4

TOL = Toluene-d8

BFB = Bromofluorobenzene

**Acceptance Limits**

(70%-128%)

(80%-120%)

(63%-138%)

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

# Miscellaneous

**DATA EXCEPTION REPORT**

<b>Mo.Day Yr.</b> 31-AUG-15	<b>Division:</b> Industrial	<b>Quality Criteria:</b> Specifications	<b>Type:</b> Process
<b>Instrument Type:</b> VOA GC/MS	<b>Test / Method:</b> SW846 5035/8260C	<b>Matrix Type:</b> Solid	<b>Client Code:</b> CPRC
<b>Batch ID:</b> 1500550	<b>Sample Numbers:</b> See Below		

**Potentially affected work order(s)(SDG): 378965(GEL378965)**

**Application Issues:**

Failed Recovery for MS/MSD, or PS/PSD

Other

Failed Yield for Surrogates

**Specification and Requirements  
Exception Description:**

**DER Disposition:**

- Failed Recovery for MS/MSD, or PS/PSD:  
QC 1203376214PSD
- Failed Yield for Surrogates:  
378965 004,011,012,015
- The recovery of one or more internal standards was outside of acceptance limits :  
378965 003
- The calibration verification standard requirements were not all met for sample(s) . There were no positive results for any of the analytes that were outside the calibration criteria.

- The spike and/or spike duplicate (See Below) recoveries were not all within the acceptance limits. The recoveries were similar. It is believed possible matrix interference has been demonstrated. 1203376214 (B32D17PSD) Acetone [136\* (70%-130%)].
- Surrogate recoveries, in sample 378965015 (B32F20) was outside the acceptance limits. Sample re-analysis confirmed matrix interference. The initial results are reported. Surrogate recoveries, in samples 378965004 (B32D29), 378965011 (B32DL2) and 378965012 (B32DL1) were outside the acceptance limits. Sample re-analysis confirmed matrix interference. The re-analysis results are reported.
- The sample was re-analyzed with similar recoveries for the internal standards. The initial results are reported.
- The results are reported.

**Originator's Name:**

Crystal Stacey 31-AUG-15

**Data Validator/Group Leader:**

Erin Haubert 03-SEP-15

# SOUTHWEST RESEARCH INSTITUTE®

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Chemistry and Chemical Engineering Division  
Department of Analytical and Environmental Chemistry

September 10, 2015

CH2M Hill Plateau Remediation Company  
2420 Stevens Center Place  
Mail Stop H8-41  
Richland, WA 99352

Attn: David Todak

Subject: SAF No: F15-048  
SDG Number: 579671  
SwRI Project Number: 20859.01.00X  
SwRI Task Order Number: 150807-13  
SwRI Sample Receipt Number: 55929  
Samples Received: 08.07.15  
Fraction: Wetchem Analysis by Method 9056

Dear Mr. Todak:

Please find the enclosed results for the eight (8) samples received on the above referenced date. If you should have any questions, please do not hesitate to call me at (210) 522-3242 or radonna.spies@swri.org.

Sincerely,

  
Radonna Spies  
Group Leader

APPROVED:



 Michael J. Dammann  
Director

RS: aa  
Encl



DETROIT, MICHIGAN (248) 353-2550 • HOUSTON, TEXAS (713) 977-1377 • WASHINGTON, DC (301) 881-0226

**000001**

**SOUTHWEST RESEARCH INSTITUTE  
CLIENT: CH2M Hill Plateau Remediation  
Company  
TASK ORDER(s): 150807-13  
SRR: 55929  
SDG: 579641  
CASE: F15-048  
VTSR: 08.07.15  
PROJECT#: 20859.01.00X**

## **NARRATIVE**

Client: CH2M Hill Plateau Remediation Company  
SDG: 579641  
SwRI Project Number: 20933.01.006  
SwRI Task Order Number: 150807-13

000002

### Formic Acid

Soil samples were extracted at a 1:10 ratio using deionized water and were analyzed using a modified EPA 9056 within 24 hours of extraction. The standards were prepared and analyzed as formate. Sample results were converted to formic acid by applying the gravimetric factor of (FW formic acid / FW formate = 46/45 = 1.02). Instrument QC (ICV/CCVs and ICB/CCBs) are reported in the data package as formate. Results are reported on a dry-weight basis.

All samples were analyzed within the 28-day holding time and within 48 hours of extraction.

All ICV/CCVs were within 90-110% of the true values. The ICB/CCBs were below the instrument reporting limit of 0.1 mg/L formate. The procedure blank was less than the MDL and the laboratory control limits were within 20% of the true value. The sample and sample duplicate were non-detects; therefore, the RPD was 0%. The matrix spike was within 75-125% recovery.

**"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the laboratory manager or his/her designee, as verified by the following signature. This report shall not be reproduced except in full without the written approval of SwRI."**

  
\_\_\_\_\_  
Group Leader

09/04/15

\_\_\_\_\_  
Date

000003

**SOUTHWEST RESEARCH INSTITUTE**  
**CLIENT: CH2M Hill Plateau Remediation**  
**Company**  
**TASK ORDER(s): 150807-13**  
**SRR: 55929**  
**SDG: 579641**  
**CASE: F15-048**  
**VTSR: 08.07.15**  
**PROJECT#: 20859.01.00X**

**SAMPLE RECEIPT, TASK ORDER**  
**&**  
**CHAIN OF CUSTODY**

000004

### Sample Receipt

Southwest Research Institute

VTSR: 08/07/15

Time: 08:30:00

Project: 20859.01.00X  
Case #: 303757  
Client: CH2M Hill Plateau Remediation Company

Sample Receipt Number: 55929  
Revision: 1

*This Receipt was Revised 09/09/2015*

Manager: SPIES, RADONNA  
Logged in by: SDOUGLAS  
Creation Date: 08/07/15

#### Notes

Samples were received intact. (wet ice)

Fed Ex Tracking #:  
774217453831 - 1.2 °C  
774226406510 - 1.5 °C  
774225375842 - 1.5 °C

Parameters: Analysis/located on Task Order.

See chain-of-custody as part of the SRR system for more information.

Phases:  
001 - admin  
006 - wetchem  
REVISION 1, DRmz 09/09/15: SRR revised to change the project number to 20859.01.00X from 20933.01.006. At the time project 20859 was provided to the labs, all work associated with the samples under Sample Receipt 55929 was all complete. Majority of the data will still reference 20933.

Background CPM: <100 cpm  
Container Wipe CPM: <100 cpm  
Total CPM: <100

System ID	Customer ID	CED	Matrix	Containers	Special Reqs.
579621	B32D16	08/06/15	Soil	1	
579622	B32D19	08/06/15	Soil	1	
579623	B32D22	08/06/15	Soil	1	
579624	B32D25	08/06/15	Soil	1	
579625	B32D28	08/06/15	Soil	1	
579626	B32D31	08/06/15	Soil	1	
579627	B32D34	08/06/15	Soil	1	
579628	B32D37	08/06/15	Soil	1	
579629	B32D40	08/06/15	Soil	1	
579630	B32D43	08/06/15	Soil	1	
579631	B32D46	08/06/15	Soil	1	
579632	B32D49	08/06/15	Soil	1	
579633	B32D52	08/06/15	Soil	1	
579634	B32D55	08/06/15	Soil	1	
579635	B32D58	08/06/15	Soil	1	
579636	B32D61	08/06/15	Soil	1	
579637	B32D64	08/06/15	Soil	1	
579638	B32D67	08/06/15	Soil	1	
579639	B32D70	08/06/15	Soil	1	
579640	B32D73	08/06/15	Soil	1	
579641	B32D76	08/06/15	Soil	1	
579642	B32DK9	08/06/15	Soil	1	
579643	B32DL0	08/06/15	Soil	1	
579644	B32F19	08/06/15	Soil	1	
579645	B32F22	08/06/15	Soil	1	

55929 CH2M Hill Plateau Remediation

000005

# Sample Receipt

Southwest Research Institute

VTSR: 08/07/15

Time: 08:30:00

Project: 20859.01.00X

Sample Receipt Number: 55929

Revision: 1

Manager: SPIES, RADONNA

Case #: 303757

*This Receipt was Revised 09/09/2015*

Logged in by: SDOUGLAS

Client: CH2M Hill Plateau Remediation Company

Creation Date: 08/07/15

System ID	Customer ID	CED	Matrix	Containers	Special Reqs.
579646	B32F25	08/06/15	Soil	1	
579647	B32F28	08/06/15	Soil	1	
579648	B32F31	08/06/15	Soil	1	

Containers: 28

Samples: 28

These documents are associated with this receipt: 184038[COC for SRR 55929], 184039[SRR Paperwork for SRR 55929]

Thermometer: 021056  
Temperature: 1.2

55929 CH2M Hill Plateau Remediation

# Laboratory Task Order

000008

TO #: 150807-13 Revision: 1

SDG: 579641  
 VTSR: 08/07/15  
 CASE: F15-048

SRR #'s: 55929  
 Client(s): CH2M Hill Plateau Remediation Company

Project(s): 20859.01.00X  
 Manager(s): SPIES, RADONNA  
 To Client: 09/03/15

**Instructions**

CH2M Hill Plateau Remediation Company (CHPRC) SAF No.: F15-048. COA 303757

SDG is 579641. SDG IS CLOSED.

30-day TAT. Using 27-day TAT for Report/EDD  
 FINAL DATA/HARDCOPY IS DUE TO THE CLIENT ON 09/06/15.

28 overall SOIL samples (28 containers) were received on 08/07/15.  
 OUT of the 28 samples, ONLY 8 are listed on this Task Order. SEE ALSO TASK ORDER # 150807-12.

MS/MSD \_ Select a sample with sufficient volume.

9056 \_ Anions \_ Formate

See Section 4.3.3 Detection Limits  
 See Section 4.3.4 Reporting Limits  
 See Section 6.3.3 Quality Control (QC)  
 See Section 7.2.3 Final Data Package Requirements

Qualifier flags shall be based on those defined in the most current version of CP-15383, Common Requirements of the Format for Electronic Analytical Data (FEAD), (available at: <http://www.hanford.gov/docs/epp/library/programdocs/CP-15383.pdf>) (FEAD). Additional flags may also be applied as long as their use has been approved by both the Contractor and POC.  
 See Section 7.3 Electronic Data Deliverables

Contact:  
 David Todak, David\_Todak@rl.gov  
 Office: 509-376-6427, Cell: 509 947-1305  
 CHPRC Sample Management Office

REVISION 1, DRmz 09/09/15: SRR revised to change the project number to 20859.01.00X from 20933.01.006. At the time project 20859 was provided to the labs, all work associated with the samples under Sample Receipt 55929 was all complete. Majority of the data will still reference 20933.

Documents Related to this task order: 184038[COC for SRR 55929], 184039[SRR Paperwork for SRR 55929]

Deliverables --> Hard Copy: no EDD: -YES- PDF: -YES-

Test: IC-9056

Holding: 28 days from CED

Section: WETCHEM

IC Method 9056 - Formate

Cnt: 8

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
579641		1	Soil	B32D76	06 Aug 15	03 Sep 15
579642		1	Soil	B32DK9	06 Aug 15	03 Sep 15
579643		1	Soil	B32DL0	06 Aug 15	03 Sep 15
579644		1	Soil	B32F19	06 Aug 15	03 Sep 15
579645		1	Soil	B32F22	06 Aug 15	03 Sep 15
579646		1	Soil	B32F25	06 Aug 15	03 Sep 15
579647		1	Soil	B32F28	06 Aug 15	03 Sep 15
579648		1	Soil	B32F31	06 Aug 15	03 Sep 15

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-061	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-20		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. <b>6005-440</b>		FIELD LOGBOOK NO. HNF-N-507- <u>31-62</u>	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	<b>ORIGINAL</b>
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO. <b>5859</b>		BILL OF LADING/AIR BILL NO. <b>7742 1745 3831</b>		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	
		HOLDING TIME	28 Days/48 Hours	
		TYPE OF CONTAINER	G/P	
		NO. OF CONTAINER(S)	1	
		VOLUME	250mL	
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	<b>SAMPLE ANALYSIS</b> 9056 ANIONS IC: COMMON (Add-on) (Format);		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B32D76	SOIL	AUG 05 2015	1020	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1140	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 05 2015 1140	TRVL-15-136	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 05 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME	Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)	
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN	DATE/TIME 8/7/15 0830		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

LABORATORY SECTION	RECEIVED BY <i>Art Arguaco</i>	TITLE SENIOR TECHNICIAN	DATE/TIME 08.7.15/0845
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

000007

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-064	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 1		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	30 Days / 30 Days
ICE CHEST NO. 6WS-426		FIELD LOGBOOK NO. HNF-N-507-31-71	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS ORIGINAL	
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO. 5864		BILL OF LADING/AIR BILL NO. 7742 2640 6510		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C
		HOLDING TIME	28 Days/48 Hours
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b>		SAMPLE ANALYSIS	9056 ANIONS, IC: COMMON (Add-on) (Formate);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B32DK9	SOIL	AUG 0 6 2015	1033	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 0 6 2015 1110	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 0 6 2015 1110	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 0 6 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME	
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN FEDEX	DATE/TIME 8/7/15 0830	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

LABORATORY SECTION	RECEIVED BY Ant Arqueles	TITLE SENTINEL TECHNICIAN	DATE/TIME 080715/0845
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

000008

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F15-048-065	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation; Optional 2	PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples	SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	METHOD OF SHIPMENT FEDERAL EXPRESS <b>ORIGINAL</b>	
ICE CHEST NO. <b>GWS-426</b>	FIELD LOGBOOK NO. HNF-N-507- <u>31-71</u>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	BILL OF LADING/AIR BILL NO. <b>7742 2440 6510</b>	
SHIPPED TO Southwest Research Institute	OFFSITE PROPERTY NO. <b>5869</b>				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b> Cool <=6C		
		<b>HOLDING TIME</b> 28 Days/48 Hours		
		<b>TYPE OF CONTAINER</b> G/P		
		<b>NO. OF CONTAINER(S)</b> 1		
		<b>VOLUME</b> 250mL		
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	<b>SAMPLE ANALYSIS</b> 9056, ANIONS, IC: COMMON (Add-on) (Formate);		
<b>SAMPLE NO.</b> B32DLO	<b>MATRIX*</b> SOIL	<b>SAMPLE DATE</b> AUG 06 2015	<b>SAMPLE TIME</b> 1045	<input checked="" type="checkbox"/>

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015	RECEIVED BY/STORED IN E.L. Kauer
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME 8/7/15	RECEIVED BY/STORED IN FEDEX
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929  
 SwRI Project # 20933.01.006 Case: 303757  
 VTSR: 08/07/15 08:30 Sample(s) Received: Intact  
 Battery Check: Y Background Check: <100 cpm (Lab 103)  
 Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056  
 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3  
 (see Radioactive Material Receiving Form for more information)

LABORATORY SECTION	RECEIVED BY <i>Art Arguella</i>	TITLE SENIOR TECHNICIAN	DATE/TIME 08-07-15/0845
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

600000

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-070	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 3	PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples	SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>		METHOD OF SHIPMENT FEDERAL EXPRESS	
ICE CHEST NO. <b>GWS-426</b>	FIELD LOGBOOK NO. <b>HNF-N-507-31.71</b>	ACTUAL SAMPLE DEPTH <b>0-12"</b>	COA 303757	BILL OF LADING/AIR BILL NO. <b>7742 2640 6510</b>		
SHIPPED TO Southwest Research Institute	OFFSITE PROPERTY NO. <b>5869</b>	ORIGINAL				

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	HOLDING TIME	28 Days/48 Hours
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	250mL
	SAMPLE ANALYSIS	9056_ANIONS_IC: COMMON (Add-on) {Formate};	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B32F19	SOIL	AUG 06 2015	1006 ✓

CHAIN OF POSSESSION	SIGN/ PRINT NAMES	SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 1110	RECEIVED BY/STORED IN E.L. Kauer
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1406	RECEIVED BY/STORED IN CHPRC
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME AUG 06 2015 1406	RECEIVED BY/STORED IN FEDEX
RELINQUISHED BY/REMOVED FROM Fed Ex	DATE/TIME 8/17/15 0830	RECEIVED BY/STORED IN 8/17/15 0830
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN

TRVL-15-136

Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929  
 SwRI Project # 20933.01.006 Case: 303757  
 VTSR: 08/07/15 08:30 Sample(s) Received: Intact  
 Battery Check: Y Background Check: <100 cpm (Lab 103)  
 Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056  
 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3  
 (see Radioactive Material Receiving Form for more information)

LABORATORY SECTION	RECEIVED BY <i>Art Aguiar</i>	TITLE SENIOR TECHNICIAN	DATE/TIME 08.07.15/0845
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

000010

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-073	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 4	PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GWS-426	FIELD LOGBOOK NO. HNF-N-507-31-71	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS		ORIGINAL
SHIPPED TO Southwest Research Institute	OFFSITE PROPERTY NO. 5869		BILL OF LADING/AIR BILL NO. 7742 26406510			

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b> Cool <=6C		
		<b>HOLDING TIME</b> 28 Days/48 Hours		
		<b>TYPE OF CONTAINER</b> G/P		
		<b>NO. OF CONTAINER(S)</b> 1		
		<b>VOLUME</b> 250mL		
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	<b>SAMPLE ANALYSIS</b> 9056_ANIONS_IC: COMMON (Add-on) {Formate};		
<b>SAMPLE NO.</b> B32F22	<b>MATRIX*</b> SOIL	<b>SAMPLE DATE</b> AUG 06 2015	<b>SAMPLE TIME</b> 0928	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 1110	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 1110	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 06 2015	
RELINQUISHED BY/REMOVED FROM FedEx	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN FEDEX	DATE/TIME 8/7/15 0830	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

LABORATORY SECTION	RECEIVED BY ART ARGUELLO	TITLE SENIOR TECHNICIAN	DATE/TIME 08.07.15/0845
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

000011

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-076	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 5		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. 625-320		FIELD LOGBOOK NO. HNF-N-507-31-71	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO. 5868		BILL OF LADING/AIR BILL NO. 7742 2537 5842		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	
		HOLDING TIME	28 Days/48 Hours	
		TYPE OF CONTAINER	G/P	
		NO. OF CONTAINER(S)	1	
		VOLUME	250mL	
		SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	9056_ANIONS_IC: COMMON (Add-on) (Formate);
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B32F25	SOIL	AUG 06 2015	0750	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0930	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0930	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN FEDEX	DATE/TIME 8/7/15 0830		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY ART ARGUELLO	TITLE SENIOR TECHNICIAN	DATE/TIME 08.07.15/0845	000012	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-079	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 6		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	30 Days / 30 Days
ICE CHEST NO. GWS-320		FIELD LOGBOOK NO. HNF-N-507-31-67	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO. 5868		BILL OF LADING/AIR BILL NO. 7742 25375842		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C
	SPECIAL HANDLING AND/OR STORAGE	HOLDING TIME	28 Days/48 Hours
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	250mL
	SAMPLE ANALYSIS	9056_ANIONS_IC: COMMON (Add-on) {Formate};	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B32F28	SOIL	AUG 05 2015	1306 ✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0805	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 06 2015 0805		
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN	DATE/TIME 8/7/15 0830		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY Art Arguero	TITLE Senior Technician	DATE/TIME 08-07-15/0845	000013	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-082	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC	COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D		PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: Optional 7	PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. <b>GWS-440</b>	FIELD LOGBOOK NO. HNF-N-507-31-67	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS		<b>ORIGINAL</b>
SHIPPED TO Southwest Research Institute	OFFSITE PROPERTY NO. <b>5859</b>		BILL OF LADING/AIR BILL NO. <b>7742 1745 3831</b>			

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	
		HOLDING TIME	28 Days/48 Hours	
		TYPE OF CONTAINER	G/P	
		NO. OF CONTAINER(S)	1	
		VOLUME	250mL	
		SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	9056_ANIONS_1C: COMMON (Add-on) {Format};
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B32F31	SOIL	AUG 05 2015	1105	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1140	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 05 2015 1140	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 05 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME	
RELINQUISHED BY/REMOVED FROM FedEx	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN FEDEX	DATE/TIME 8/7/15 0830	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

LABORATORY SECTION	RECEIVED BY <i>Art Arguello</i> / ART ARGUELLO	TITLE SENIOR TECHNICIAN	DATE/TIME 8.7.15/0845
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

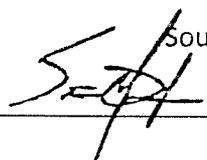
000014

000015

## Southwest Research Institute

Traffic Report

Sample Custodian Signature: \_\_\_\_\_



- |                     |             |
|---------------------|-------------|
| 1. Custody Seal     | Present     |
| 2. Chain of Custody | Present     |
| 3. Sample Tags      | Not Present |
| Sample Tag Numbers  | Not on COC  |
| 4. SMO Forms        | Not Present |

Client: CH2M Hill Plateau Remediation Company

Project: 20933.01.006

Case: 303757 / SDG: \_\_\_\_\_

Sample Receipt: 55929

Airbill: 774217453831, 774226406510, 774225375842



Custody Seal #(s): N/A

Date Received	Time Received	COC Record	SMO Sample #	Corresponding		Traffic Rpt, Tags, COC Agree	Sample Condition
				Sample Tag #	SwRI #		
08/07/15	08:30:00	F15-048-001	B32D16	N/A	579621	YES	Intact
08/07/15	08:30:00	F15-048-004	B32D19	N/A	579622	YES	Intact
08/07/15	08:30:00	F15-048-007	B32D22	N/A	579623	YES	Intact
08/07/15	08:30:00	F15-048-010	B32D25	N/A	579624	YES	Intact
08/07/15	08:30:00	F15-048-013	B32D28	N/A	579625	YES	Intact
08/07/15	08:30:00	F15-048-016	B32D31	N/A	579626	YES	Intact
08/07/15	08:30:00	F15-048-019	B32D34	N/A	579627	YES	Intact
08/07/15	08:30:00	F15-048-022	B32D37	N/A	579628	YES	Intact
08/07/15	08:30:00	F15-048-025	B32D40	N/A	579629	YES	Intact
08/07/15	08:30:00	F15-048-028	B32D43	N/A	579630	YES	Intact
08/07/15	08:30:00	F15-048-031	B32D46	N/A	579631	YES	Intact
08/07/15	08:30:00	F15-048-034	B32D49	N/A	579632	YES	Intact
08/07/15	08:30:00	F15-048-037	B32D52	N/A	579633	YES	Intact
08/07/15	08:30:00	F15-048-040	B32D55	N/A	579634	YES	Intact
08/07/15	08:30:00	F15-048-043	B32D58	N/A	579635	YES	Intact
08/07/15	08:30:00	F15-048-046	B32D61	N/A	579636	YES	Intact
08/07/15	08:30:00	F15-048-049	B32D64	N/A	579637	YES	Intact
08/07/15	08:30:00	F15-048-052	B32D67	N/A	579638	YES	Intact
08/07/15	08:30:00	F15-048-055	B32D70	N/A	579639	YES	Intact
08/07/15	08:30:00	F15-048-058	B32D73	N/A	579640	YES	Intact
08/07/15	08:30:00	F15-048-061	B32D76	N/A	579641	YES	Intact
08/07/15	08:30:00	F15-048-064	B32DK9	N/A	579642	YES	Intact
08/07/15	08:30:00	F15-048-065	B32DL0	N/A	579643	YES	Intact
08/07/15	08:30:00	F15-048-070	B32F19	N/A	579644	YES	Intact
08/07/15	08:30:00	F15-048-073	B32F22	N/A	579645	YES	Intact
08/07/15	08:30:00	F15-048-076	B32F25	N/A	579646	YES	Intact
08/07/15	08:30:00	F15-048-079	B32F28	N/A	579647	YES	Intact
08/07/15	08:30:00	F15-048-082	B32F31	N/A	579648	YES	Intact

SAMPLE LOG-IN SHEET

Lab Name Southwest Research Institute			Page 1 of 2		
Received By (Print Name) STEVEN DOUGLAS			Log-in Date 08/07/2015		
Received By (Signature) <i>[Signature]</i>					
Case Number 303757		Sample Delivery Group No. MA		SAS Number MA	
Remarks: 20933.01.006		Corresponding		Remarks: Condition of Sample Shipment, etc	
	EPA Sample #	Sample Tag #	Assigned Lab #		
1. Custody Seal(s)	<input checked="" type="radio"/> Present <input type="radio"/> Absent* <input checked="" type="radio"/> Intact <input type="radio"/> Broken	B32D16	N/A	579621	Intact
2. Custody Seal Nos.	N/A	B32D19	N/A	579622	Intact
		B32D22	N/A	579623	Intact
3. Chain-of-Custody Records	<input checked="" type="radio"/> Present <input type="radio"/> Absent*	B32D25	N/A	579624	Intact
4. Traffic Reports or Packing Lists	<input type="radio"/> Present <input checked="" type="radio"/> Absent*	B32D28	N/A	579625	Intact
5. Airbill	<input type="radio"/> Airbill/Sticker <input checked="" type="radio"/> Present <input type="radio"/> Absent*	B32D31	N/A	579626	Intact
		B32D34	N/A	579627	Intact
6. Airbill No.	774217453831, 774226406510, 774225375842	B32D37	N/A	579628	Intact
7. Sample Tags	<input type="radio"/> Present <input checked="" type="radio"/> Absent*	B32D40	N/A	579629	Intact
Sample Tag Numbers	Listed <input checked="" type="radio"/> Not listed on Chain of Custody	B32D43	N/A	579630	Intact
		B32D46	N/A	579631	Intact
8. Sample Condition	<input type="radio"/> Intact <input type="radio"/> Broken* / Leaking	B32D49	N/A	579632	Intact
9. Cooler Temperature	1.2C	B32D52	N/A	579633	Intact
10. Does Information on custody records, traffic reports, and sample tags agree?	<input checked="" type="radio"/> Yes <input type="radio"/> No*	B32D55	N/A	579634	Intact
		B32D58	N/A	579635	Intact
11. Date Received at Lab	08/07/2015	B32D61	N/A	579636	Intact
12. Time Received	08:30:00	B32D64	N/A	579637	Intact
		B32D67	N/A	579638	Intact
Sample Transfer		B32D70	N/A	579639	Intact
Fraction INORG	Fraction	B32D73	N/A	579640	Intact
Area # R.13	Area #	B32D76	N/A	579641	Intact
By STEVEN	By	B32DK9	N/A	579642	Intact
On DOUGLAS 08/07/2015	On	B32DL0	N/A	579643	Intact

\* Contact SMO and attach record of resolution

Reviewed By <i>[Signature]</i>	Logbook No. Sample Receipt (55929)
Date 08.11.15	Logbook Page No. 9174 <i>SEC 3, 4 OF 12</i>



010001

**SOUTHWEST RESEARCH INSTITUTE**  
**CLIENT: CH2M Hill Plateau Remediation**  
**Company**  
**TASK ORDER(s): 150807-13**  
**SRR: 55929**  
**SDG: 579641**  
**CASE: F15-048**  
**VTSR: 08.07.15**  
**PROJECT#: 20859.01.00X**

## **WETCHEM ANALYSIS**

**010002**

**SOUTHWEST RESEARCH INSTITUTE  
CLIENT: CH2M Hill Plateau Remediation  
Company  
TASK ORDER(s): 150807-13  
SRR: 55929  
SDG: 579641  
CASE: F15-048  
VTSR: 08.07.15  
PROJECT#: 20859.01.00X**

## **SAMPLE DATA**

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report  
Cover Page

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13

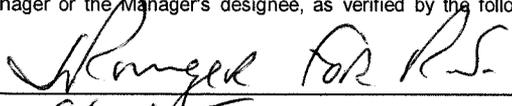
SDG: 579641  
SRR: 55929

Case: 303757  
Project: 20933.01.006

Client Sample ID	Lab Sample ID
B32D76	579641
B32D76D	579641D
B32D76MS	579641S
B32DK9	579642
B32DL0	579643
B32F19	579644
B32F22	579645
B32F25	579646
B32F28	579647
B32F31	579648

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: 

Name: Radonna Spies

Date: 9/10/15

Title: Group Leader

Cover Page

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
*Inorganic Analyses Data Sheet*

010004

Client Sample ID

B32D76

Type: Unknown

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Lab ID: 579641  
Result Units: mg/kg

SDG: 579641  
SRR: 55929  
Matrix: Soil  
% Solids: 91.01

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.977	U	IC1	0.977	0.977	1	20150903-A019	08/25/2015 18:59

<b>Data Reporting Qualifiers (Qual)</b>	<b>Columns</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
*Inorganic Analyses Data Sheet*

010005

Client Sample ID

B32DK9

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Lab ID: 579642  
Result Units: mg/kg

SDG: 579641  
SRR: 55929  
Matrix: Soil  
% Solids: 97.30

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.946	U	IC1	0.946	0.946	1	20150903-A019	08/25/2015 20:34

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
*Inorganic Analyses Data Sheet*

010006

Client Sample ID

B32DL0

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Lab ID: 579643  
Result Units: mg/kg

SDG: 579641  
SRR: 55929  
Matrix: Soil  
% Solids: 94.58

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	1.00	U	IC1	1.00	1.00	1	20150903-A019	08/25/2015 20:52

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
Inorganic Analyses Data Sheet

010007

Client Sample ID

B32F19

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Lab ID: 579644  
Result Units: mg/kg

SDG: 579641  
SRR: 55929  
Matrix: Soil  
% Solids: 95.92

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.935	U	IC1	0.935	0.935	1	20150903-A019	08/25/2015 21:11

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
Inorganic Analyses Data Sheet

010008

Client Sample ID

B32F22

Type: Unknown

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Lab ID: 579645  
Result Units: mg/kg

SDG: 579641  
SRR: 55929  
Matrix: Soil  
% Solids: 91.00

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.943	U	IC1	0.943	0.943	1	20150903-A019	08/25/2015 21:30

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
Inorganic Analyses Data Sheet

010009

Client Sample ID

B32F25

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Lab ID: 579646  
Result Units: mg/kg

SDG: 579641  
SRR: 55929  
Matrix: Soil  
% Solids: 80.97

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	1.20	U	IC1	1.20	1.20	1	20150903-A019	08/25/2015 21:49

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
*Inorganic Analyses Data Sheet*

010010

Client Sample ID

B32F28

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Lab ID: 579647  
Result Units: mg/kg

SDG: 579641  
SRR: 55929  
Matrix: Soil  
% Solids: 96.61

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.946	U	IC1	0.946	0.946	1	20150903-A019	08/25/2015 22:08

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
Inorganic Analyses Data Sheet

010011

Client Sample ID

B32F31

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Lab ID: 579648  
Result Units: mg/kg

SDG: 579641  
SRR: 55929  
Matrix: Soil  
% Solids: 91.42

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	1.07	U	IC1	1.07	1.07	1	20150903-A019	08/25/2015 22:26

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

010012

**SOUTHWEST RESEARCH INSTITUTE**  
WetChem Report - Form IIA

*Initial and Continuing Calibration Verification*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Result Units: mg/L  
Associated Analytical Batches: 20150904-A004

SDG: 579641  
SRR: 55929  
Initial Calibration Source: See Raw Data  
Continuing Calibration Source: See Raw Data

Case: 303757  
Project: 20933.01.006

Analyte	Initial Calibration Verification				Continuing Calibration Verification						
	True	Found	%Rec	Limit	True	Found1	%Rec	Found2	%Rec	Limit	M
Formate	10.0	9.21	92.1%	90%-110%	10.0	9.27	92.7%	9.18	91.8%	90%-110%	IC1

<b>Instruments/Methods (M)</b>
IC1 - Ion Chromatography DX 500/IC by 9056
NA - Not Applicable

SOUTHWEST RESEARCH INSTITUTE 010013  
WetChem Report - Form IIB  
*Low Level Check Standard*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Result Units: mg/L  
Associated Analytical Batch: 20150904-A004

SDG: 579641  
SRR: 55929

Case: 303757  
Project: 20933.01.006

LLC Standards					
Analyte	True	Found1	%Rec	Limit	M
Formate	0.100	0.118	118.0%	50%-150%	IC1

<b>Instruments/Methods (M)</b>
IC1 - Ion Chromatography DX 500/IC by 9056
NA - Not Applicable

010014

**SOUTHWEST RESEARCH INSTITUTE**  
WetChem Report - Form III  
*Blanks*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Preparation Blank Result Units: mg/Kg  
Initial/Continuing Blank Result Units: mg/L

SDG: 579641  
SRR: 55929  
Preparation Blank Matrix: Soil  
Associated Prep Batches: 20150903-A019

Case: 303757  
Project: 20933.01.006  
Associated Analytical Batches: 20150903-A006  
20150904-A004

Analyte	Preparation Blank		Initial Calibration Blank		Continuing Calibration Blank				M
	Result	Qual	Found	Qual	Found1	Qual	Found2	Qual	
Formate	0.852	U	0.100	U	0.100	U	0.100	U	IC1

<b>Data Reporting Qualifiers (Qual)</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	
X - Analytical spike criteria was not met	
E - Result is estimated due to interferences	
D - Result is reported from a dilution	
* - Duplicate criteria was not met	

Form III-IN

**SOUTHWEST RESEARCH INSTITUTE**  
WetChem Report - Form VA

010015

**Client Sample ID**

**B32D76MS/MSD**

*Matrix Spike/Matrix Spike Duplicate Sample Recovery*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Lab ID: 579641S  
Result Units: mg/Kg

SDG: 579641  
SRR: 55929  
Matrix: Soil  
% Solids: 91.01

Case: 303757  
Project: 20933.01.006

Analyte	Parent Sample Result	Qual	MS Result	MS Spike Added	MS %Rec	MSD Result	MSD Spike Added	MSD %Rec	%RPD	Control Limit %Rec	Control Limit %RPD	M	Note
Formic acid	0.977	U	88.1	94.4	93.3%	-	-	-	-	75%-125%	-	IC1	

<b>Data Reporting Qualifiers (Qual)</b>	<b>Columns</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	M - Instrument	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	MS - Matrix Spike	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	MSD - Matrix Spike Duplicate	
X - Analytical spike criteria was not met	Q - Qualifier	
E - Result is estimated due to interferences	RPD - Relative Percent Difference	
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form VA-IN

**SOUTHWEST RESEARCH INSTITUTE**  
 WetChem Report - Form VI  
*Duplicates*

010016

**Client Sample ID**

**B32D76D**

Client: CH2M Hill Plateau Remediation Company  
 Task Order: 150807-13  
 Lab ID: 579641D  
 Result Units: mg/Kg

SDG: 579641  
 SRR: 55929  
 Matrix: Soil  
 % Solids: 91.01

Case: 303757  
 Project: 20933.01.006

Analyte	Parent Sample Result	Qual	Duplicate Result	Qual	RPD	RPD Limit	Control Limit	M	Note
Formic acid	0.977	U	1.09	U	0.00%	20%	-	IC1	

<b>Data Reporting Qualifiers (Qual)</b>	<b>Columns</b>	<b>Instruments/Method (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL) U - Result is less than the SwRI Reporting Limit (RL) N - Matrix spike and/or matrix spike duplicate criteria was not met X - Analytical spike criteria was not met E - Result is estimated due to interferences D - Result is reported from a dilution * - Duplicate criteria was not met	M - Instrument RPD - Relative Percent Difference	IC1 - Ion Chromatography DX 500/IC by 9056 NA - Not Applicable

Form VI-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form VII  
Laboratory Control Sample

010017

SwRI ID

LCS15J03JH2

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Lab ID: LCS15J03JH2  
Result Units: mg/Kg

SDG: 579641  
SRR: 55929  
Matrix: Soil  
Associated Prep Batches: 20150903-A019

Case: 303757  
Project: 20933.01.006  
LCS Source:

Analyte	True	Found	Qual	%Rec.	Limit	M	Analysis Date/Time
Formic acid	1020	946		92.7%	90%-110%	IC1	08/25/2015 18:41

**Instruments/Methods (M)**

IC1 - Ion Chromatography DX 500/IC  
by 9056  
NA - Not Applicable

SOUTHWEST RESEARCH INSTITUTE 010018  
WetChem Report - Form IX  
*Detection Limits*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Result Units: mg/L

SDG: 579641  
SRR: 55929  
Instrument: Ion Chromatography DX 500

Case: 303757  
Project: 20933.01.006

Analyte	RL	CRDL
Formate/Formic acid	0.100	0.100

<b>Columns</b>	
RL	- SwRI Reporting Limit
CRDL	- Contract Req. Det. Limit

010019

**SOUTHWEST RESEARCH INSTITUTE**  
WetChem Report - Form XII  
*Analysis Run Log*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Analytical Batch: 20150904-A004  
Analysis Method: IC by 9056

SDG: 579641  
SRR: 55929  
Instrument: Ion Chromatography DX 500

Case: 303757  
Project: 20933.01.006  
Start Date: 08/25/2015  
End Date: 08/25/2015

Lab Sample ID	Client Sample ID	Time	DF	FO
ICV	ICV	16:10	1	X
ICB	ICB	16:29	1	X
LLC	NA	16:48	1	X
PB15J03JH6	NA	18:22	1	X
LCS15J03JH2	NA	18:41	1	X
579641	B32D76	18:59	1	X
579641D	B32D76D	19:18	1	X
579641S	B32D76MS	19:37	1	X
CCV	CCV	19:56	1	X
CCB	CCB	20:15	1	X
579642	B32DK9	20:34	1	X
579643	B32DL0	20:52	1	X
579644	B32F19	21:11	1	X
579645	B32F22	21:30	1	X
579646	B32F25	21:49	1	X
579647	B32F28	22:08	1	X
579648	B32F31	22:26	1	X
CCV2	CCV2	23:23	1	X
CCB2	CCB2	23:42	1	X

010020

**SOUTHWEST RESEARCH INSTITUTE**  
WetChem Report - Form XII  
*Analysis Run Log*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13  
Analytical Batch: 20150903-A006  
Analysis Method: %Solids

SDG: 579641  
SRR: 55929  
Instrument:

Case: 303757  
Project: 20933.01.006  
Start Date: 09/03/2015  
End Date: 09/03/2015

Lab Sample ID	Client Sample ID	Time	DF	FO
PB15J03JH2	NA	11:00	1	
579641	B32D76	11:00	1	
579641D	B32D76D	11:00	1	
579642	B32DK9	11:00	1	
579643	B32DL0	11:00	1	
579644	B32F19	11:00	1	
579645	B32F22	11:00	1	
579646	B32F25	11:00	1	
579647	B32F28	11:00	1	
579648	B32F31	11:00	1	

SOUTHWEST RESEARCH INSTITUTE 010021  
WetChem Report - Form XVIII  
*Preparation/Digestion Summary*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-13

SDG: 579641  
SRR: 55929

Case: 303757  
Project: 20933.01.006

Prep Batch	Method	Preparation Date
20150903-A017	%Solids	09/03/2015
20150903-A019	IC by 9056	09/03/2015

# Digestion Log

010022

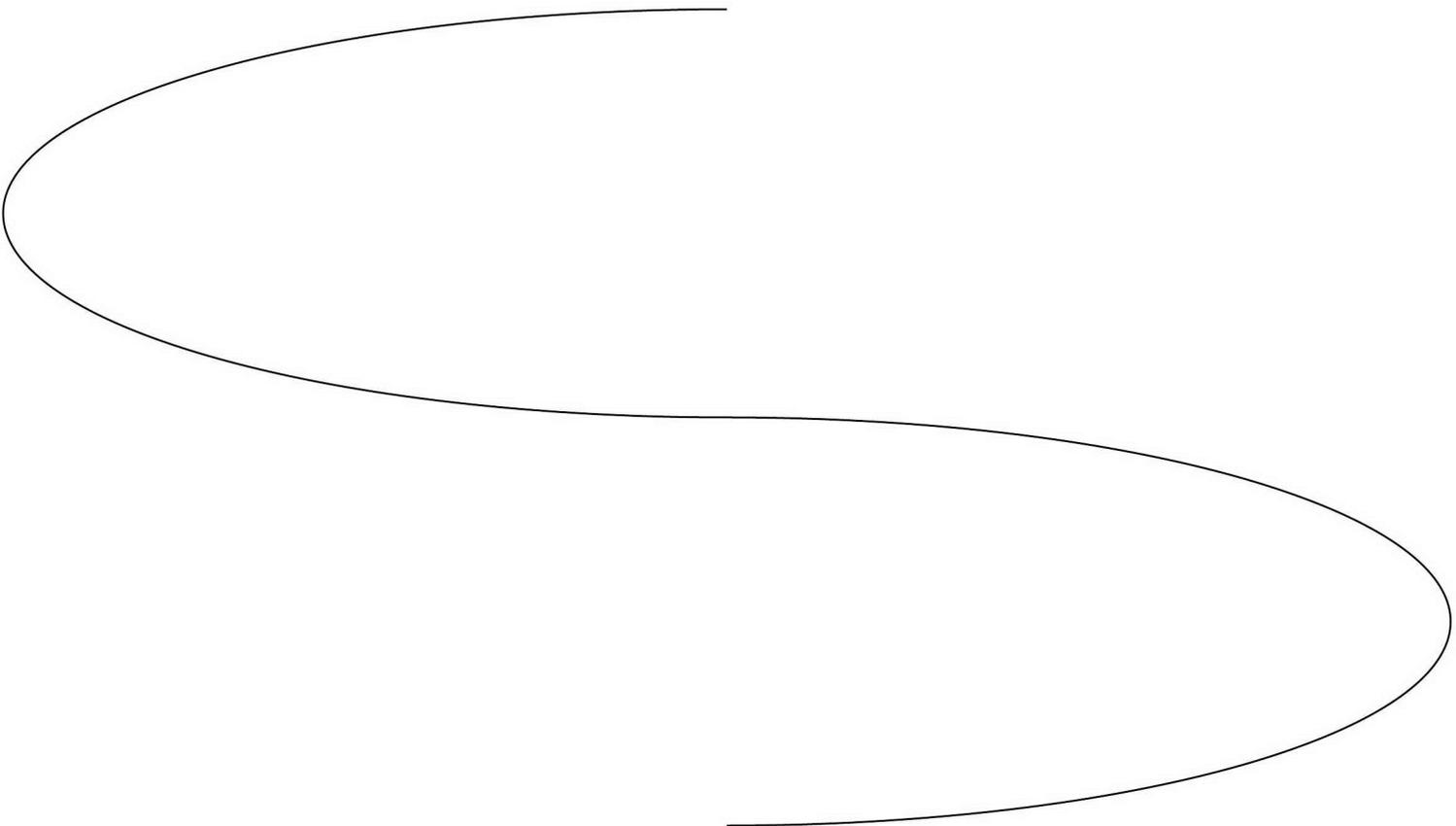
Southwest Research Institute  
San Antonio, Texas 78228

Batch: 20150903-A017 (Ver. 1)  
Status: APPROVED

Client(s): CH2M Hill Plateau Remediation Company  
Task Order(s): 150807-13  
SDG(s): 579641  
Project(s): 20933.01.00X  
Matrix(s): Soil  
Balance(s): 135  
Heating Device: Oven #31 Temperature (C): NA  
Time In: NA Time Out: NA

<u>Sample Identification</u>	<u>Client Identification</u>	<u>Tare Wt (g)</u>	<u>WetSample+TareWt (g)</u>	<u>DriedSample+TareWt (g)</u>	<u>%Solids (%)</u>
PB15J03JH4	NA	0.9895	0.9895	0.9894	
579641	B32D76	1.0138	11.2839	10.3610	91.01
579641D	B32D76	1.0184	11.3712	10.4374	90.98
579642	B32DK9	1.0181	11.2052	10.9304	97.30
579643	B32DL0	1.0040	11.3762	10.8138	94.58
579644	B32F19	0.9859	11.2791	10.8589	95.92
579645	B32F22	0.9907	11.1106	10.2002	91.00
579646	B32F25	1.0007	11.5792	9.5662	80.97
579647	B32F28	1.0224	11.1585	10.8152	96.61
579648	B32F31	1.0120	11.2162	10.3403	91.42

Comments: NA



Prepared by: HERRERA, JUDY

Date: 09/03/2015

Reviewed by: MOKEN, JAMES

Date: 09/04/2015

Disposal Int/Date/Loc: \_\_\_\_\_

# Digestion Log

010023

Southwest Research Institute  
San Antonio, Texas 78228

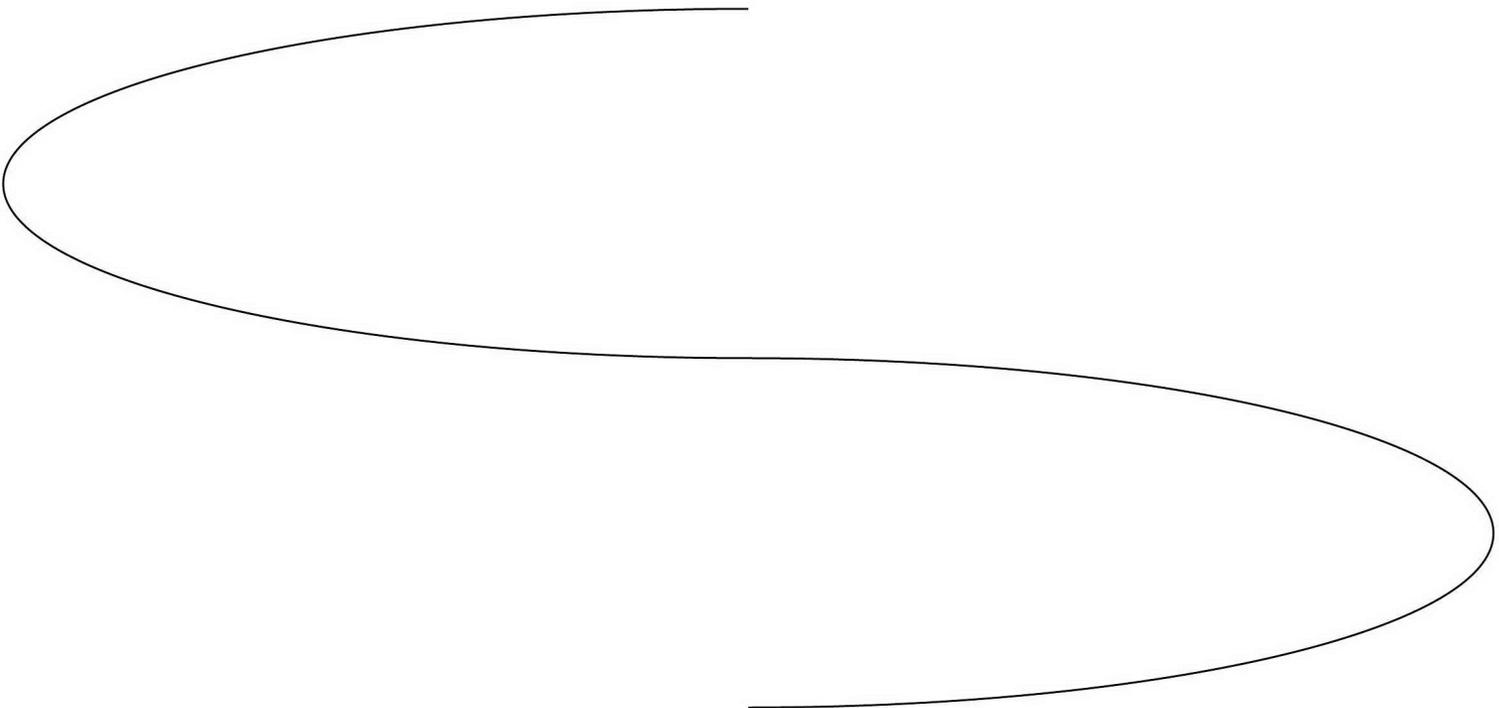
Batch: 20150903-A019 (Ver. 1)  
Status: APPROVED

Client(s): CH2M Hill Plateau Remediation Company  
Task Order(s): 150807-13, 150807-12  
SDG(s): 579641, 579621  
Project(s): 20933.01.00X  
Method(s): IC by 9056 (TAP: TAP-01-0406-042)  
Matrix(s): Soil  
Pipette(s): 5000-3, 1000-1, 200-H  
Time In: NA Time Out: NA

<u>Sample Identification</u>	<u>Client Identification</u>	<u>Initial Weight (g)</u>	<u>Final Volume (mL)</u>
PB15J03JH6	NA	1.2	10
LCS15J03JH2 *	NA	0.1	10
579641	B32D76	1.15	10
579641D	B32D76	1.03	10
579641MS *	B32D76	1.190	10
579642	B32DK9	1.1102	10
579643	B32DL0	1.0764	10
579644	B32F19	1.1399	10
579645	B32F22	1.1917	10
579646	B32F25	1.0522	10
579647	B32F28	1.1185	10
579648	B32F31	1.0483	10
579621MS *	B32D16	1.1437	10
579640	B32D73	1.0583	10

\* spiked .1 mL of 27-04-WCS11 (ChemInv# , Source: , Exp: 09/04/2016)

Comments: NA



Prepared by: HERRERA, JUDY

Date: 09/03/2015

Reviewed by: MOKEN, JAMES

Date: 09/04/2015

Disposal Int/Date/Loc: \_\_\_\_\_

010024

**SOUTHWEST RESEARCH INSTITUTE**  
**CLIENT: CH2M Hill Plateau Remediation**  
**Company**  
**TASK ORDER(s): 150807-13**  
**SRR: 55929**  
**SDG: 579641**  
**CASE: F15-048**  
**VTSR: 08.07.15**  
**PROJECT#: 20859.01.00X**

**RAW DATA**

Client: CH2M Hill Plateau Remediation Company

SDG: 579641

SwRI Project Number: 20933.01.006

SwRI Task Order Number(s): 150807-13

## Sample Calculation Sheet

IC, SW 846 9056A

A = Analyte Result (ug/L)

Final Result (mg/kg) = A X (1 mg/1000 ug) X (46 g/mol / 45 g/mol) X (Final Volume (mL) / Initial Weight

%Solids)

Conversion Factor of Formate to Formic Acid = 46/45

# 579641S

$$9330 \frac{\mu\text{g}}{\text{L}} \times \frac{1 \text{ mg}}{1000 \mu\text{g}} \times \frac{46 \text{ g/mol}}{45 \text{ g/mol}} \times \frac{10 \text{ mL}}{1.190 \text{ g}} \times \frac{100\%}{91.01\%} = 88.1 \text{ mg/kg formic Acid}$$

% Solids

A = Tare Weight (g)

B = Dried Sample + Tare Weight (g)

C = Wet Sample + Tare Weight (g)

$$\% \text{ Solids} = \left[ \frac{B - A}{C - A} \right] \times 100\%$$

# 579641

$$\left[ \frac{(10.3610 \text{ g} - 1.0138 \text{ g})}{(11.2839 \text{ g} - 1.0138 \text{ g})} \right] \times 100 = 91.01\%$$

# IC 9056A

## 010026

Southwest Research Institute  
San Antonio, Texas 78228

Batch: 20150904-A004 (Ver. 2)

Status: COMPLETED

Limit: IC 9056A  
Analysis Method: IC 9056A (TAP: TAP-01-0406-042)  
Instrument: IC DX500  
Data File Name: 150825.csv  
Analyte Test: IC 9056A  
Start Time: 08/25/2015 16:10:39  
Stop Time: 08/25/2015 23:42:10  
Task Order: 150807-13, 150807-12  
Project: 20933.01.00X  
Customer: CH2M Hill Plateau Remediation Company  
SDG: 579641, 579621  
Qualifier Set: Default

		Formate/Formic acid		
Sample Identification	Client Identification	Analyte Result (ug/L)	Final Result (mg/Kg)	RL (mg/Kg)
ICV ^	NA	9210	9.41 (mg/L)	0.102 (mg/L)
ICB	NA	0.00 U	0.100 U (mg/L)	0.102 (mg/L)
LLC ^^	NA	118	0.121 (mg/L)	0.102 (mg/L)
PB15J03JH6 +	NA	0.00 U	0.852 U	0.852
LCS15J03JH2 +	NA	9250	946	10.2
579641 ++	B32D76	0.00 U	0.977 U	0.977
579641D ++	B32D76	0.00 U	1.09 U	1.09
579641S ++	B32D76	9330	88.1	0.944
CCV ^	NA	9270	9.48 (mg/L)	0.102 (mg/L)
CCB	NA	0.00 U	0.100 U (mg/L)	0.102 (mg/L)
579642 ++	B32DK9	0.00 U	0.946 U	0.946
579643 ++	B32DL0	0.00 U	1.00 U	1.00
579644 ++	B32F19	0.00 U	0.935 U	0.935
579645 ++	B32F22	0.00 U	0.943 U	0.943
579646 ++	B32F25	89.3 U	1.20 U	1.20
579647 ++	B32F28	0.00 U	0.946 U	0.946
579648 ++	B32F31	0.00 U	1.07 U	1.07
579640 +++	B32D73	0.00 U	0.00931 U	0.00931
579621S +++	B32D16	9230	85.3	0.924
CCV2 ^	NA	9180	9.38 (mg/L)	0.102 (mg/L)
CCB2	NA	0.00 U	0.100 U (mg/L)	0.102 (mg/L)

^ spiked .05 mL of 27-04-WCS11 (ChemInv# UNDEFINED, Source: UNDEFINED, Exp: ) at 1000

^^ spiked .0005 mL of 27-04-WCS11 (ChemInv# UNDEFINED, Source: UNDEFINED, Exp: ) at 1000

+ prepared in batch 20150903-A019

++ prepared in batch 20150903-A017

+++ prepared in batch 20150903-A016

Comments: NA

U - Result is less than the SwRI Reporting Limit (RL)

Prepared by: HERRERA, JUDY

Date: 08/25/2015

Reviewed by: MOKEN, JAMES

Date: 9/4/15

010027

Line	Sample	Sample Type	Level	Method	Data File	Dilution
1	ICV	Sample		ice-as1_format_150810.met	150825_001.dxd	1
2	ICB	Sample		ice-as1_format_150810.met	150825_002.dxd	1
3	LLC	Sample		ice-as1_format_150810.met	150825_003.dxd	1
4	LOD	Sample		ice-as1_format_150810.met	150825_004.dxd	1
5	LOQ1	Sample		ice-as1_format_150810.met	150825_005.dxd	1
6	LOQ2	Sample		ice-as1_format_150810.met	150825_006.dxd	1
7	LOQ3	Sample		ice-as1_format_150810.met	150825_007.dxd	1
8	PB 22-00114*	Sample		ice-as1_format_150810.met	150825_008.dxd	1
9	LCS 22-00114*	Sample		ice-as1_format_150810.met	150825_009.dxd	1
10	579641	Sample		ice-as1_format_150810.met	150825_010.dxd	1
11	579641D	Sample		ice-as1_format_150810.met	150825_011.dxd	1
12	579641S	Sample		ice-as1_format_150810.met	150825_012.dxd	1
13	CCV	Sample		ice-as1_format_150810.met	150825_013.dxd	1
14	CCB	Sample		ice-as1_format_150810.met	150825_014.dxd	1
15	579642	Sample		ice-as1_format_150810.met	150825_015.dxd	1
16	579643	Sample		ice-as1_format_150810.met	150825_016.dxd	1
17	579644	Sample		ice-as1_format_150810.met	150825_017.dxd	1
18	579645	Sample		ice-as1_format_150810.met	150825_018.dxd	1
19	579646	Sample		ice-as1_format_150810.met	150825_019.dxd	1
20	579647	Sample		ice-as1_format_150810.met	150825_020.dxd	1
21	579648	Sample		ice-as1_format_150810.met	150825_021.dxd	1
22	579640	Sample		ice-as1_format_150810.met	150825_022.dxd	1
23	579621S	Sample		ice-as1_format_150810.met	150825_023.dxd	1
24	CCV2	Sample		ice-as1_format_150810.met	150825_024.dxd	1
25	CCB2	Sample		ice-as1_format_150810.met	150825_025.dxd	1
26	STOP	Sample		astop.met	150825	1



Default Method Path: C:\PEAKNET\METHOD.ACI

Default Data Path: C:\PEAKNET\DATA\150825

Comment:

CH2M Hill Plateau Remediation Company; 20933-01-006; TO# 150807-12

*NO 8/28/15 gdc*  
*20859.01.006*

*\* 08/28/15 gdc*

"M" INDICATES MANUAL INTEGRATION

ICV:  
27-04-010 *WCSII TE 9/9/15 gdc*  
T.V. = 10 ppm

*(\*) sample should read 579 -- 08/28/15 gdc*

LLC:  
27-04-010 *WCSII TE 9/9/15 gdc*  
T.V. = 0.100 ppm

EP:  
5000-3  
1000-1  
200-H

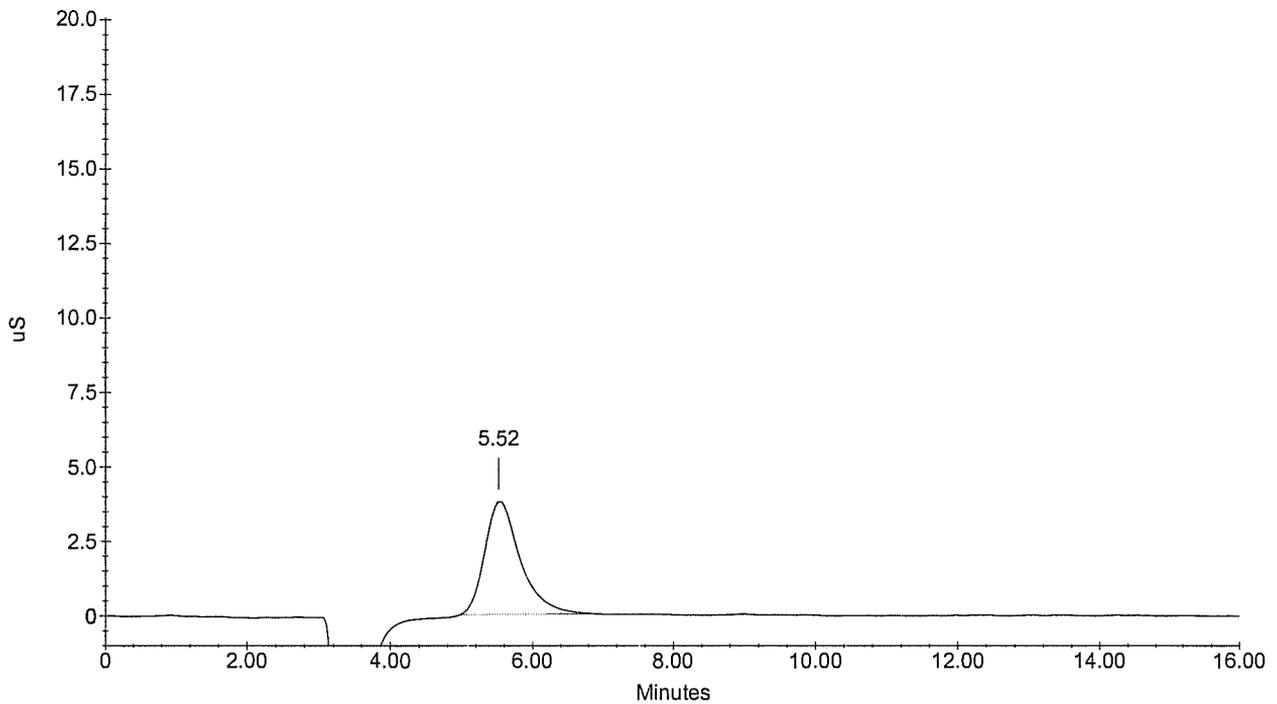
*Jeffery Meryc  
8/26/15*

Sample Name : ICV  
Dilution Factor : 1.00  
Injection Number : 1  
Data File Name : ...\\150825\_001.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 4:10:39 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	5.52	FORMATE	9206.919	3764761	131900033	1	-0.54	
			---total(s)---					
0.00			9206.919	131900033				

## ICV

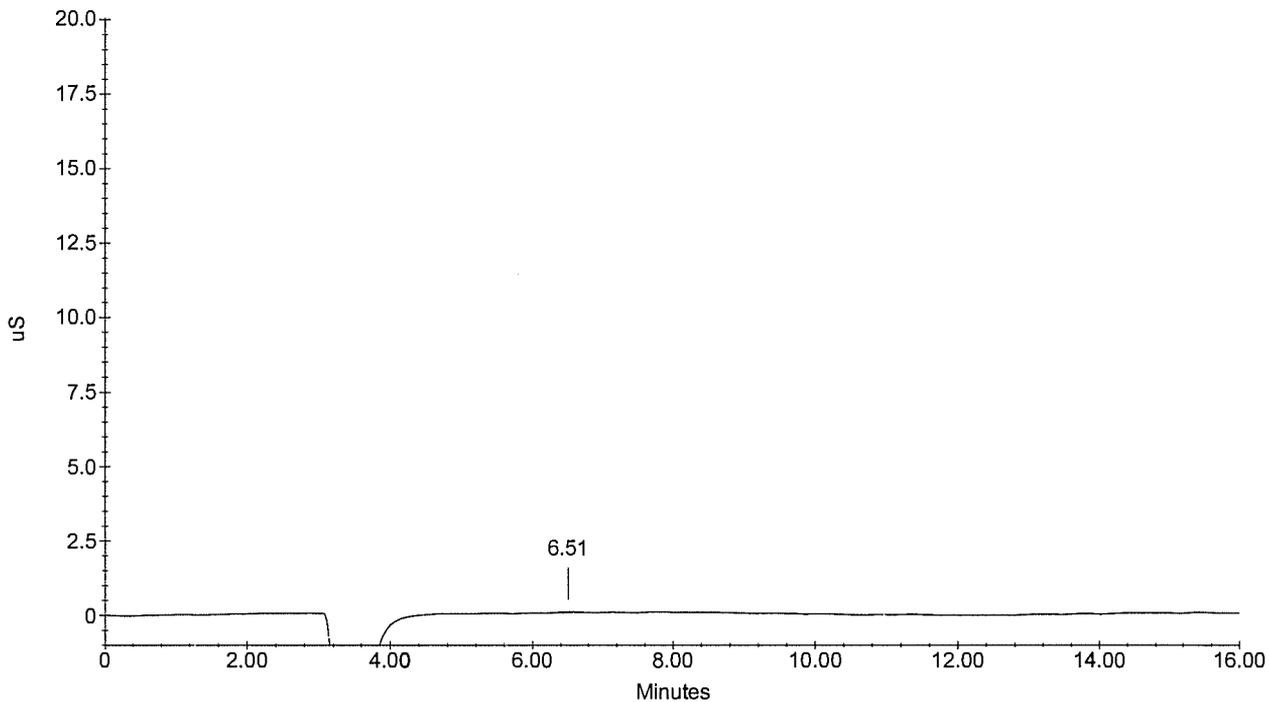


Sample Name : ICB  
Dilution Factor : 1.00  
Injection Number : 2  
Data File Name : ...150825\_002.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 4:29:27 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	6.51		0.000	37540	822167	1		
	0.00		---total(s)---	0.000	822167			

## ICB

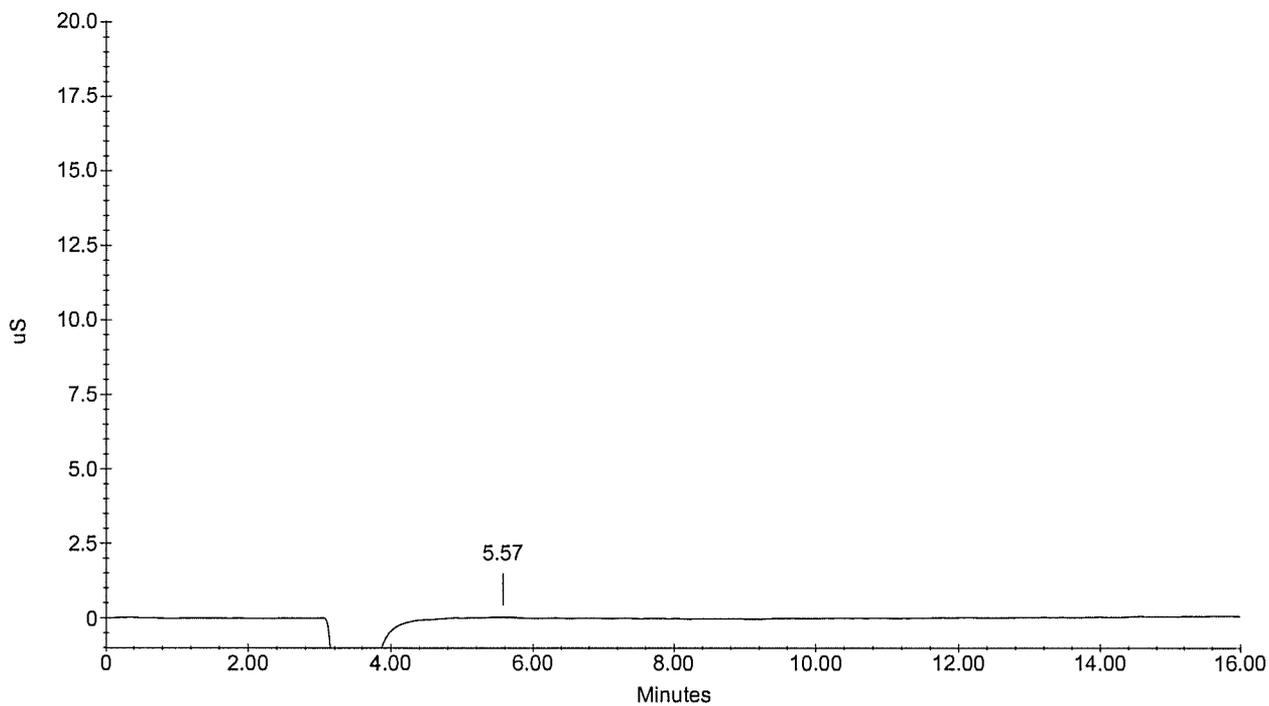


Sample Name : LLC  
Dilution Factor : 1.00  
Injection Number : 3  
Data File Name : ...\\150825\_003.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 4:48:16 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	5.57	FORMATE	117.774	38007	858349	1	0.42	
			---total(s)---					
0.00			117.774	858349				

### LLC

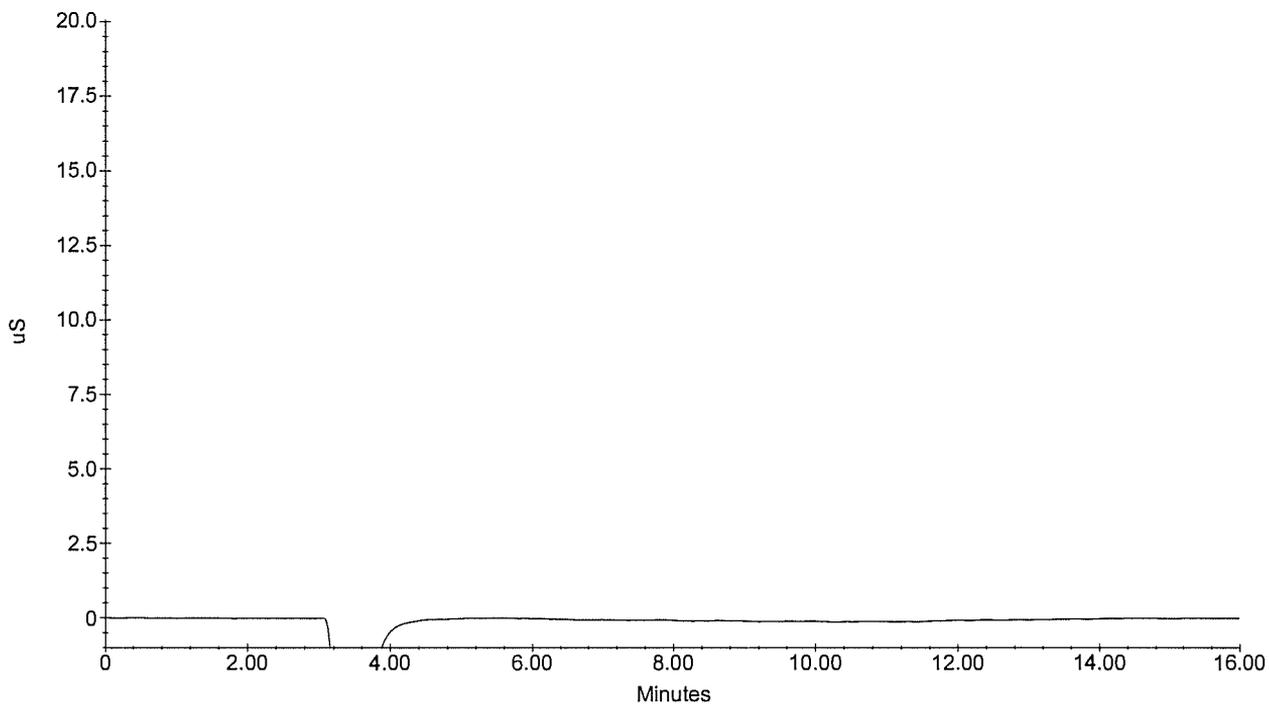


Sample Name : LOD  
 Dilution Factor : 1.00  
 Injection Number : 4  
 Data File Name : ...\\150825\_004.DXD  
 Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 5:07:05 PM  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components							
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta
0	0.00	(null)	0.000	0	0 0		0.00
			---total(s)---				
0.00			0.000	0			

LOD

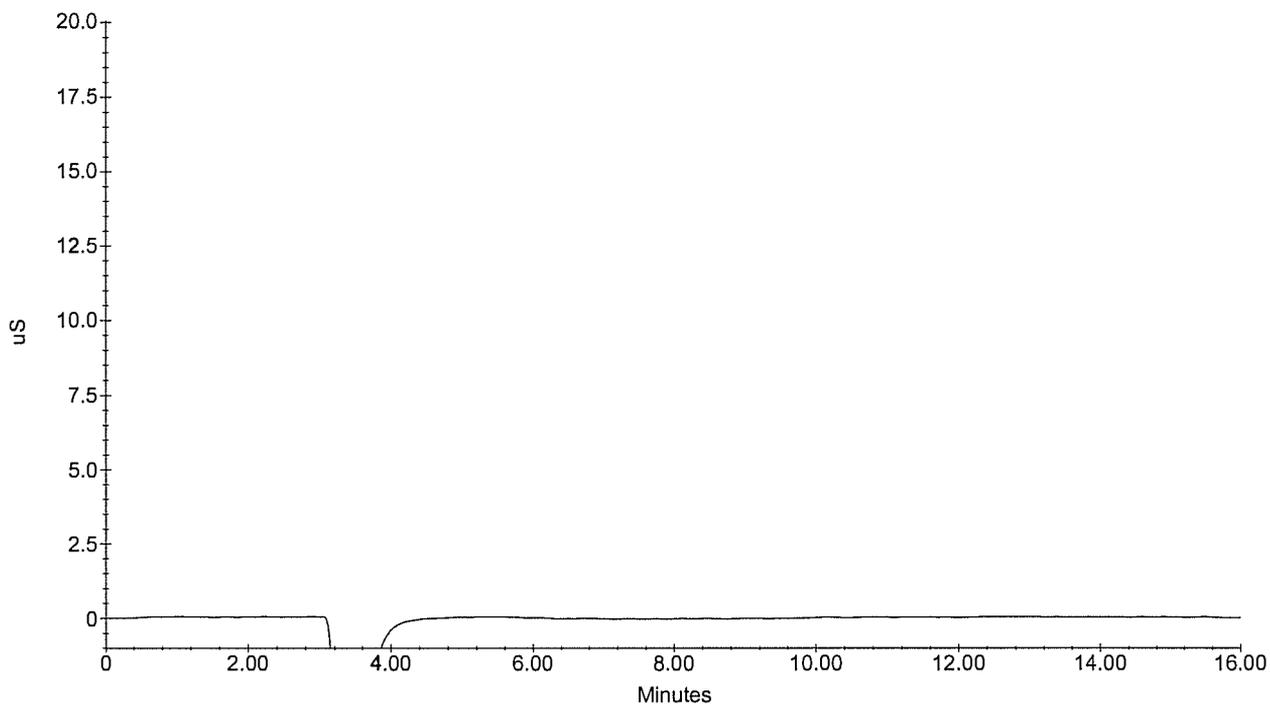


Sample Name : LOQ1  
Dilution Factor : 1.00  
Injection Number : 5  
Data File Name : ...\\150825\_005.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 5:25:54 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components							
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta
0	0.00	(null)	0.000	0	0 0		0.00
			---total(s)---				
	0.00		0.000		0		

## LOQ1

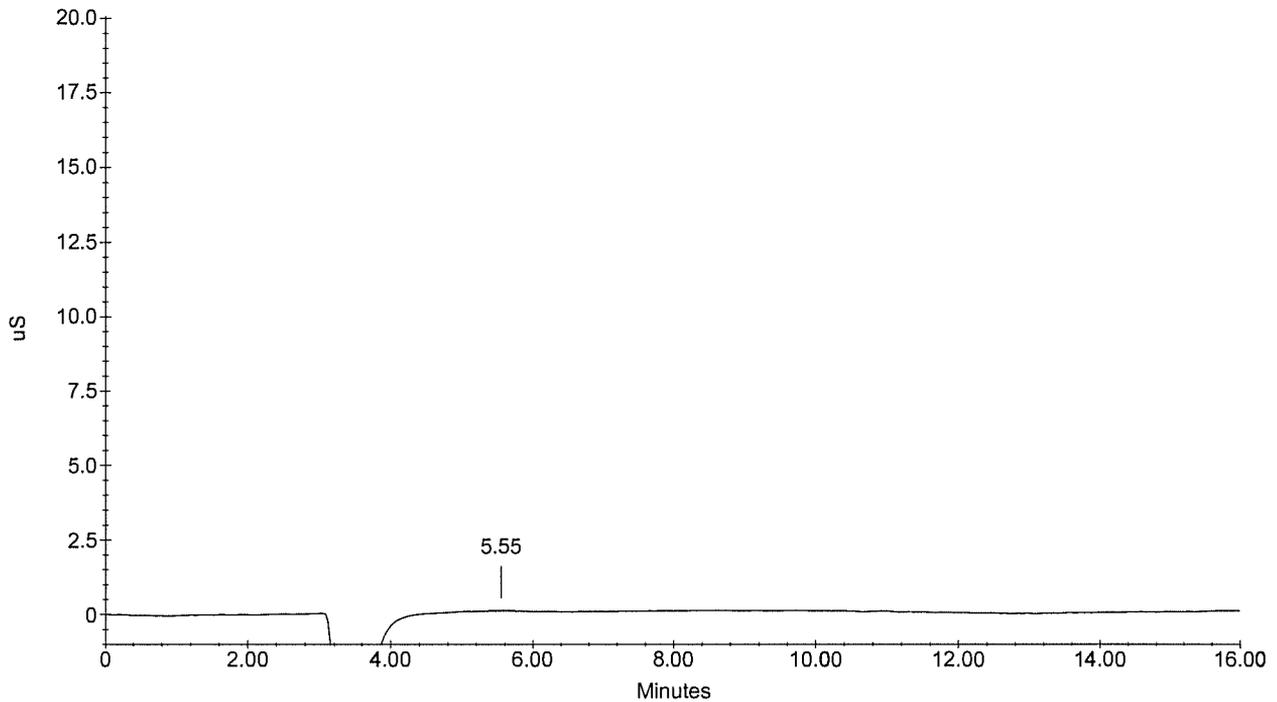


Sample Name : LOQ2  
Dilution Factor : 1.00  
Injection Number : 6  
Data File Name : ...\\150825\_006.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 5:44:43 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.55	FORMATE	124.845	40898	960178	1	-0.06	
			---total(s)---					
0.00			124.845	960178				

## LOQ2

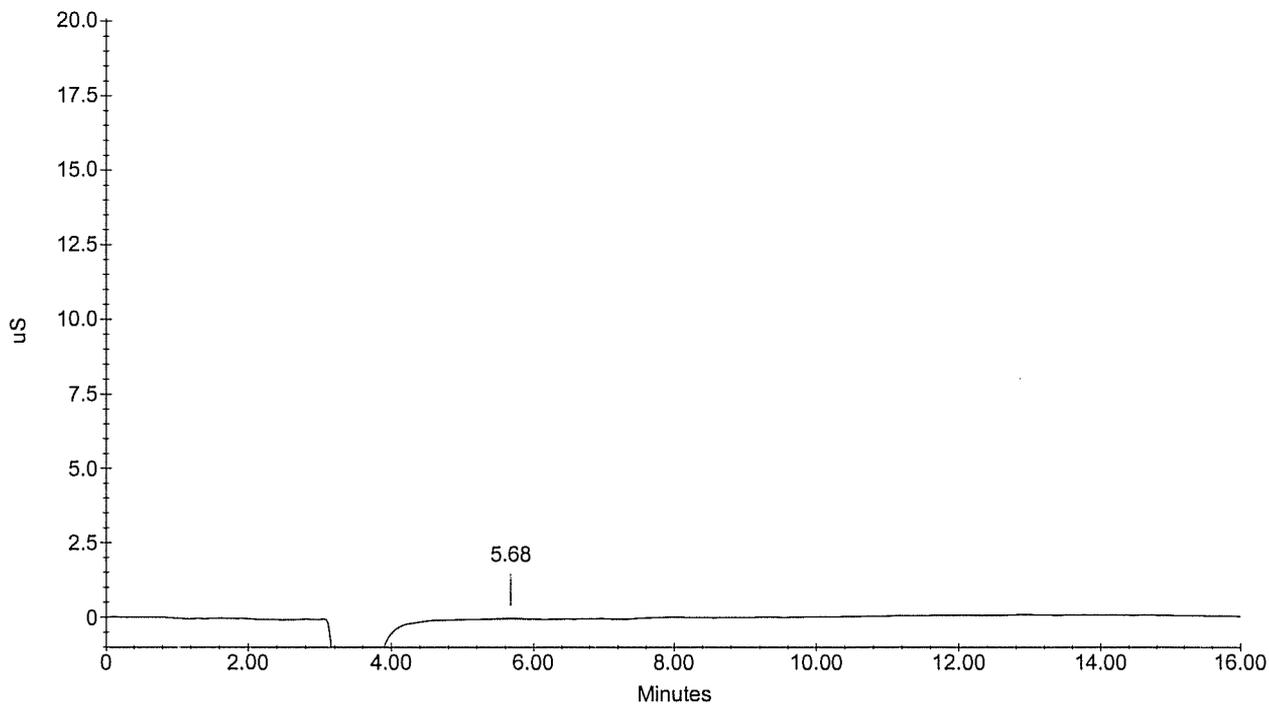


Sample Name : LOQ3  
Dilution Factor : 1.00  
Injection Number : 7  
Data File Name : ...\\150825\_007.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 6:03:31 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.68	FORMATE	132.456	38883	1069784	1	2.34	
			---total(s)---					
0.00			132.456			1069784		

## LOQ3

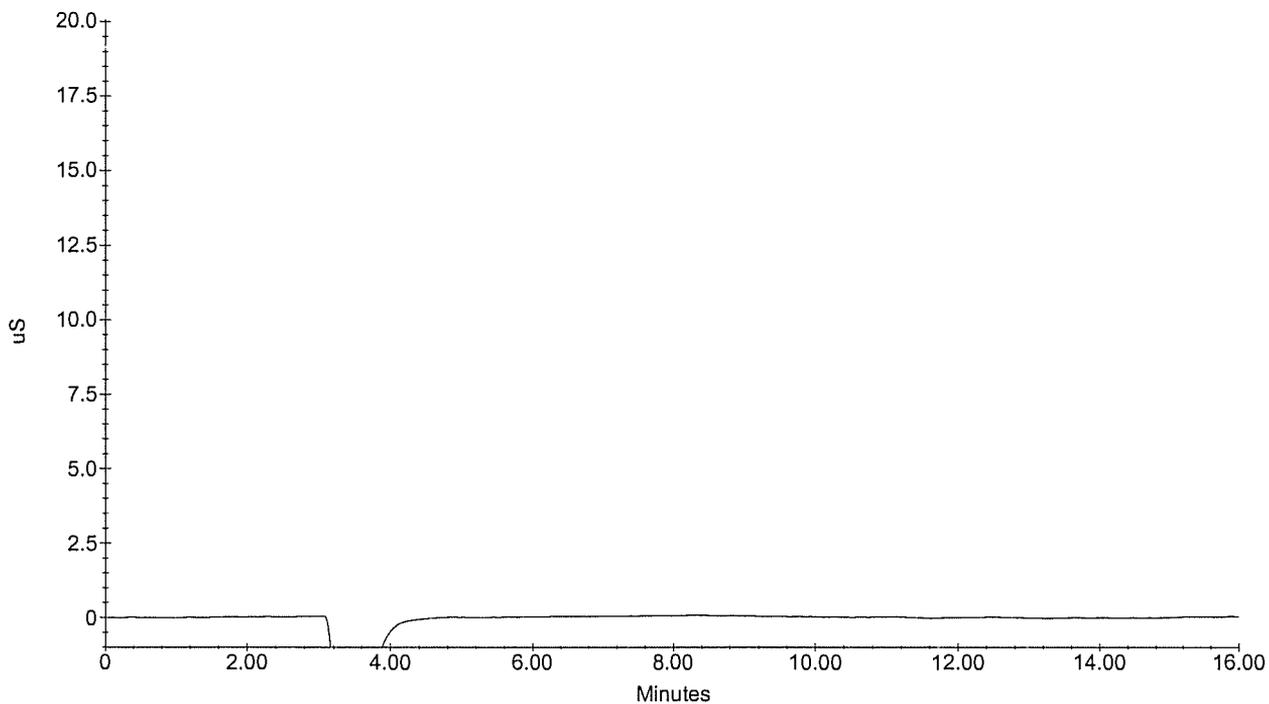


Sample Name : PB  
 Dilution Factor : 1.00  
 Injection Number : 8  
 Data File Name : ...150825\_008.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 6:22:20 PM  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
			---total(s)---					
0.00			0.000			0		

PB 22-00114\*



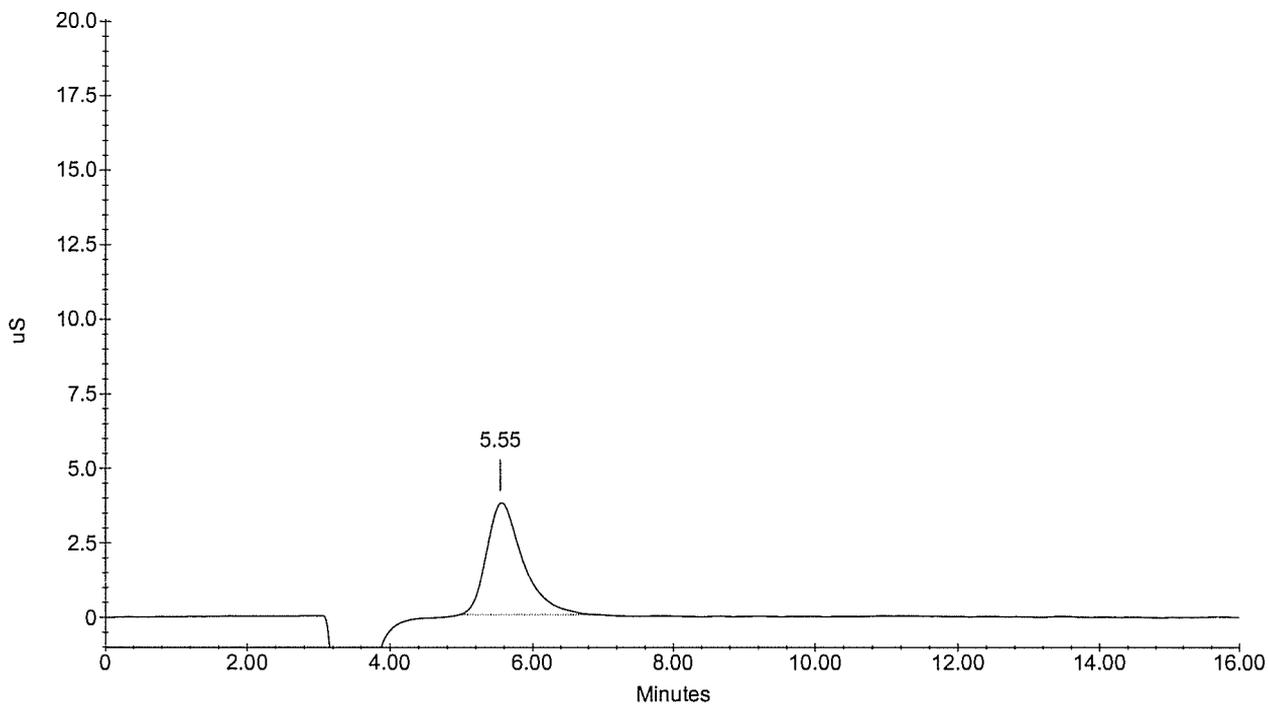
\* Cl 08128115gcu

Sample Name : LCS  
Dilution Factor : 1.00  
Injection Number : 9  
Data File Name : ...\\150825\_009.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 6:41:09 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	5.55	FORMATE	9247.112	3713146	132480166	1	-0.06	
			---total(s)---					
0.00			9247.112	132480166				

LCS 22-00114\*

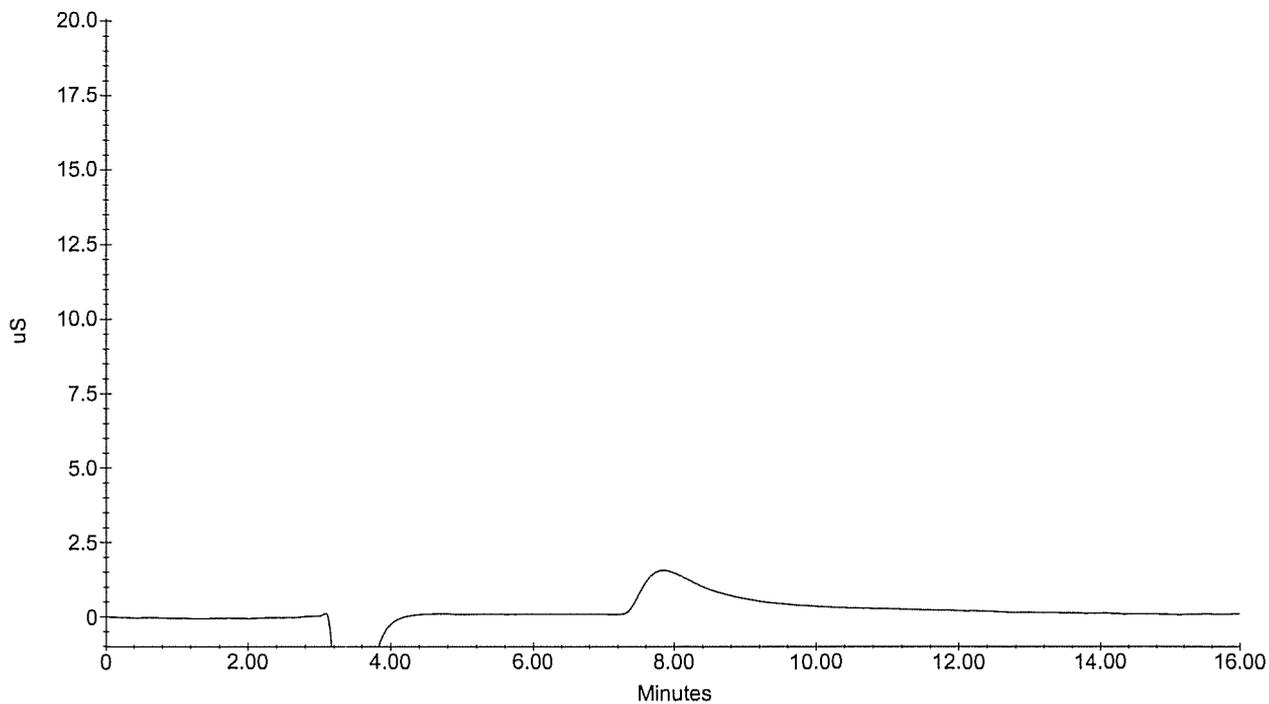


\* ce 08/28/15 gcm

Sample Name : 579641  
Dilution Factor : 1.00  
Injection Number : 10  
Data File Name : ...\\150825\_010.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 6:59:58 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
				---total(s)---				
0.00				0.000	0			

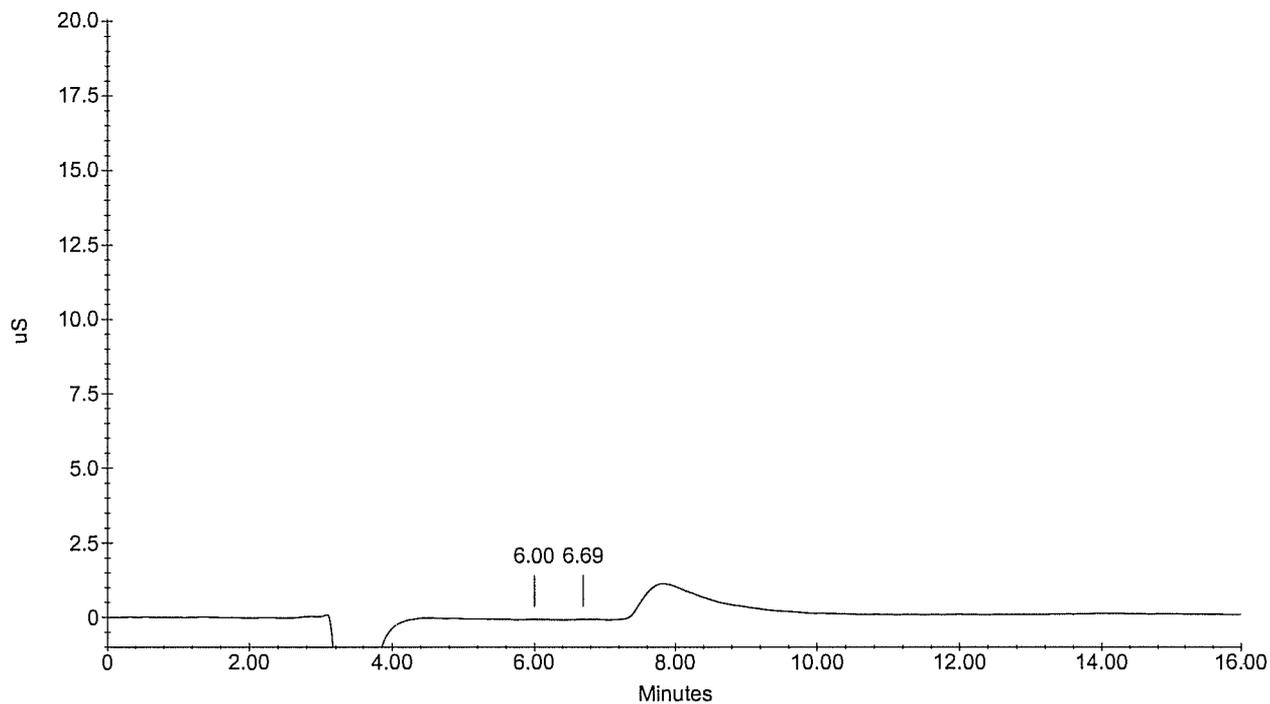
**579641**

Sample Name : 579641D  
Dilution Factor : 1.00  
Injection Number : 11  
Data File Name : ...\\150825\_011.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 7:18:47 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	6.00		0.000	26707	609809	1		
	0.00		---total(s)---	0.000	609809			

## 579641D

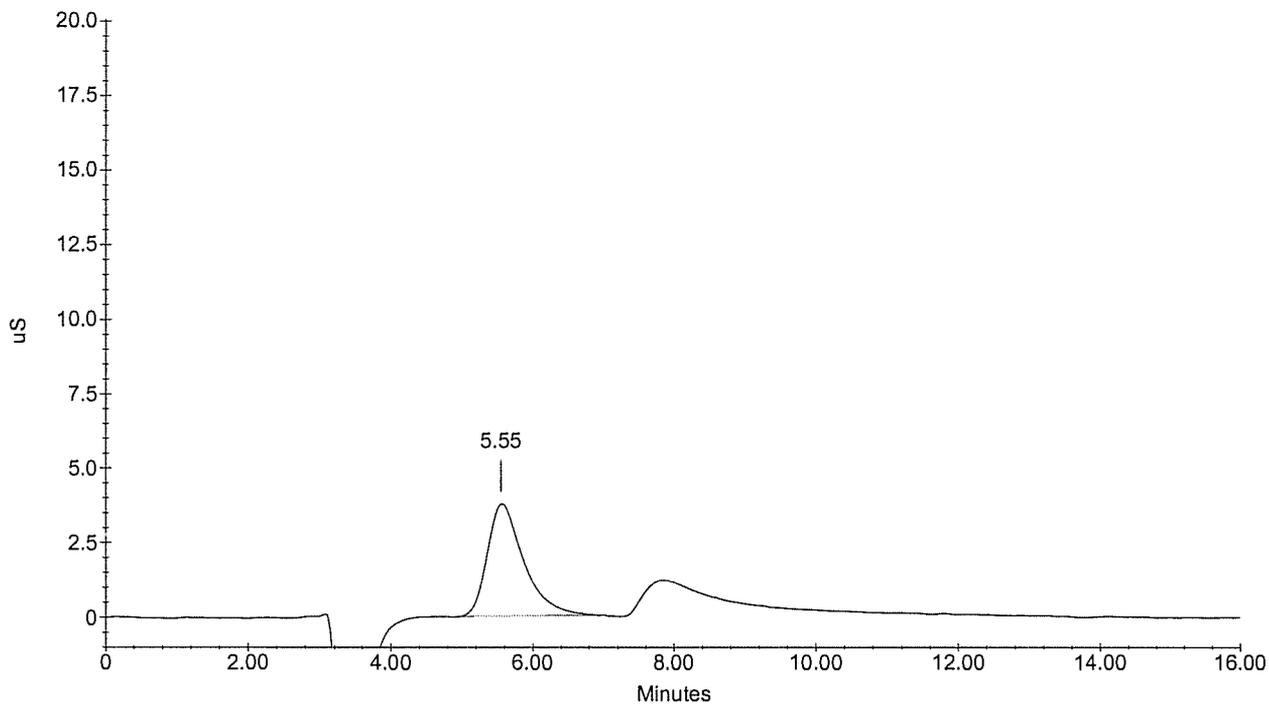


Sample Name : 579641S  
Dilution Factor : 1.00  
Injection Number : 12  
Data File Name : ...150825\_012.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 7:37:36 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.55	FORMATE	9325.048	3722408	133605095	1	-0.06	
			---total(s)---					
0.00			9325.048	133605095				

## 579641S

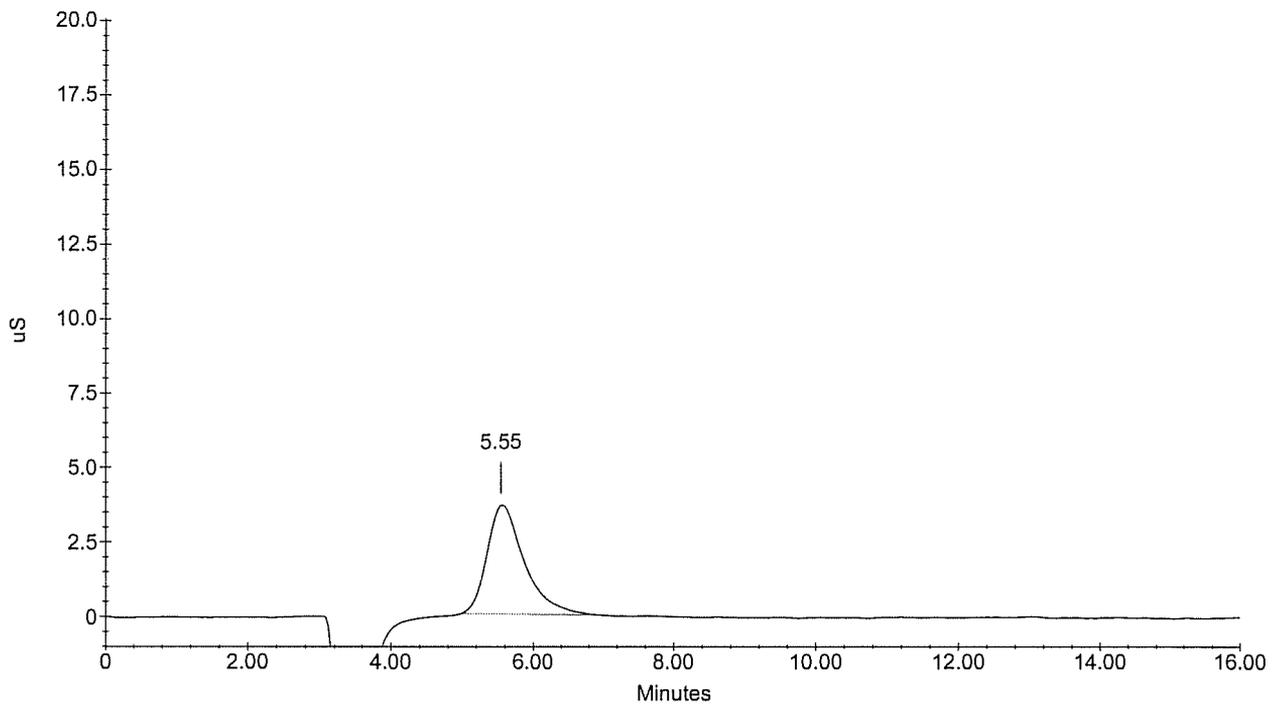


Sample Name : CCV  
Dilution Factor : 1.00  
Injection Number : 13  
Data File Name : ...\\150825\_013.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 7:56:24 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	5.55	FORMATE	9265.673	3619177	132748069	1	-0.06	
			---total(s)---					
0.00			9265.673	132748069				

## CCV

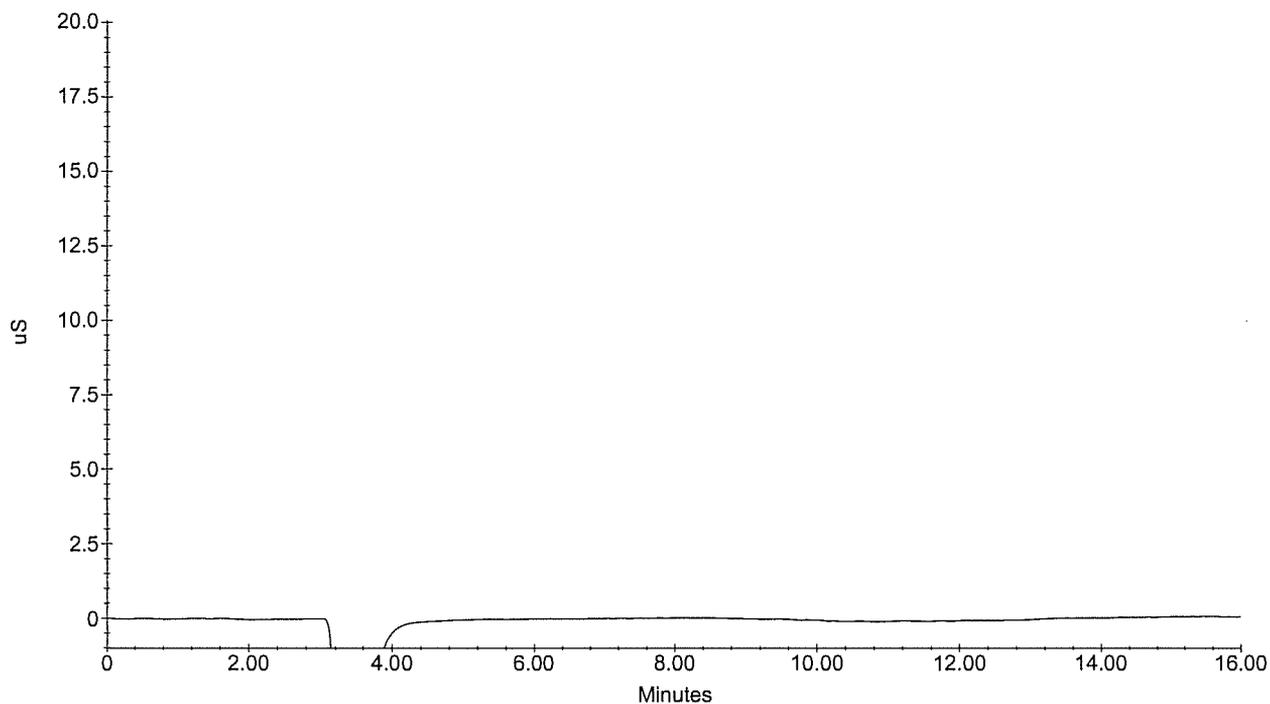


Sample Name : CCB  
Dilution Factor : 1.00  
Injection Number : 14  
Data File Name : ...\\150825\_014.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 8:15:13 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
			---total(s)---					
0.00			0.000			0		

### CCB

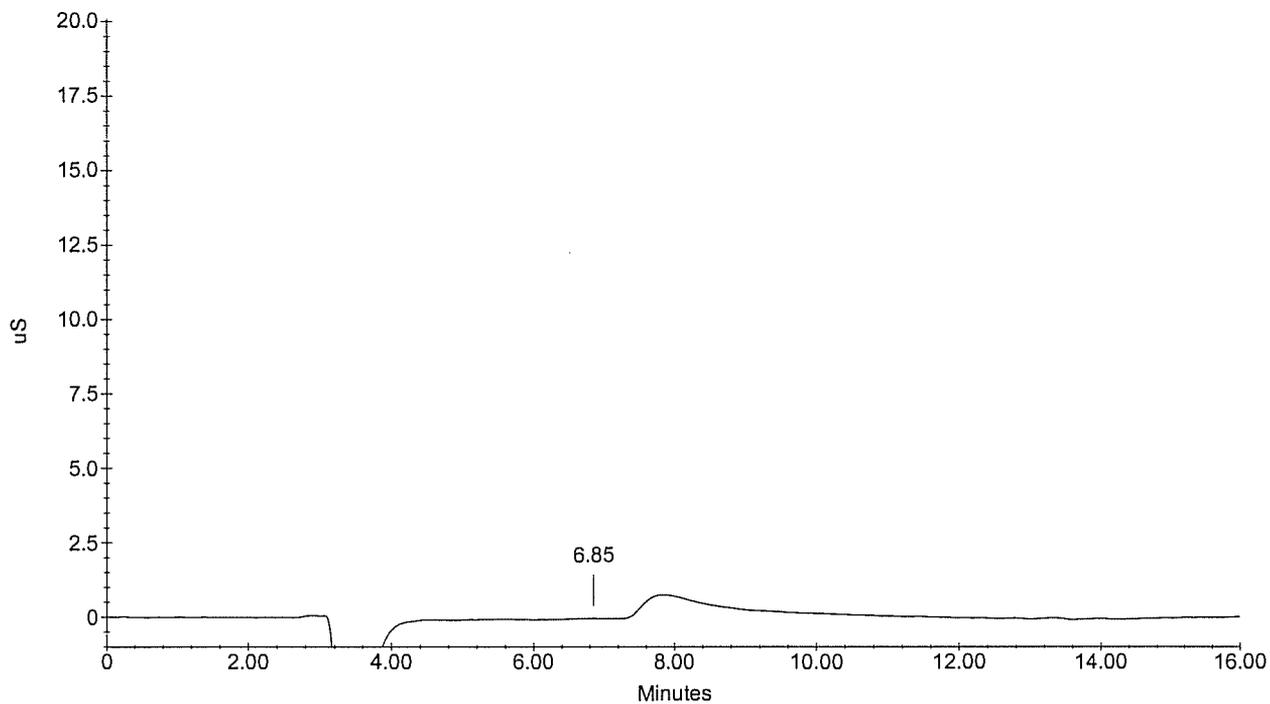


Sample Name : 576642  
 Dilution Factor : 1.00  
 Injection Number : 15  
 Data File Name : ...150825\_015.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 8:34:02 PM  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	6.85		0.000	5310	315028	1		
				---total(s)---	0.000	315028		

9 TC 8/25/15 JCU  
 576642

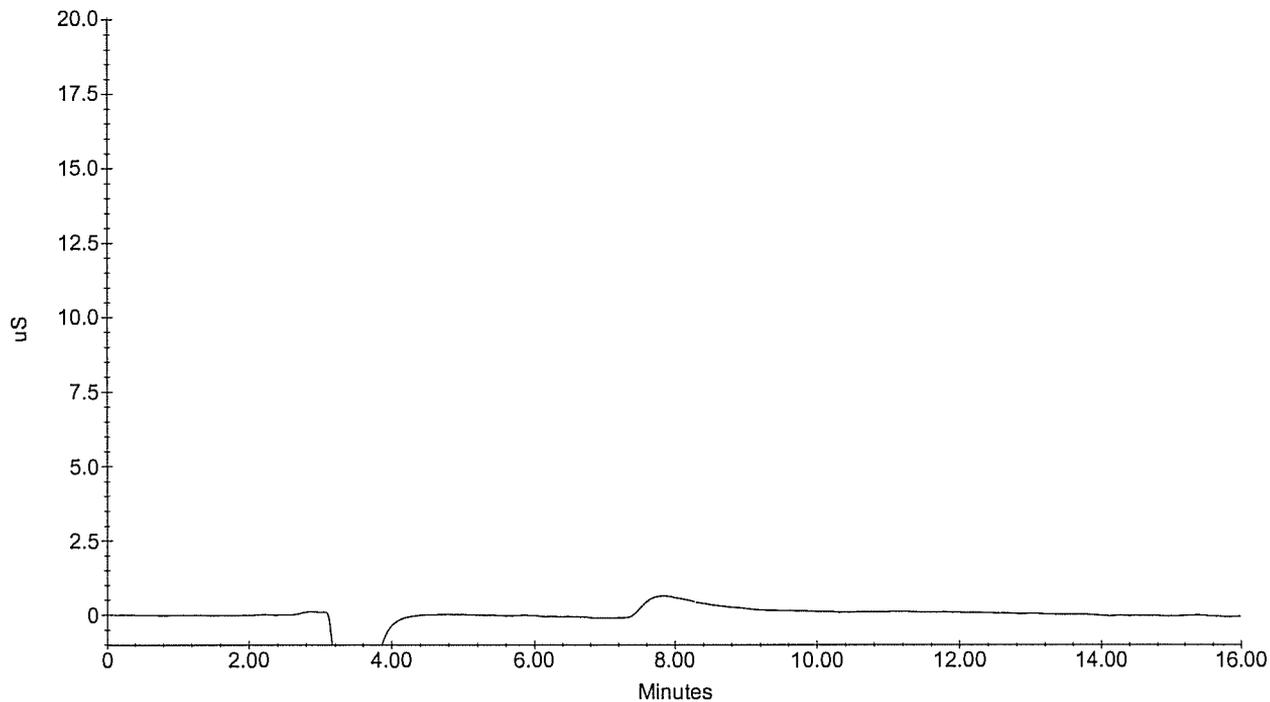


Sample Name : 576643  
 Dilution Factor : 1.00  
 Injection Number : 16  
 Data File Name : ...150825\_016.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 8:52:51 PM  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
				---total(s)---				
				0.000	0			

576643  
 a TE 8/28/15 gcl

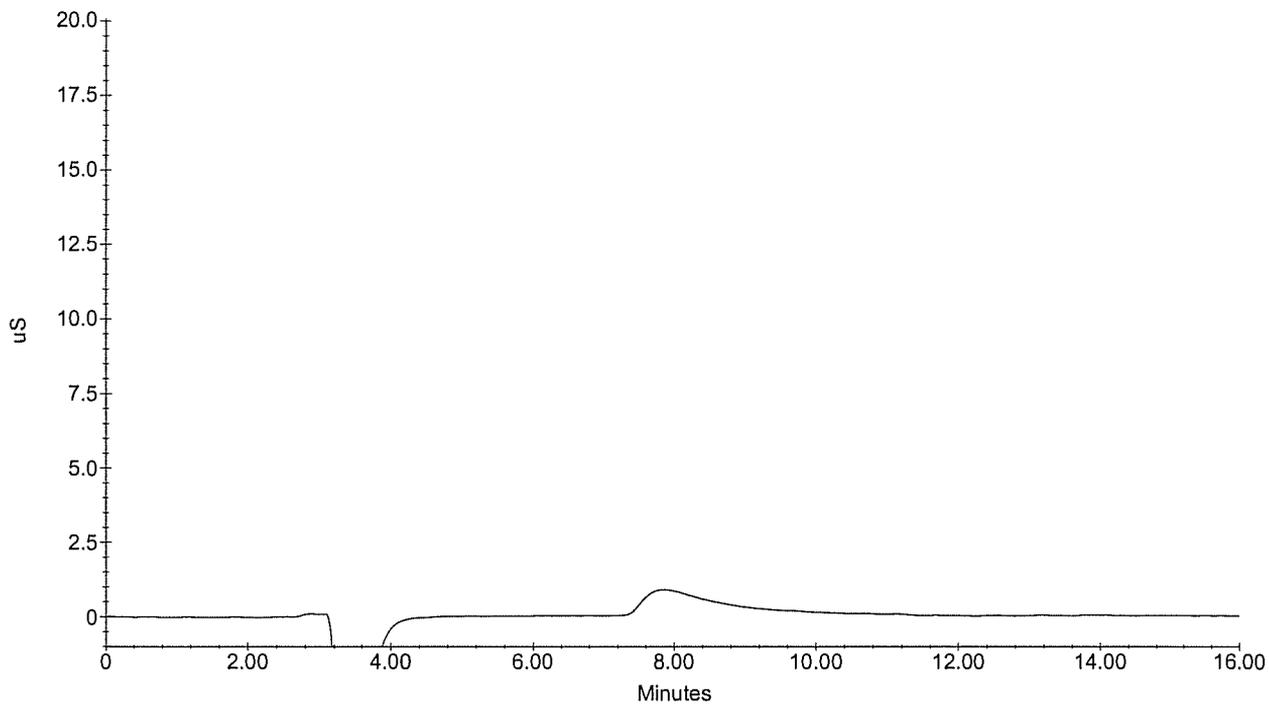


Sample Name : 576644  
 Dilution Factor : 1.00  
 Injection Number : 17  
 Data File Name : ...150825\_017.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 9:11:40 PM  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
				---total(s)---				
				0.000	0			

9 TE 8/28/15 gcu  
**576644**

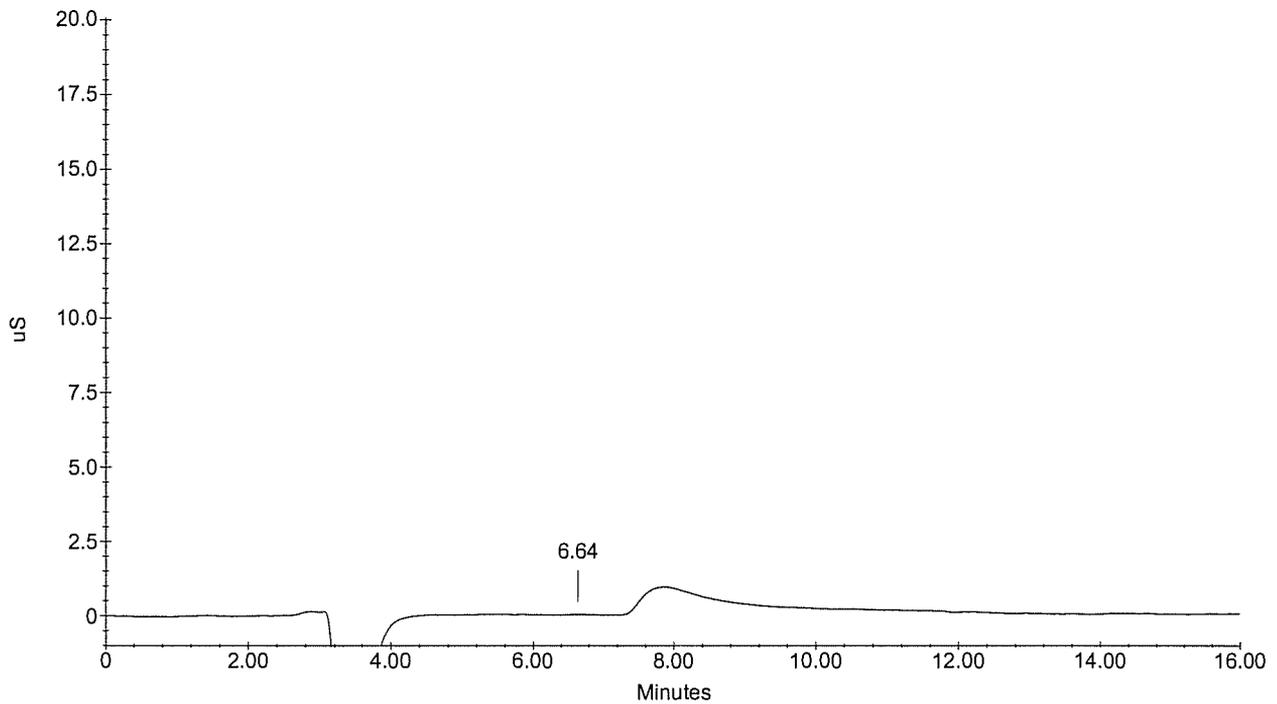


Sample Name : 576645  
Dilution Factor : 1.00  
Injection Number : 18  
Data File Name : ...\\150825\_018.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 9:30:28 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	6.64		0.000	16134	289645	1		
				---total(s)---				
				0.000	289645			

9 TE 8/28/15 JLL  
~~576645~~



Sample Name : 576646  
 Dilution Factor : 1.00  
 Injection Number : 19  
 Data File Name : ...150825\_019.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

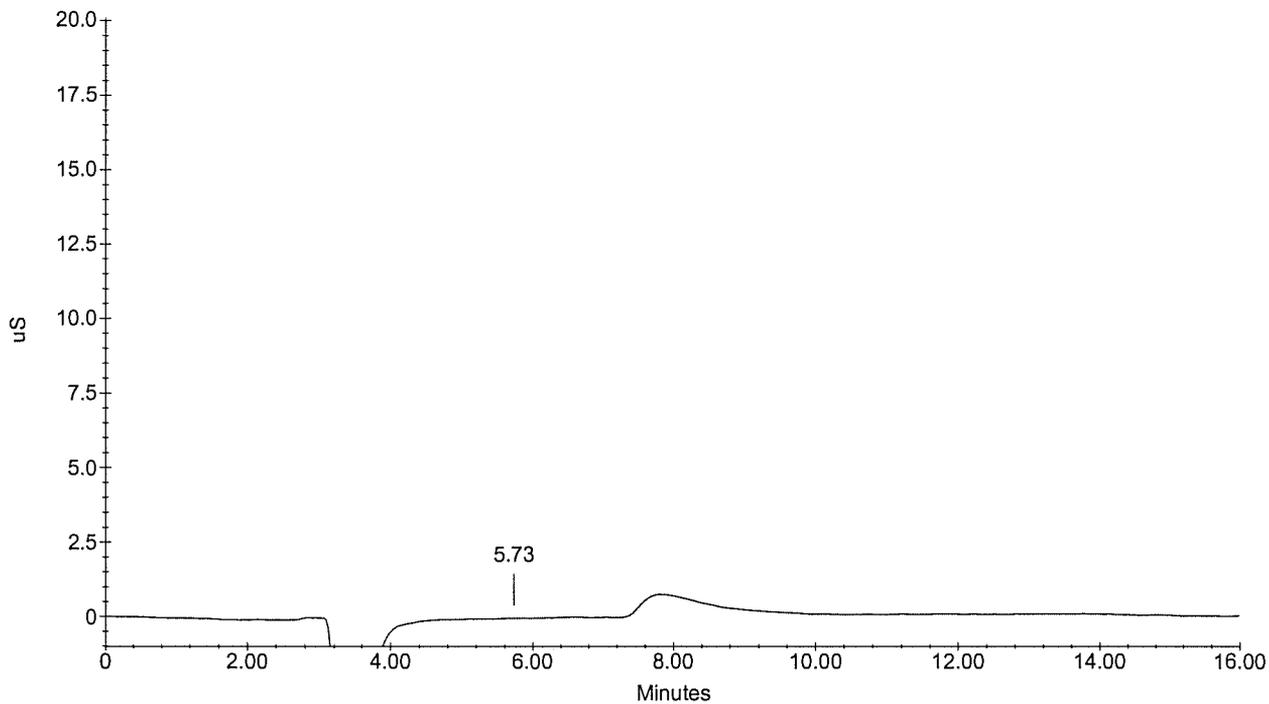
Date Time Collected : 8/25/2015 9:49:17 PM  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components

Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta
1	5.73	FORMATE	89.280	25442	447996	1	3.30
					0.00	---89.280	447996

*9 TE 8/28/15 gcy*

**576646**

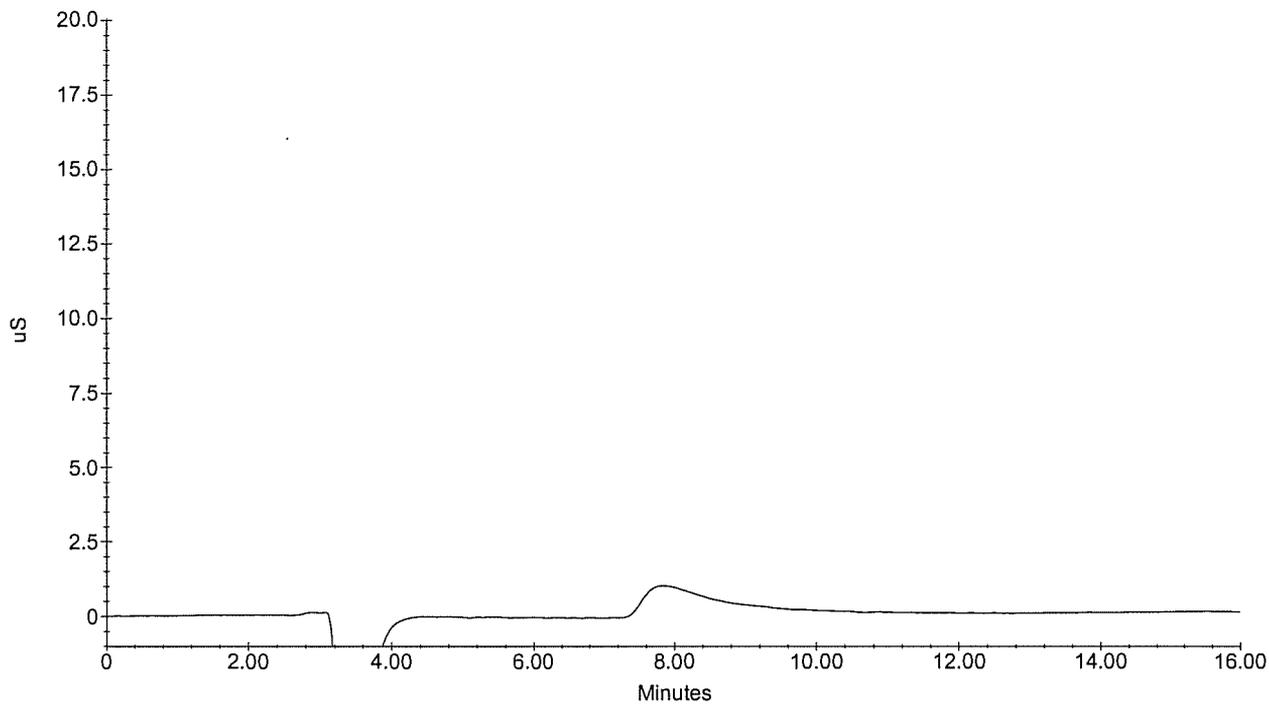


Sample Name : 576647  
Dilution Factor : 1.00  
Injection Number : 20  
Data File Name : ...\\150825\_020.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 10:08:06 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0	0	0.00	
				---total(s)---				
0.00				0.000	0			

9 TE 8/28/15 JCU  
~~576647~~



Sample Name : 576648  
Dilution Factor : 1.00  
Injection Number : 21  
Data File Name : ...\\150825\_021.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

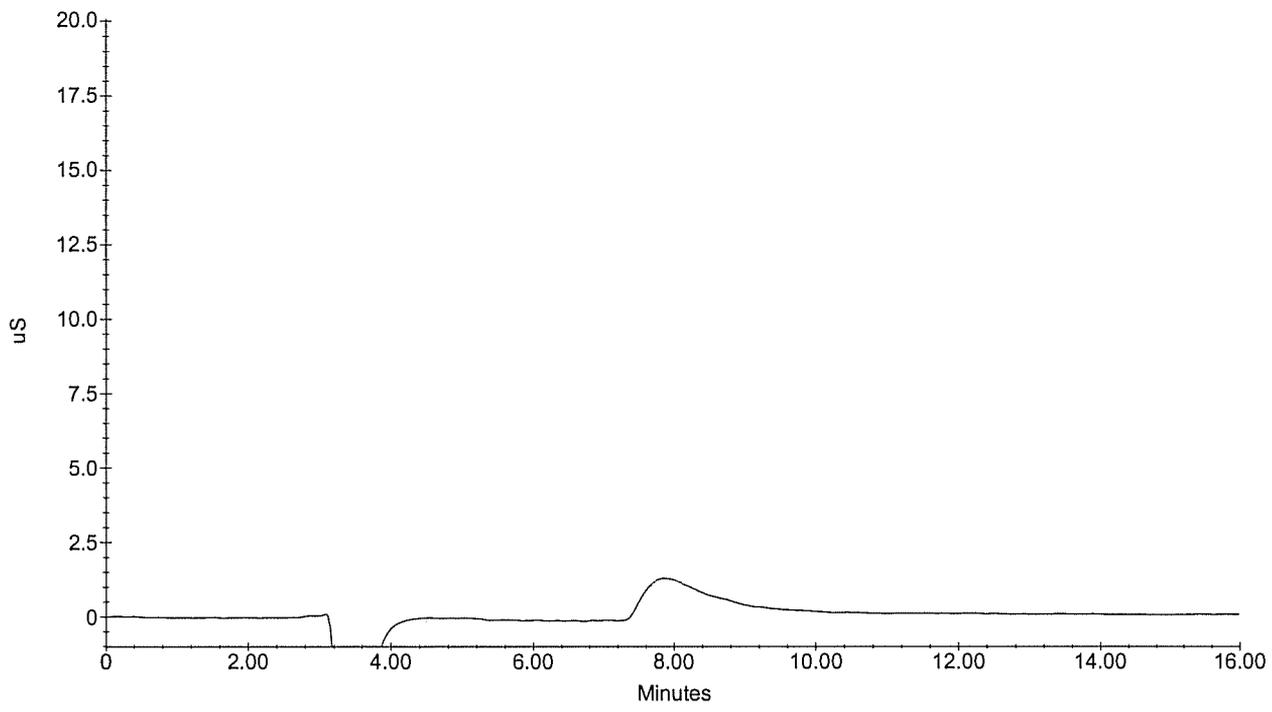
Date Time Collected : 8/25/2015 10:26:55 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components

Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta
0	0.00	(null)	0.000	0	0 0		0.00

0.00      ---total(s)---  
0.000      0

9 TE 8/28/15 gcu  
**576648**

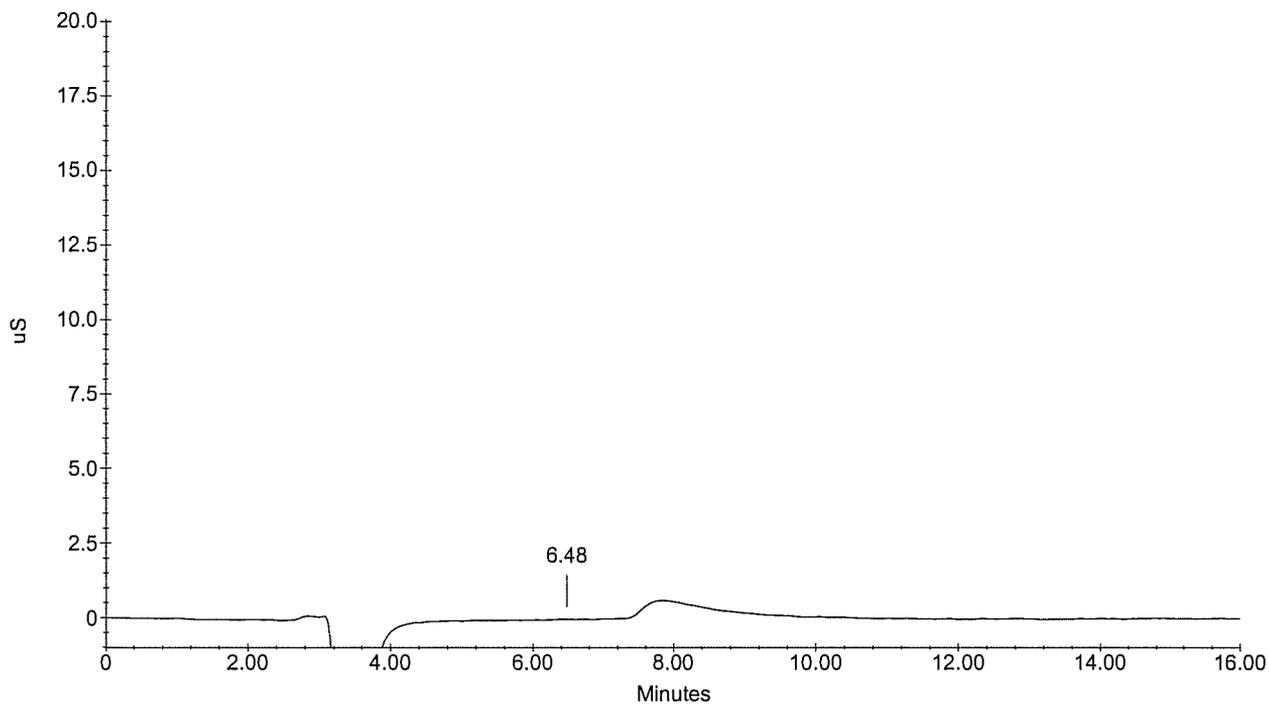


Sample Name : 579640  
Dilution Factor : 1.00  
Injection Number : 22  
Data File Name : ...\\150825\_022.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 10:45:44 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	6.48		0.000	20753	512718	1		
			---total(s)---					
0.00			0.000		512718			

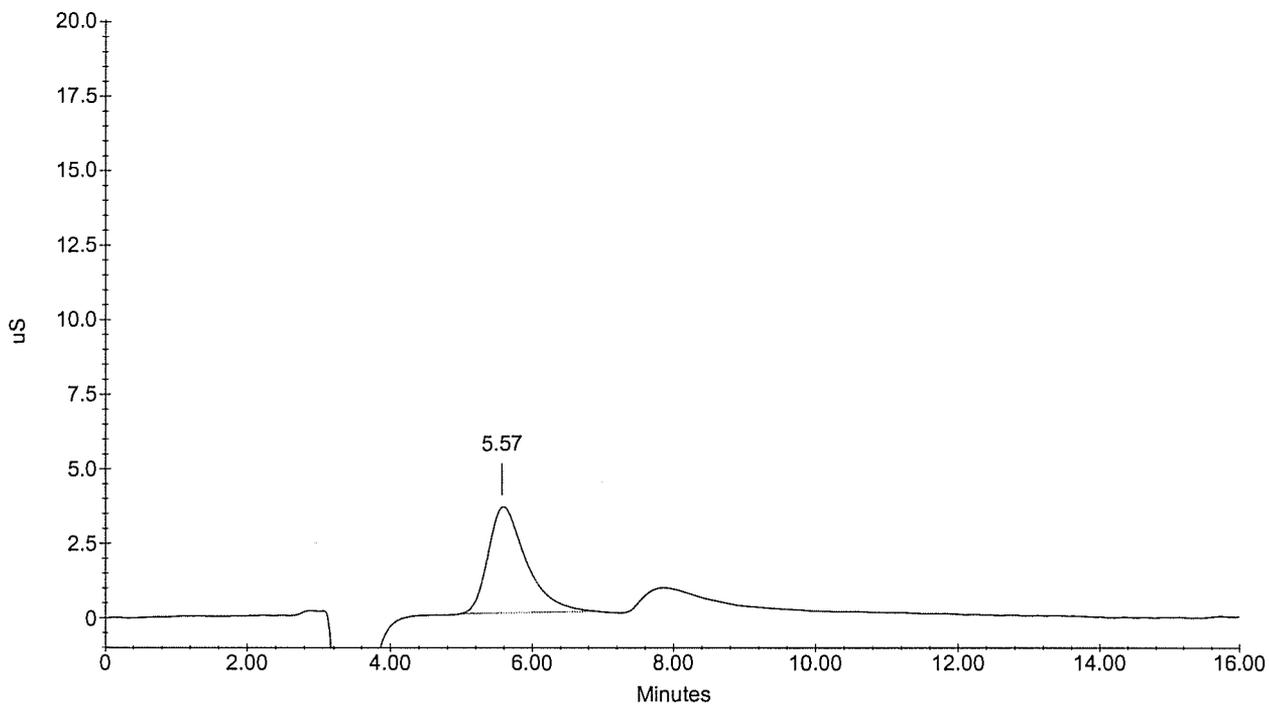
## 579640



Sample Name : 579621S  
Dilution Factor : 1.00  
Injection Number : 23  
Data File Name : ...\\150825\_023.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 11:04:32 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	5.57	FORMATE	9228.163	3532202	132206666	1	0.42	
			---total(s)---					
0.00			9228.163	132206666				

**579621S**

Sample Name : CCV2  
Dilution Factor : 1.00  
Injection Number : 24  
Data File Name : ...150825\_024.DXD  
Method File Name : ...NICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

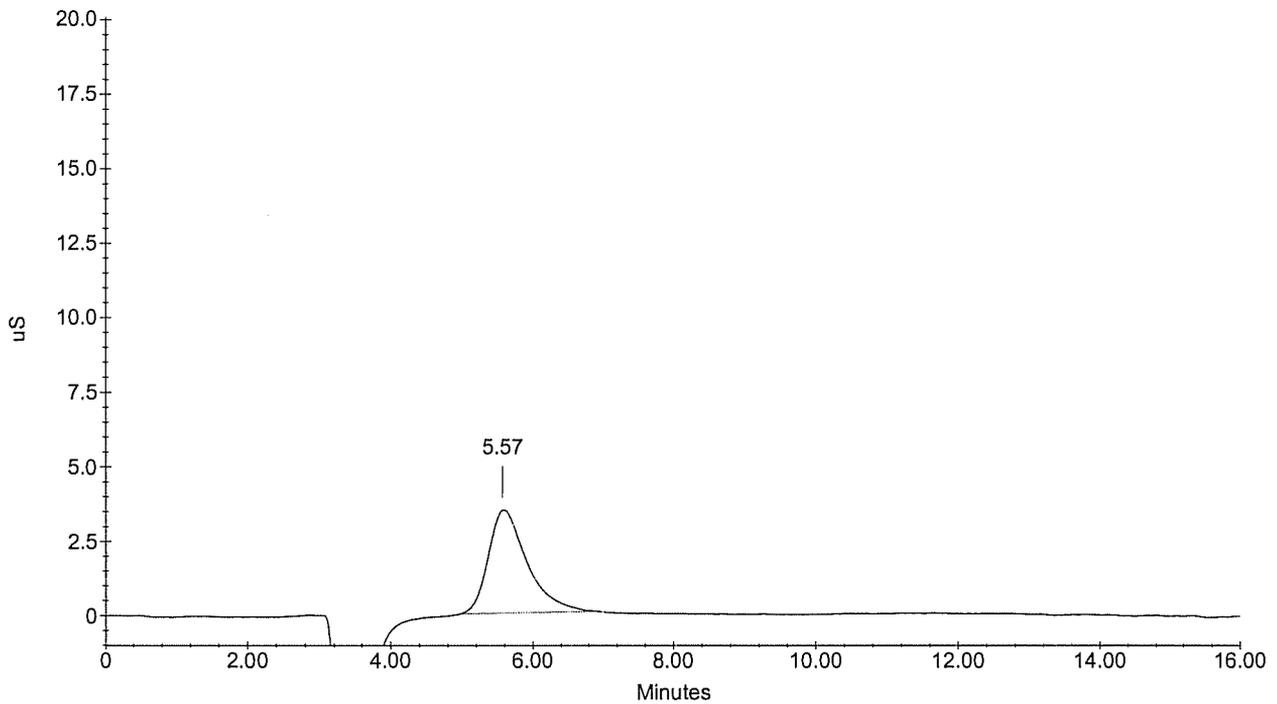
Date Time Collected : 8/25/2015 11:23:21 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

## Peak Information : All Components

Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta
1	5.57	FORMATE	9178.375	3442629	131488045	1	0.42

0.00	---total(s)---	131488045
	9178.375	

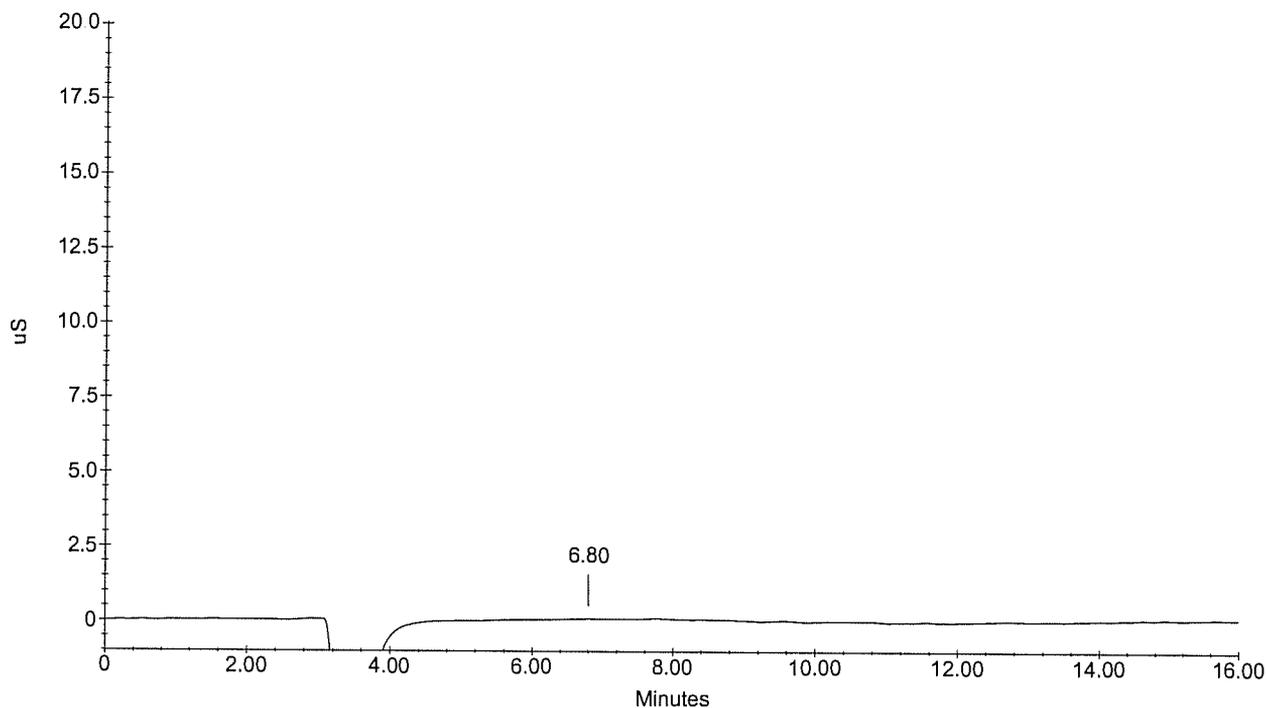
## CCV2



Sample Name : CCB2  
Dilution Factor : 1.00  
Injection Number : 25  
Data File Name : ...150825\_025.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 11:42:10 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	6.80		0.000	9228	817845	1		
			---total(s)---					
0.00			0.000			817845		

**CCB2**

**SOUTHWEST RESEARCH INSTITUTE**  
**CLIENT: CH2M Hill Plateau Remediation**  
**Company**  
**TASK ORDER(s): 150807-13**  
**SRR: 55929**  
**SDG: 579641**  
**CASE: F15-048**  
**VTSR: 08.07.15**  
**PROJECT#: 20859.01.00X**

**STANDARD LOGS & CERTIFICATES OF**  
**ANALYSIS**

Work continued from Page

27-01-WCSII: Acetate @ 1000 mg/L trihydrate STD

5 dissolve 0.2301 g of sodium acetate (ID# 35215)

to final volume 100 ml w 1 DI H<sub>2</sub>O.

balance # 88

10 Exp. date 6/1/14

27-02-WCSII: Formate @ 1000 mg/L STD

15 dissolve 0.1512<sup>g\*</sup> of sodium formate (#35301) to

final volume 100 ml w 1 DI H<sub>2</sub>O

20 27-03-WCSII: Acetate @ 1000 mg/L QC

dissolve 0.2302 g of Sodium Acetate Trihydrate (#35215)

to final volume 100 ml w 1 DI H<sub>2</sub>O

32732

\* to 06/11/15 gdl

27-04-WCSII: Formate @ 1000 mg/L QC

30 dissolve 0.1513 g of sodium formate (#210460)

to final volume 100 ml w 1 DI H<sub>2</sub>O.

35 all on page: balance # 88  
Exp date 6/1/14

SIGNATURE

Quaylemera  
M. Grubaldon

DATE

6/1/15

DISCLOSED TO AND UNDERSTOOD BY

DATE

WITNESS

DATE

6/5/15





## Certificate of Analysis

**Product Name:** SODIUM FORMATE  
 puriss. p.a., ACS reagent  
**Product Number:** 71541  
**Batch Number:** 1376451V  
**Brand:** Sigma-Aldrich  
**CAS Number:** 141-53-7  
**Formula:** CHNaO2  
**Formula Weight:** 68.01  
**Quality Release Date:** 24 JAN 2008  
**Date retested:** 31 JAN 2012  
**Recommended Retest Date:** JUL 2016

TEST	SPECIFICATION	RESULT
APPEARANCE (COLOR)	WHITE TO ALMOST WHITE	ALMOST WHITE
APPEARANCE (FORM)	FINE CRYSTALS TO CRYSTALS WITH LUMPS	CRYSTALS WITH LUMPS
TITRATION (NT) HCLO4 0.1M	≥ 99.0 %	99.4 %
SOLUBILITY (COLOR)	COLORLESS	COLORLESS
SOLUBILITY (TURBIDITY)	CLEAR (< 3.5 NTU)	CLEAR (<3.5 NTU)
SOLUBILITY (METHOD)	--	1G IN 20 ML H2O
PH	7.0 - 8.5	7.5
LOSS ON DRYING	≤ 0.1 %	0.05 %
ACS SPECIFICATIONS	CORRESPONDS TO REQUIREMENTS	CORRESPONDS TO ACS (10TH ED.)
METAL TRACE ANALYSIS (ICP)	CORRESPONDS TO REQUIREMENTS	PASSED
CALCIUM (ICP)	≤ 10 MG/KG	< 10 MG/KG
CADMIUM (ICP)	≤ 5 MG/KG	< 5 MG/KG
COBALT (ICP)	≤ 5 MG/KG	< 5 MG/KG
CHROMIUM (ICP)	≤ 5 MG/KG	< 5 MG/KG
COPPER (ICP)	≤ 5 MG/KG	< 5 MG/KG
IRON (ICP)	≤ 5 MG/KG	< 5 MG/KG
POTASSIUM (ICP)	≤ 100 MG/KG	< 100 MG/KG
MAGNESIUM (ICP)	≤ 5 MG/KG	< 5 MG/KG
MANGANESE (ICP)	≤ 5 MG/KG	< 5 MG/KG
NICKEL (ICP)	≤ 5 MG/KG	< 5 MG/KG
LEAD (ICP)	≤ 5 MG/KG	< 5 MG/KG
ZINC (ICP)	≤ 5 MG/KG	< 5 MG/KG
TOTAL PHOSPHORUS AS PO4 (ICP)	≤ 10 MG/KG	< 10 MG/KG

SwRI Chem ID: 35301

SwRI Chem ID: 35301

SwRI Chem ID: 35301

## Certificate of Analysis

TOTAL SULFUR AS SO <sub>4</sub> (ICP)	≤ 10 MG/KG	< 10 MG/KG
CHLORIDE (CL)	≤ 10 MG/KG	< 10 MG/KG



Dr. Claudia Geitner  
Manager Quality Control  
Buchs, Switzerland

SwRI Chem ID: 35301

SwRI Chem ID: 35301

Sigma-Aldrich warrants that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

SwRI Chem ID: 35301

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Chemistry and Chemical Engineering Division  
Department of Analytical and Environmental Chemistry

September 10, 2015

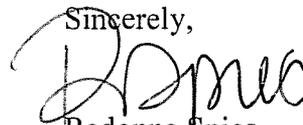
CH2M Hill Plateau Remediation Company  
2420 Stevens Center Place  
Mail Stop H8-41  
Richland, WA 99352

Attn: David Todak

Subject: SAF No: F15-048  
SDG Number: 579621  
SwRI Project Number: 20859.01.00X  
SwRI Task Order Number: 150807-12  
SwRI Sample Receipt Number: 55929  
Samples Received: 08.07.15  
Fraction: Wetchem Analysis by Method 9056

Dear Mr. Todak:

Please find the enclosed results for the twenty (20) samples received on the above referenced date. If you should have any questions, please do not hesitate to call me at (210) 522-3242 or [radonna.spies@swri.org](mailto:radonna.spies@swri.org).

Sincerely,  
  
Radonna Spies  
Group Leader

APPROVED:

  
Michael J. Dammann  
Director

RS: aa  
Encl



DETROIT, MICHIGAN (248) 353-2550 • HOUSTON, TEXAS (713) 977-1377 • WASHINGTON, DC (301) 881-0226

000001

**SOUTHWEST RESEARCH INSTITUTE**  
**CLIENT: CH2M Hill Plateau Remediation**  
**Company**  
**TASK ORDER(s): 150807-12**  
**SRR: 55929**  
**SDG: 579621**  
**CASE: F15-048**  
**VTSR: 08.07.15**  
**PROJECT#: 20859.01.00X**

## **NARRATIVE**

**CLIENT: CH2M Hill Plateau Remediation Company**

**000002**

**SDG: 579621**

**SwRI Project Number: 20859.01.00X**

**SwRI Sample Receipt Number: 55929**

**Page#: 1**

**SwRI CASE NARRATIVE**

1. Twenty (20) samples were received for Wetchem analysis:

<b>SwRI ID</b>	<b>Customer ID</b>	<b>Matrix</b>
579621	B32D16	Soil
579622	B32D19	Soil
579623	B32D22	Soil
579624	B32D25	Soil
579625	B32D28	Soil
579626	B32D31	Soil
579627	B32D34	Soil
579628	B32D37	Soil
579629	B32D40	Soil
579630	B32D43	Soil
579631	B32D46	Soil
579632	B32D49	Soil
579633	B32D52	Soil
579634	B32D55	Soil
579635	B32D58	Soil
579636	B32D61	Soil
579637	B32D64	Soil
579638	B32D67	Soil
579639	B32D70	Soil
579640	B32D73	Soil

Client: CH2M Hill Plateau Remediation Company

SDG: 579621

SwRI Project Number: 20933.01.006

SwRI Task Order Number: 150807-12

### Formic Acid

Soil samples were extracted at a 1:10 ratio using deionized water and were analyzed using a modified EPA 9056 within 24 hours of extraction. The standards were prepared and analyzed as formate. Sample results were converted to formic acid by applying the gravimetric factor of (FW formic acid / FW formate =  $46/45 = 1.02$ ). Instrument QC (ICV/CCVs and ICB/CCBs) are reported in the data package as formate. Results are reported on a dry-weight basis.

All samples were analyzed within the 28-day holding time and within 48 hours of extraction.

All ICV/CCVs were within 90-110% of the true values. The ICB/CCBs were below the instrument reporting limit of 0.1 mg/L formate. The procedure blank was less than the MDL and the laboratory control limits were within 20% of the true value. The sample and sample duplicate were non-detects; therefore, the RPD was 0%. The matrix spike was within 75-125% recovery.

**"I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the laboratory manager or his/her designee, as verified by the following signature. This report shall not be reproduced except in full without the written approval of SwRI."**



---

Group Leader

09/04/15

---

Date

000004

**SOUTHWEST RESEARCH INSTITUTE**  
**CLIENT: CH2M Hill Plateau Remediation**  
**Company**  
**TASK ORDER(s): 150807-12**  
**SRR: 55929**  
**SDG: 579621**  
**CASE: F15-048**  
**VTSR: 08.07.15**  
**PROJECT#: 20859.01.00X**

**SAMPLE RECEIPT, TASK ORDER**  
**&**  
**CHAIN OF CUSTODY**

000005

Sample Receipt

Southwest Research Institute

VTSR: 08/07/15

Time: 08:30:00

Project: 20859.01.00X

Sample Receipt Number: 55929

Revision: 1

Manager: SPIES, RADONNA

Case #: 303757

This Receipt was Revised 09/09/2015

Logged in by: SDOUGLAS

Client: CH2M Hill Plateau Remediation Company

Creation Date: 08/07/15

Notes

Samples were received intact. (wet ice)

Fed Ex Tracking #:

774217453831 - 1.2 °C

774226406510 - 1.5 °C

774225375842 - 1.5 °C

Parameters: Analysis/located on Task Order.

See chain-of-custody as part of the SRR system for more information.

Phases:

001 - admin

006 - wetchem

REVISION 1, DRmz 09/09/15: SRR revised to change the project number to 20859.01.00X from 20933.01.006. At the time project 20859 was provided to the labs, all work associated with the samples under Sample Receipt 55929 was all complete. Majority of the data will still reference 20933.

Background CPM: <100 cpm  
 Container Wipe CPM: <100 cpm  
 Total CPM: <100

System ID	Customer ID	CED	Matrix	Containers	Special Reqs.
579621	B32D16	08/06/15	Soil	1	
579622	B32D19	08/06/15	Soil	1	
579623	B32D22	08/06/15	Soil	1	
579624	B32D25	08/06/15	Soil	1	
579625	B32D28	08/06/15	Soil	1	
579626	B32D31	08/06/15	Soil	1	
579627	B32D34	08/06/15	Soil	1	
579628	B32D37	08/06/15	Soil	1	
579629	B32D40	08/06/15	Soil	1	
579630	B32D43	08/06/15	Soil	1	
579631	B32D46	08/06/15	Soil	1	
579632	B32D49	08/06/15	Soil	1	
579633	B32D52	08/06/15	Soil	1	
579634	B32D55	08/06/15	Soil	1	
579635	B32D58	08/06/15	Soil	1	
579636	B32D61	08/06/15	Soil	1	
579637	B32D64	08/06/15	Soil	1	
579638	B32D67	08/06/15	Soil	1	
579639	B32D70	08/06/15	Soil	1	
579640	B32D73	08/06/15	Soil	1	
579641	B32D76	08/06/15	Soil	1	
579642	B32DK9	08/06/15	Soil	1	
579643	B32DL0	08/06/15	Soil	1	
579644	B32F19	08/06/15	Soil	1	
579645	B32F22	08/06/15	Soil	1	

55929 CH2M Hill Plateau Remediation

000006

### Sample Receipt

Southwest Research Institute

VTSR: 08/07/15

Time: 08:30:00

Project: 20859.01.00X  
Case #: 303757  
Client: CH2M Hill Plateau Remediation Company

Sample Receipt Number: 55929  
Revision: 1

*This Receipt was Revised 09/09/2015*

Manager: SPIES, RADONNA  
Logged in by: SDOUGLAS  
Creation Date: 08/07/15

System ID	Customer ID	CED	Matrix	Containers	Special Reqs.
579646	B32F25	08/06/15	Soil	1	
579647	B32F28	08/06/15	Soil	1	
579648	B32F31	08/06/15	Soil	1	

Containers: 28

Samples: 28

These documents are associated with this receipt: 184038[COC for SRR 55929], 184039[SRR Paperwork for SRR 55929]

Thermometer: 021056  
Temperature: 1.2

55929 CH2M Hill Plateau Remediation

# Laboratory Task Order

000007

TO #: 150807-12 Revision: 1

Project(s): 20859.01.00X  
 Manager(s): SPIES, RADONNA  
 To Client: 09/03/15

SDG: 579621  
 VTSR: 08/07/15  
 CASE: F15-048

SRR #s: 55929  
 Client(s): CH2M Hill Plateau Remediation Company

### Instructions

CH2M Hill Plateau Remediation Company (CHPRC) SAF No.: F15-048. COA 303757

SDG is 579621. SDG IS CLOSED.

30-day TAT. Using 27-day TAT for Report/EDD  
 FINAL DATA/HARDCOPY IS DUE TO THE CLIENT ON 09/06/15.

28 overall SOIL samples (28 containers) were received on 08/07/15.  
 OUT of the 28 samples, ONLY 20 are listed on this Task Order.

MS/MSD \_ Select a sample with sufficient volume.

9056 \_ Anions \_ Formate

See Section 4.3.3 Detection Limits  
 See Section 4.3.4 Reporting Limits  
 See Section 6.3.3 Quality Control (QC)  
 See Section 7.2.3 Final Data Package Requirements

Qualifier flags shall be based on those defined in the most current version of CP-15383, Common Requirements of the Format for Electronic Analytical Data (FEAD), (available at: <http://www.hanford.gov/docs/epp/library/programdocs/CP-15383.pdf>) (FEAD). Additional flags may also be applied as long as their use has been approved by both the Contractor and POC.  
 See Section 7.3 Electronic Data Deliverables

Contact:

David Todak, David\_Todak@rl.gov  
 Office: 509-376-6427, Cell: 509 947-1305  
 CHPRC Sample Management Office

REVISION 1, DRmz 09/09/15: SRR revised to change the project number to 20859.01.00X from 20933.01.006. At the time project 20859 was provided to the labs, all work associated with the samples under Sample Receipt 55929 was all complete. Majority of the data will still reference 20933.

Documents Related to this task order: 184038[COC for SRR 55929], 184039[SRR Paperwork for SRR 55929]

Deliverables --> Hard Copy: no EDD: -YES- PDF: -YES-

Test: IC-9056

Holding: 28 days from CED

Section: WETCHEM

IC Method 9056 - Formate

Cnt: 20

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
579621		1	Soil	B32D16	06 Aug 15	03 Sep 15
579622		1	Soil	B32D19	06 Aug 15	03 Sep 15
579623		1	Soil	B32D22	06 Aug 15	03 Sep 15
579624		1	Soil	B32D25	06 Aug 15	03 Sep 15
579625		1	Soil	B32D28	06 Aug 15	03 Sep 15
579626		1	Soil	B32D31	06 Aug 15	03 Sep 15
579627		1	Soil	B32D34	06 Aug 15	03 Sep 15
579628		1	Soil	B32D37	06 Aug 15	03 Sep 15
579629		1	Soil	B32D40	06 Aug 15	03 Sep 15
579630		1	Soil	B32D43	06 Aug 15	03 Sep 15
579631		1	Soil	B32D46	06 Aug 15	03 Sep 15
579632		1	Soil	B32D49	06 Aug 15	03 Sep 15
579633		1	Soil	B32D52	06 Aug 15	03 Sep 15
579634		1	Soil	B32D55	06 Aug 15	03 Sep 15
579635		1	Soil	B32D58	06 Aug 15	03 Sep 15
579636		1	Soil	B32D61	06 Aug 15	03 Sep 15

# Laboratory Task Order

000008

TO #: 150807-12 Revision: 1

Project(s): 20859.01.00X  
Manager(s): SPIES, RADONNA  
To Client: 09/03/15

SDG: 579621  
VTSR: 08/07/15  
CASE: F15-048

SRR #'s: 55929  
Client(s): CH2M Hill Plateau Remediation Company

System ID	Type	Cont	Matrix	Customer ID	CED	Method Date
579637		1	Soil	B32D64	06 Aug 15	03 Sep 15
579638		1	Soil	B32D67	06 Aug 15	03 Sep 15
579639		1	Soil	B32D70	06 Aug 15	03 Sep 15
579640		1	Soil	B32D73	06 Aug 15	03 Sep 15

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-001	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-1		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b> GWS-426		<b>FIELD LOGBOOK NO.</b> HNF-N-507-2-71	<b>ACTUAL SAMPLE DEPTH</b> 0-12"	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b> 5869		<b>BILL OF LADING/AIR BILL NO.</b> 7742 2640 6510		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C			
		<b>HOLDING TIME</b>	28 Days/48 Hours			
		<b>TYPE OF CONTAINER</b>	G/P			
		<b>NO. OF CONTAINER(S)</b>	1			
		<b>VOLUME</b>	250mL			
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056_ANIONS_IC: COMMON (Add-on) {Format};			
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32D16	SOIL	AUG 06 2015	0954	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 1110	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 1110	TRVL-15-136	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FedEx	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN Steven Douglas	DATE/TIME 8/7/15 0830		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929  
SwRI Project # 20933.01.006 Case: 303757  
VTSR: 08/07/15 08:30 Sample(s) Received: Intact  
Battery Check: Y Background Check: <100 cpm (Lab 103)  
Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056  
Total cpm-mR/hr (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3  
(see Radioactive Material Receiving Form for more information)

600009

<b>CH2MHill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			<b>F15-048-004</b>	<b>PAGE 1 OF 1</b>
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-2		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b> GWS-424		<b>FIELD LOGBOOK NO.</b> HNF-N-507-31.71	<b>ACTUAL SAMPLE DEPTH</b> 0-12"	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b> 58609		<b>BILL OF LADING/AIR BILL NO.</b> 7742 2640 6510		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	
		<b>HOLDING TIME</b>	28 Days/48 Hours	
		<b>TYPE OF CONTAINER</b>	G/P	
		<b>NO. OF CONTAINER(S)</b>	1	
		<b>VOLUME</b>	250mL	
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056_ANIONS_IC: COMMON (Add-on) (Formate);	
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32D19	SOIL	AUG 06 2015	1022	✓

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>	<b>SPECIAL INSTRUCTIONS</b>
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015	RECEIVED BY/STORED IN E.L. Kauer	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015	RECEIVED BY/STORED IN CHPRC	
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME AUG 06 2015	RECEIVED BY/STORED IN FEDEX	
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN [Signature]	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

000010

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-007	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-3		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	30 Days / 30 Days
<b>ICE CHEST NO.</b> GWS-426		<b>FIELD LOGBOOK NO.</b> HNF-N-507-3171	<b>ACTUAL SAMPLE DEPTH</b> 0-12"	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b> 5869		<b>BILL OF LADING/AIR BILL NO.</b> 7742 2640 6510		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C			
		<b>HOLDING TIME</b>	28 Days/48 Hours			
		<b>TYPE OF CONTAINER</b>	G/P			
		<b>NO. OF CONTAINER(S)</b>	1			
		<b>VOLUME</b>	250mL			
		<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	<b>SAMPLE ANALYSIS</b>	9056_ANIONS_IC: COMMON (Add-on) (Formate);		
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32D22	SOIL	AUG 06 2015	0940	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 1110	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 1110	TRVL-15-136	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FedEx	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN FEDEX	DATE/TIME 8/7/15 0830		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929  
 SwRI Project # 20933.01.006 Case: 303757  
 VTSR: 08/07/15 08:30 Sample(s) Received: Intact  
 Battery Check: Y Background Check: <100 cpm (Lab 103)  
 Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056  
 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3  
 (see Radioactive Material Receiving Form for more information)

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

000011

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-010	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-4		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GLS-320		FIELD LOGBOOK NO. HNF-N-507-31-67	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS ORIGINAL	
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO. 5868		BILL OF LADING/AIR BILL NO. 7742 2537 5842		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C
		HOLDING TIME	28 Days/48 Hours
		TYPE OF CONTAINER	G/P
		NO. OF CONTAINER(S)	1
		VOLUME	250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b> 9056 ANIONS_ IC: COMMON (Add-on) (Formate);	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B32D25	SOIL	AUG 0 5 2015	1148 ✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)	
F.M. Hall/CHPRC	AUG 0 5 2015 1412	SSU-1	AUG 0 5 2015 1412		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
SSU-1	AUG 0 6 2015 0805	E.L. Kauer	AUG 0 6 2015 0805		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
E.L. Kauer	AUG 0 6 2015 1400	CHPRC	AUG 0 6 2015 0805		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
Fed Ex	8/7/15 0830	FEDEX	8/7/15 0830		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

000012

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-013	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-5		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. 605-320		FIELD LOGBOOK NO. HNF-N-507-31.71	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO. 5868		BILL OF LADING/AIR BILL NO. 7742 25375842		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	
		<b>HOLDING TIME</b>	28 Days/48 Hours	
		<b>TYPE OF CONTAINER</b>	G/P	
		<b>NO. OF CONTAINER(S)</b>	1	
		<b>VOLUME</b>	250mL	
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A	<b>SAMPLE ANALYSIS</b>	9056 ANIONS IC: COMMON (Add-on) (Formate);
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32D28	SOIL	AUG 06 2015	0830	✓

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>
RELINQUISHED BY/REMOVED FROM E.M. Hall/CHPRC	DATE/TIME AUG 06 2015 643	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 643	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME	
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN FEDEX	DATE/TIME 8/7/15 0830	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

000013

<b>CH2MHill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			<b>F15-048-016</b>	<b>PAGE 1 OF 1</b>
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-6		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b> GWS-320		<b>FIELD LOGBOOK NO.</b> HNF-N-507-31.71	<b>ACTUAL SAMPLE DEPTH</b> 0-12"	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b> 5868		<b>BILL OF LADING/AIR BILL NO.</b> 7742 2537 5842		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	
		<b>HOLDING TIME</b>	28 Days/48 Hours	
		<b>TYPE OF CONTAINER</b>	G/P	
		<b>NO. OF CONTAINER(S)</b>	1	
		<b>VOLUME</b>	250mL	
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056 ANIONS IC: COMMON (Add-on) (Formate);	
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32D31	SOIL	AUG 06 2015	0905	✓

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>	<b>SPECIAL INSTRUCTIONS</b>
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0930	RECEIVED BY/STORED IN E.L. Kauer	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN FEDEX	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

000014

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-019	PAGE 1 OF 1
COLLECTOR F.M. HalvCHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION FS-1 Closure Confirmation: 1-7		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	30 Days / 30 Days
ICE CHEST NO. 605-320		FIELD LOGBOOK NO. HNF-N-507-31-71	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS ORIGINAL	
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO. 5868		BILL OF LADING/AIR BILL NO. 7742 25375842		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C			
		HOLDING TIME	28 Days/48 Hours			
		TYPE OF CONTAINER	G/P			
		NO. OF CONTAINER(S)	1			
		VOLUME	250mL			
SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS	9056_ANTONS_IC: COMMON (Add-on) (Formate);			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B32D34	SOIL	AUG 06 2015	0822	✓		

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. HalvCHPRC	DATE/TIME AUG 06 2015 0830	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0830	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 06 2015 0830		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN FEDEX	DATE/TIME 8/7/15 0830		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

000015

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-022	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-8		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	<b>30 Days / 30 Days</b>
<b>ICE CHEST NO.</b> 6WS-320		<b>FIELD LOGBOOK NO.</b> HNF-N-507-31.71	<b>ACTUAL SAMPLE DEPTH</b> 0-12"	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS	<b>ORIGINAL</b>
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b> 5868		<b>BILL OF LADING/AIR BILL NO.</b> 7742 2537 5842		
<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C			
		<b>HOLDING TIME</b>	28 Days/48 Hours			
		<b>TYPE OF CONTAINER</b>	G/P			
		<b>NO. OF CONTAINER(S)</b>	1			
		<b>VOLUME</b>	250mL			
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A		<b>SAMPLE ANALYSIS</b>		9056_ANIONS_ IC: COMMON (Add-on) {Formate};
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>			
B32D37	SOIL	AUG 06 2015	0838			✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)	
F.M. Hall/CHPRC	AUG 06 2015 0930	E.L. Kauer	AUG 06 2015 0930		
E.L. Kauer	AUG 06 2015 1461	CHPRC			
FEDEX	8/7/15 0830	FEDEX			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>		<b>DATE/TIME</b>	
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>		<b>DATE/TIME</b>	

000016

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-025	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-9		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. 665-320		FIELD LOGBOOK NO. HNF-N-507-31-71	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO. 5868		BILL OF LADING/AIR BILL NO. 7742 2537 5842		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	
		HOLDING TIME	28 Days/48 Hours	
		TYPE OF CONTAINER	G/P	
		NO. OF CONTAINER(S)	1	
		VOLUME	250mL	
	<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A	<b>SAMPLE ANALYSIS</b> 9056_ANTONS_ IC: COMMON (Add-on) {Formate};		
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B32D40	SOIL	AUG 06 2015	0733	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0930	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0930	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN	DATE/TIME 8/7/15 0830		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

000017

<b>CH2M Hill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			<b>F15-048-028</b>	<b>PAGE 1 OF 1</b>
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-10		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	<b>30 Days / 30 Days</b>
<b>ICE CHEST NO.</b> GWS-320		<b>FIELD LOGBOOK NO.</b> HNF-N-507-31.71	<b>ACTUAL SAMPLE DEPTH</b> 0-12"	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b> 5868		<b>BILL OF LADING/AIR BILL NO.</b> 7742 25375842		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	
		<b>HOLDING TIME</b>	28 Days/48 Hours	
		<b>TYPE OF CONTAINER</b>	G/P	
		<b>NO. OF CONTAINER(S)</b>	1	
		<b>VOLUME</b>	250mL	
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056_ANTONS_IC: COMMON (Add-on) (Formate);	
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32D43	SOIL	AUG 06 2015	0810	✓

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>	<b>SPECIAL INSTRUCTIONS</b>
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 06 2015 0930	RECEIVED BY/STORED IN E.L. Kauer	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN FEDEX	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

000018

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>7510</b>			F15-048-031	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-11		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b> <b>GWS-320</b>		<b>FIELD LOGBOOK NO.</b> <b>HNF-N-507-31-71</b>	<b>ACTUAL SAMPLE DEPTH</b> <b>0-12"</b>	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b> <b>5868</b>		<b>BILL OF LADING/AIR BILL NO.</b> <b>7742 2537 5842</b>		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C
		<b>HOLDING TIME</b>	28 Days/48 Hours
		<b>TYPE OF CONTAINER</b>	G/P
		<b>NO. OF CONTAINER(S)</b>	1
		<b>VOLUME</b>	250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056_ANIONS_IC: COMMON (Add-on) (Formate);
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32D46	SOIL	AUG 06 2015	0715 ✓

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)
F.M. Hall/CHPRC	AUG 06 2015	E.L. Kauer	AUG 06 2015	
E.L. Kauer	AUG 06 2015	CHPRC		
CHPRC	8/7/15	FEDEX	0830	
FEDEX	0830			

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

000019

<b>CH2MHill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			<b>F15-048-034</b>	<b>PAGE 1 OF 1</b>
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-12		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	<b>30 Days / 30 Days</b>
<b>ICE CHEST NO.</b> GWS-320		<b>FIELD LOGBOOK NO.</b> HNF-N-507-31-67	<b>ACTUAL SAMPLE DEPTH</b> 0-12"	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b> 5868		<b>BILL OF LADING/AIR BILL NO.</b> 7742 2537 5842		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C
		<b>HOLDING TIME</b>	28 Days/48 Hours
		<b>TYPE OF CONTAINER</b>	G/P
		<b>NO. OF CONTAINER(S)</b>	1
		<b>VOLUME</b>	250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056 ANIONS, IC: COMMON (Add-on) (Format);
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32D49	SOIL	AUG 05 2015	1347 ✓

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>
<b>RELINQUISHED BY/REMOVED FROM</b> F.M. Hall/CHPRC	<b>DATE/TIME</b> AUG 05 2015 1412	<b>RECEIVED BY/STORED IN</b> SSU-1	<b>DATE/TIME</b> AUG 05 2015 1412	<b>TRVL-15-136</b>  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)
<b>RELINQUISHED BY/REMOVED FROM</b> SSU-1	<b>DATE/TIME</b> AUG 06 2015 0805	<b>RECEIVED BY/STORED IN</b> E.L. Kauer	<b>DATE/TIME</b> AUG 06 2015 0805	
<b>RELINQUISHED BY/REMOVED FROM</b> CHPRC	<b>DATE/TIME</b> AUG 06 2015 1400	<b>RECEIVED BY/STORED IN</b> FEDEX	<b>DATE/TIME</b>	
<b>RELINQUISHED BY/REMOVED FROM</b> FEDEX	<b>DATE/TIME</b> 8/7/15 0830	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b> 8/7/15 0830	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

000020

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-037	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION FS-1 Closure Confirmation: 1-13		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	30 Days / 30 Days
ICE CHEST NO. GWS-320		FIELD LOGBOOK NO. HNF-N-507-31-67	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS ORIGINAL	
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO. 5860		BILL OF LADING/AIR BILL NO. 7742 2537 5842		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	
		HOLDING TIME	28 Days/48 Hours	
		TYPE OF CONTAINER	G/P	
		NO. OF CONTAINER(S)	1	
		VOLUME	250mL	
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		SAMPLE ANALYSIS	9056_ANIONS_IC_COMMON (Add-on) (Formate);	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B32D52	SOIL	AUG 05 2015	1322	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)
F.M. Hall/CHPRC	AUG 05 2015 1412	SSU-1	AUG 05 2015 1412	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
SSU-1	AUG 06 2015 0805	E.L. Kauer	AUG 06 2015 0805	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
E.L. Kauer	AUG 06 2015 1400	CHPRC	AUG 06 2015 0805	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
FEDEX	8/7/15 0830	FEDEX	8/7/15 0830	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

000021

<b>CH2MHill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			<b>F15-048-040</b>	<b>PAGE 1 OF 1</b>
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b> 30 Days / 30 Days
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-13 Duplicate		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	
<b>ICE CHEST NO.</b> GWS-320		<b>FIELD LOGBOOK NO.</b> HNF-N-507-31-67	<b>ACTUAL SAMPLE DEPTH</b> 0-12"	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b> 5868		<b>BILL OF LADING/AIR BILL NO.</b> 7742 2537 5842		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C
		<b>HOLDING TIME</b>	28 Days/48 Hours
		<b>TYPE OF CONTAINER</b>	G/P
		<b>NO. OF CONTAINER(S)</b>	1
		<b>VOLUME</b>	250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056_ANIONS_IC: COMMON (Add-on) {Format};
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32D55	SOIL	AUG 05 2015	1322 ✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0830	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 06 2015 0830
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN FEDEX	DATE/TIME AUG 07 2015 0830
RELINQUISHED BY/REMOVED FROM CHPRC	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN [Signature]	DATE/TIME 8/7/15 830
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

<b>SPECIAL INSTRUCTIONS</b> TRVL-15-136
Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

000022

<b>CH2MHill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			<b>F15-048-043</b>	<b>PAGE 1 OF 1</b>
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-14		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	<b>30 Days / 30 Days</b>
<b>ICE CHEST NO.</b> 6WS-320		<b>FIELD LOGBOOK NO.</b> HNF -N-507-31-67	<b>ACTUAL SAMPLE DEPTH</b> 0-12"	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b> 58608		<b>BILL OF LADING/AIR BILL NO.</b> 7742 2537 5842		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	
		<b>HOLDING TIME</b>	28 Days/48 Hours	
		<b>TYPE OF CONTAINER</b>	G/P	
		<b>NO. OF CONTAINER(S)</b>	1	
		<b>VOLUME</b>	250mL	
	<b>SPECIAL HANDLING AND/OR STORAGE</b>	N/A	<b>SAMPLE ANALYSIS</b>	9056 ANIONS, IC: COMMON (Add-on) (Formate);
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32D58	SOIL	AUG 05 2015	1251	✓

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	<b>TRVL-15-136</b>  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)
F.M. Hall/CHPRC	AUG 05 2015 1412	SSU-1	AUG 05 2015 1412	
SSU-1	AUG 06 2015 2805	E.L. Kauer	AUG 06 2015 2805	
E.L. Kauer	AUG 06 2015 1400	CHPRC		
CHPRC		FEDEX		
FEDEX	8/7/15 0830		8/7/15 0830	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

000023

CH2MHill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-046	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND
SAMPLING LOCATION FS-1 Closure Confirmation: 1-15		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	30 Days / 30 Days
ICE CHEST NO. GWS-320		FIELD LOGBOOK NO. HNF-N-507-31-67	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS ORIGINAL	
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO. 5868		BILL OF LADING/AIR BILL NO. 7742 2537 5842		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION		Cool <=6C
		HOLDING TIME		28 Days/48 Hours
		TYPE OF CONTAINER		G/P
		NO. OF CONTAINER(S)		1
		VOLUME		250mL
SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS		9056_ANIONS_IC: COMMON (Add-on) {Format};
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B32D61	SOIL	AUG 05 2015	1235	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1412	RECEIVED BY/STORED IN SSU-1	DATE/TIME AUG 05 2015 1412	TRVL-15-136	
RELINQUISHED BY/REMOVED FROM SSU-1	DATE/TIME AUG 06 2015 0805	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 06 2015 0805	Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 06 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FedEx	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN FEDEX	DATE/TIME 8/7/15 0830		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

<b>CH2MHill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			<b>F15-048-049</b>	<b>PAGE 1 OF 1</b>
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-16		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	<b>30 Days / 30 Days</b>
<b>ICE CHEST NO.</b> 665-320		<b>FIELD LOGBOOK NO.</b> HNF-N-507-31-67	<b>ACTUAL SAMPLE DEPTH</b> 0-12"	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b> 5868		<b>BILL OF LADING/AIR BILL NO.</b> 7742 2537 5842		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C	
		<b>HOLDING TIME</b>	28 Days/48 Hours	
		<b>TYPE OF CONTAINER</b>	G/P	
		<b>NO. OF CONTAINER(S)</b>	1	
		<b>VOLUME</b>	250mL	
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056_ANTONS_IC: COMMON (Add-on) (Format);	
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>	
B32D64	SOIL	AUG 05 2015	1223	✓

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>
<b>RELINQUISHED BY/REMOVED FROM</b> F.M. Hall/CHPRC	<b>DATE/TIME</b> AUG 05 2015 1412	<b>RECEIVED BY/STORED IN</b> SSU-1	<b>DATE/TIME</b> AUG 05 2015 1412	<b>TRVL-15-136</b>  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)
<b>RELINQUISHED BY/REMOVED FROM</b> SSU-1	<b>DATE/TIME</b> AUG 06 2015 0805	<b>RECEIVED BY/STORED IN</b> E.L. Kauer	<b>DATE/TIME</b> AUG 06 2015 0805	
<b>RELINQUISHED BY/REMOVED FROM</b> CHPRC	<b>DATE/TIME</b> AUG 06 2015 1400	<b>RECEIVED BY/STORED IN</b> CHPRC	<b>DATE/TIME</b>	
<b>RELINQUISHED BY/REMOVED FROM</b> FedEx	<b>DATE/TIME</b> 8/7/15 0830	<b>RECEIVED BY/STORED IN</b> FEDEX	<b>DATE/TIME</b> 8/7/15 0830	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	
<b>RELINQUISHED BY/REMOVED FROM</b>	<b>DATE/TIME</b>	<b>RECEIVED BY/STORED IN</b>	<b>DATE/TIME</b>	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b>	<b>TITLE</b>	<b>DATE/TIME</b>
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

000025

<b>CH2MHill Plateau Remediation Company</b>		<b>CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST</b>			<b>F15-048-052</b>	<b>PAGE 1 OF 1</b>
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-17		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	<b>30 Days / 30 Days</b>
<b>ICE CHEST NO.</b> 605-440		<b>FIELD LOGBOOK NO.</b> HNF-N-507-21-67	<b>ACTUAL SAMPLE DEPTH</b> 0-12"	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b> 5859		<b>BILL OF LADING/AIR BILL NO.</b> 774217453831		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C
		<b>HOLDING TIME</b>	28 Days/48 Hours
		<b>TYPE OF CONTAINER</b>	G/P
		<b>NO. OF CONTAINER(S)</b>	1
		<b>VOLUME</b>	250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056_ANIONS_1C: COMMON (Add-on) (Formate);
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32D67	SOIL	AUG 05 2015	1129 ✓

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>		<b>SPECIAL INSTRUCTIONS</b>	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1140	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 05 2015 1140	<b>TRVL-15-136</b>  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 05 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME AUG 05 2015 1140		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN FEDEX	DATE/TIME 8/7/15 0830		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b> Art Arguello / ART ARGUELLO	<b>TITLE</b> SENIOR TECHNICIAN	<b>DATE/TIME</b> 8.7.15 / 0845		
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>		

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F15-048-055	PAGE 1 OF 1
COLLECTOR F.M. Hall/CHPRC		COMPANY CONTACT TODAK, D	TELEPHONE NO. 376-6427	PROJECT COORDINATOR TODAK, D	PRICE CODE 8H	DATA TURNAROUND 30 Days / 30 Days
SAMPLING LOCATION FS-1 Closure Confirmation: 1-18		PROJECT DESIGNATION FS-1 Outdoor Container Storage Area - Soil Samples		SAF NO. F15-048	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GWS-440		FIELD LOGBOOK NO. HNF-N-507-31-67	ACTUAL SAMPLE DEPTH 0-12"	COA 303757	METHOD OF SHIPMENT FEDERAL EXPRESS	ORIGINAL
SHIPPED TO Southwest Research Institute		OFFSITE PROPERTY NO. 5859		BILL OF LADING/AIR BILL NO. 7742 1745 3831		

MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS *Contains Radioactive Material at concentrations that are not be regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	PRESERVATION	Cool <=6C	
		HOLDING TIME	28 Days/48 Hours	
		TYPE OF CONTAINER	G/P	
		NO. OF CONTAINER(S)	1	
		VOLUME	250mL	
SPECIAL HANDLING AND/OR STORAGE N/A		SAMPLE ANALYSIS	9056_ANIONS, IC: COMMON (Add-on) {Format};	
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B32D70	SOIL	AUG 05 2015	1043	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1140	RECEIVED BY/STORED IN E.L. Kauer	DATE/TIME AUG 05 2015 1140	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)	
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 05 2015 1400	RECEIVED BY/STORED IN CHPRC	DATE/TIME		
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN FEDEX	DATE/TIME 8/7/15 0830		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY Art Arguella / ART ARGUELLO	TITLE SENIOR TECHNICIAN	DATE/TIME 08.7.15 / 0845		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		

000027

CH2M Hill Plateau Remediation Company		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST <b>19103</b>			F15-048-058	PAGE 1 OF 1
<b>COLLECTOR</b> F.M. Hall/CHPRC		<b>COMPANY CONTACT</b> TODAK, D	<b>TELEPHONE NO.</b> 376-6427	<b>PROJECT COORDINATOR</b> TODAK, D	<b>PRICE CODE</b> 8H	<b>DATA TURNAROUND</b>
<b>SAMPLING LOCATION</b> FS-1 Closure Confirmation: 1-19		<b>PROJECT DESIGNATION</b> FS-1 Outdoor Container Storage Area - Soil Samples		<b>SAF NO.</b> F15-048	<b>AIR QUALITY</b> <input type="checkbox"/>	<b>30 Days / 30 Days</b>
<b>ICE CHEST NO.</b> 6605-440		<b>FIELD LOGBOOK NO.</b> HNF-N-507-31-67	<b>ACTUAL SAMPLE DEPTH</b> 0-12"	<b>COA</b> 303757	<b>METHOD OF SHIPMENT</b> FEDERAL EXPRESS <b>ORIGINAL</b>	
<b>SHIPPED TO</b> Southwest Research Institute		<b>OFFSITE PROPERTY NO.</b> 5859		<b>BILL OF LADING/AIR BILL NO.</b> 7742 1745 3831		

<b>MATRIX*</b> A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	<b>POSSIBLE SAMPLE HAZARDS/ REMARKS</b> *Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR/IATA Dangerous Goods Regulations but are not releasable per DOE Order 458.1.	<b>PRESERVATION</b>	Cool <=6C
		<b>HOLDING TIME</b>	28 Days/48 Hours
		<b>TYPE OF CONTAINER</b>	G/P
		<b>NO. OF CONTAINER(S)</b>	1
		<b>VOLUME</b>	250mL
<b>SPECIAL HANDLING AND/OR STORAGE</b> N/A		<b>SAMPLE ANALYSIS</b>	9056_ANIONS_IC: COMMON (Add-on) (Formate);
<b>SAMPLE NO.</b>	<b>MATRIX*</b>	<b>SAMPLE DATE</b>	<b>SAMPLE TIME</b>
B32D73	SOIL	AUG 05 2015	0830 ✓

0957 26.815/15

<b>CHAIN OF POSSESSION</b>		<b>SIGN/ PRINT NAMES</b>	<b>SPECIAL INSTRUCTIONS</b>
RELINQUISHED BY/REMOVED FROM F.M. Hall/CHPRC	DATE/TIME AUG 05 2015 1140	RECEIVED BY/STORED IN E.L. Kauer	TRVL-15-136  Client: CH2M Hill Plateau Remediation Company SwRI SRR #55929 SwRI Project # 20933.01.006 Case: 303757 VTSR: 08/07/15 08:30 Sample(s) Received: Intact Battery Check: Y Background Check: <100 cpm (Lab 103) Cooler/Container Wipe: <100 cpm Temp.: 1.2 °C (wet ice) / SN # 021056 Total cpm-mR/h (samples): <100 cpm; <0.5 mR/hr Wipe Frisk Description: Cooler(s) - 3 (see Radioactive Material Receiving Form for more information)
RELINQUISHED BY/REMOVED FROM E.L. Kauer	DATE/TIME AUG 05 2015 1400	RECEIVED BY/STORED IN CHPRC	
RELINQUISHED BY/REMOVED FROM FEDEX	DATE/TIME 8/7/15 0830	RECEIVED BY/STORED IN FEDEX	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	

<b>LABORATORY SECTION</b>	<b>RECEIVED BY</b> Art Arguello	<b>TITLE</b> SENIOR TECNICIAN	<b>DATE/TIME</b> 8.7.15/0845
<b>FINAL SAMPLE DISPOSITION</b>	<b>DISPOSAL METHOD</b>	<b>DISPOSED BY</b>	<b>DATE/TIME</b>

000028



Sample Custodian Signature: \_\_\_\_\_

- 1. Custody Seal Present
- 2. Chain of Custody Present
- 3. Sample Tags Not Present  
Sample Tag Numbers Not on COC
- 4. SMO Forms Not Present

Client: CH2M Hill Plateau Remediation Company  
 Project: 20933.01.006  
 Case: 303757 / SDG: \_\_\_\_\_  
 Sample Receipt: 55929  
 Airbill: 774217453831, 774226406510, 774225375842

Custody Seal #(s): N/A

Date Received	Time Received	COC Record	SMO Sample #	Corresponding		Traffic Rpt, Tags, COC Agree	Sample Condition
				Sample Tag #	SwRI #		
08/07/15	08:30:00	F15-048-001	B32D16	N/A	579621	YES	Intact
08/07/15	08:30:00	F15-048-004	B32D19	N/A	579622	YES	Intact
08/07/15	08:30:00	F15-048-007	B32D22	N/A	579623	YES	Intact
08/07/15	08:30:00	F15-048-010	B32D25	N/A	579624	YES	Intact
08/07/15	08:30:00	F15-048-013	B32D28	N/A	579625	YES	Intact
08/07/15	08:30:00	F15-048-016	B32D31	N/A	579626	YES	Intact
08/07/15	08:30:00	F15-048-019	B32D34	N/A	579627	YES	Intact
08/07/15	08:30:00	F15-048-022	B32D37	N/A	579628	YES	Intact
08/07/15	08:30:00	F15-048-025	B32D40	N/A	579629	YES	Intact
08/07/15	08:30:00	F15-048-028	B32D43	N/A	579630	YES	Intact
08/07/15	08:30:00	F15-048-031	B32D46	N/A	579631	YES	Intact
08/07/15	08:30:00	F15-048-034	B32D49	N/A	579632	YES	Intact
08/07/15	08:30:00	F15-048-037	B32D52	N/A	579633	YES	Intact
08/07/15	08:30:00	F15-048-040	B32D55	N/A	579634	YES	Intact
08/07/15	08:30:00	F15-048-043	B32D58	N/A	579635	YES	Intact
08/07/15	08:30:00	F15-048-046	B32D61	N/A	579636	YES	Intact
08/07/15	08:30:00	F15-048-049	B32D64	N/A	579637	YES	Intact
08/07/15	08:30:00	F15-048-052	B32D67	N/A	579638	YES	Intact
08/07/15	08:30:00	F15-048-055	B32D70	N/A	579639	YES	Intact
08/07/15	08:30:00	F15-048-058	B32D73	N/A	579640	YES	Intact
08/07/15	08:30:00	F15-048-061	B32D76	N/A	579641	YES	Intact
08/07/15	08:30:00	F15-048-064	B32DK9	N/A	579642	YES	Intact
08/07/15	08:30:00	F15-048-065	B32DL0	N/A	579643	YES	Intact
08/07/15	08:30:00	F15-048-070	B32F19	N/A	579644	YES	Intact
08/07/15	08:30:00	F15-048-073	B32F22	N/A	579645	YES	Intact
08/07/15	08:30:00	F15-048-076	B32F25	N/A	579646	YES	Intact
08/07/15	08:30:00	F15-048-079	B32F28	N/A	579647	YES	Intact
08/07/15	08:30:00	F15-048-082	B32F31	N/A	579648	YES	Intact

Lab Name Southwest Research Institute		Page 1 of 2	
Received By (Print Name) STEVEN DOUGLAS		Log-in Date 08/07/2015	
Received By (Signature) <i>[Signature]</i>			
Case Number 303757	Sample Delivery Group No. NA	SAS Number NA	
Remarks: 20933.01.006			
	EPA Sample #	Corresponding Sample Tag #	Assigned Lab #
1. Custody Seal(s)	<input checked="" type="checkbox"/> Present / <input type="checkbox"/> Absent* <input checked="" type="checkbox"/> Intact / <input type="checkbox"/> Broken	B32D16	N/A
2. Custody Seal Nos.	N/A	B32D19	N/A
3. Chain-of-Custody Records	<input checked="" type="checkbox"/> Present / <input type="checkbox"/> Absent*	B32D22	N/A
4. Traffic Reports or Packing Lists	Present <input checked="" type="checkbox"/> Absent	B32D25	N/A
5. Airbill	Airbill/Sticker <input checked="" type="checkbox"/> Present / <input type="checkbox"/> Absent*	B32D28	N/A
6. Airbill No.	774217453831, 774226406510, 774225375842	B32D31	N/A
7. Sample Tags	Present <input checked="" type="checkbox"/> Absent	B32D34	N/A
Sample Tag Numbers	Listed <input checked="" type="checkbox"/> Not listed on Chain of Custody	B32D37	N/A
8. Sample Condition	<input checked="" type="checkbox"/> Intact / <input type="checkbox"/> Broken* / <input type="checkbox"/> Leaking	B32D40	N/A
9. Cooler Temperature	1.2C	B32D43	N/A
10. Does Information on custody records, traffic reports, and sample tags agree?	<input checked="" type="checkbox"/> Yes / <input type="checkbox"/> No*	B32D46	N/A
11. Date Received at Lab	08/07/2015	B32D49	N/A
12. Time Received	08:30:00	B32D52	N/A
Sample Transfer		B32D55	N/A
Fraction	Fraction	B32D58	N/A
INORG		B32D61	N/A
Area #	Area #	B32D64	N/A
R.13		B32D67	N/A
By	By	B32D70	N/A
STEVEN		B32D73	N/A
On	On	B32D76	N/A
DOUGLAS		B32DK9	N/A
08/07/2015		B32DL0	N/A

\* Contact SMO and attach record of resolution

Reviewed By <i>[Signature]</i>	Logbook No. Sample Receipt (55929)
Date 08.11.15	Logbook Page No. 9174 SOC 3, 4 of 12

Lab Name Southwest Research Institute			Page 2 of 2		
Received By (Print Name) STEVEN DOUGLAS			Log-in Date 08/07/2015		
Received By (Signature) <i>[Signature]</i>					
Case Number 303757		Sample Delivery Group No. NA		SAS Number NA	
Remarks: 20933.01.006					
1. Custody Seal(s)	<input checked="" type="radio"/> Present / Absent* <input checked="" type="radio"/> Intact / Broken	EPA Sample #	Corresponding		Remarks: Condition of Sample Shipment, etc
			Sample Tag #	Assigned Lab #	
2. Custody Seal Nos.	N/A	B32F19	N/A	579644	Intact
		B32F22	N/A	579645	Intact
		B32F25	N/A	579646	Intact
3. Chain-of Custody Records	<input checked="" type="radio"/> Present / Absent*	B32F28	N/A	579647	Intact
4. Traffic Reports or Packing Lists	Present <input checked="" type="radio"/> Absent	B32F31	N/A	579648	Intact
5. Airbill	Airbill / Sticker <input checked="" type="radio"/> Present / Absent*				
6. Airbill No.	774217453831, 774226406510, 774225375842				
7. Sample Tags	Present <input checked="" type="radio"/> Absent				
Sample Tag Numbers	Listed <input checked="" type="radio"/> Not listed on Chain of Custody				
8. Sample Condition	<input checked="" type="radio"/> Intact / Broken* / Leaking				
9. Cooler Temperature	1.2C				
10. Does Information on custody records, traffic reports, and sample tags agree?	<input checked="" type="radio"/> Yes / No*				
11. Date Received at Lab	08/07/2015				
12. Time Received	08:30:00				
Sample Transfer					
Fraction	Fraction				
Area #	Area #				
By	By				
On	On				

\* Contact SMO and attach record of resolution

Reviewed By <i>[Signature]</i>	Logbook No Sample Receipt (55929)
Date 8.11.15	Logbook Page No. 9174 SEC 3, 4 of 12

0:0001

**SOUTHWEST RESEARCH INSTITUTE**  
**CLIENT: CH2M Hill Plateau Remediation**  
**Company**  
**TASK ORDER(s): 150807-12**  
**SRR: 55929**  
**SDG: 579621**  
**CASE: F15-048**  
**VTSR: 08.07.15**  
**PROJECT#: 20859.01.00X**

## **WETCHEM ANALYSIS**

010002

**SOUTHWEST RESEARCH INSTITUTE**  
**CLIENT: CH2M Hill Plateau Remediation**  
**Company**  
**TASK ORDER(s): 150807-12**  
**SRR: 55929**  
**SDG: 579621**  
**CASE: F15-048**  
**VTSR: 08.07.15**  
**PROJECT#: 20859.01.00X**

## **SAMPLE DATA**

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report  
Cover Page

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12

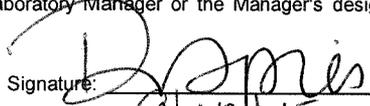
SDG: 579621  
SRR: 55929

Case: 303757  
Project: 20933.01.006

Client Sample ID	Lab Sample ID
B32D16	579621
B32D16D	579621D
B32D16MS	579621S
B32D19	579622
B32D22	579623
B32D25	579624
B32D28	579625
B32D31	579626
B32D34	579627
B32D37	579628
B32D40	579629
B32D43	579630
B32D46	579631
B32D49	579632
B32D52	579633
B32D55	579634
B32D58	579635
B32D61	579636
B32D64	579637
B32D67	579638
B32D70	579639
B32D73	579640

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and the electronic data submitted has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:  \_\_\_\_\_

Name: Radonna Spies

Date: 9/10/15

Title: Group Leader

Cover Page

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
Inorganic Analyses Data Sheet

010004

Client Sample ID

B32D16

Type: Unknown

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579621  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 96.70

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.942	U	IC1	0.942	0.942	1	20150903-A018	08/21/2015 17:28

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
Inorganic Analyses Data Sheet

010005

Client Sample ID

B32D19

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579622  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 96.03

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.905	U	IC1	0.905	0.905	1	20150903-A018	08/21/2015 18:25

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

**SOUTHWEST RESEARCH INSTITUTE**  
WetChem Report - Form I  
*Inorganic Analyses Data Sheet*

010006

Client Sample ID

**B32D22**

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579623  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 96.89

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.930	U	IC1	0.930	0.930	1	20150903-A018	08/21/2015 18:44

<b>Data Reporting Qualifiers (Qual)</b>	<b>Columns</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
Inorganic Analyses Data Sheet

010007

Client Sample ID

B32D25

Type: Unknown

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579624  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 96.35

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.970	U	IC1	0.970	0.970	1	20150903-A018	08/21/2015 19:02

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
Inorganic Analyses Data Sheet

010008

Client Sample ID

B32D28

Type: Unknown

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579625  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 96.04

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.966	U	IC1	0.966	0.966	1	20150903-A018	08/21/2015 19:21

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
*Inorganic Analyses Data Sheet*

010009

Client Sample ID

B32D31

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579626  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 96.13

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	1.01	U	IC1	1.01	1.01	1	20150903-A018	08/21/2015 19:40

<b>Data Reporting Qualifiers (Qual)</b>	<b>Columns</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
*Inorganic Analyses Data Sheet*

010010

Client Sample ID

B32D34

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579627  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 98.64

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.989	U	IC1	0.989	0.989	1	20150903-A018	08/21/2015 19:59

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
Inorganic Analyses Data Sheet

010011

Client Sample ID

B32D37

Type: Unknown

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579628  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 96.32

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.942	U	IC1	0.942	0.942	1	20150903-A018	08/21/2015 20:18

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
Inorganic Analyses Data Sheet

010012

Client Sample ID

B32D40

Type: Unknown

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579629  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 96.43

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	1.05	U	IC1	1.05	1.05	1	20150903-A018	08/21/2015 20:37

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
*Inorganic Analyses Data Sheet*

010013

Client Sample ID

B32D43

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579630  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 99.23

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.883	U	IC1	0.883	0.883	1	20150903-A018	08/21/2015 20:55

<b>Data Reporting Qualifiers (Qual)</b>	<b>Columns</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
Inorganic Analyses Data Sheet

010014

Client Sample ID

B32D46

Type: Unknown

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579631  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 97.25

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.951	U	IC1	0.951	0.951	1	20150903-A018	08/21/2015 21:14

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
Inorganic Analyses Data Sheet

010015

Client Sample ID

B32D49

Type: Unknown

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579632  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 96.01

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.977	U	IC1	0.977	0.977	1	20150903-A018	08/21/2015 22:11

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
*Inorganic Analyses Data Sheet*

010016

Client Sample ID

B32D52

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579633  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 93.76

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.925	U	IC1	0.925	0.925	1	20150903-A018	08/21/2015 22:29

<b>Data Reporting Qualifiers (Qual)</b>	<b>Columns</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
*Inorganic Analyses Data Sheet*

010017

Client Sample ID

B32D55

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579634  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 94.46

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.978	U	IC1	0.978	0.978	1	20150903-A018	08/21/2015 22:48

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
Inorganic Analyses Data Sheet

010018

Client Sample ID

B32D58

Type: Unknown

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579635  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 96.58

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	1.02	U	IC1	1.02	1.02	1	20150903-A018	08/21/2015 23:07

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

**SOUTHWEST RESEARCH INSTITUTE**  
 WetChem Report - Form I  
*Inorganic Analyses Data Sheet*

010019

Client Sample ID

**B32D61**

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
 Task Order: 150807-12  
 Lab ID: 579636  
 Result Units: mg/kg

SDG: 579621  
 SRR: 55929  
 Matrix: Soil  
 % Solids: 77.78

Case: 303757  
 Project: 20933.01.006  
 Receipt Date: 08/07/2015  
 Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	1.17	U	IC1	1.17	1.17	1	20150903-A018	08/21/2015 23:26

<b>Data Reporting Qualifiers (Qual)</b>	<b>Columns</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
Inorganic Analyses Data Sheet

010020

Client Sample ID

B32D64

Type: Unknown

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579637  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 91.01

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	1.09	U	IC1	1.09	1.09	1	20150903-A018	08/21/2015 23:45

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
*Inorganic Analyses Data Sheet*

010021

Client Sample ID

B32D67

Type: Unknown

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579638  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 90.99

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.957	U	IC1	0.957	0.957	1	20150903-A018	08/22/2015 00:03

<b>Data Reporting Qualifiers (Qual)</b>	<b>Columns</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

**SOUTHWEST RESEARCH INSTITUTE**  
WetChem Report - Form I  
*Inorganic Analyses Data Sheet*

010022

Client Sample ID

**B32D70**

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579639  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 88.73

Case: 303757  
Project: 20933.01.006  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	1.08	U	IC1	1.08	1.08	1	20150903-A018	08/22/2015 00:22

<b>Data Reporting Qualifiers (Qual)</b>	<b>Columns</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form I  
*Inorganic Analyses Data Sheet*

010023

Client Sample ID

B32D73

**Type: Unknown**

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579640  
Result Units: mg/kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 97.72

Case: 303757  
Project: 20859.01.00X  
Receipt Date: 08/07/2015  
Collection Date: 08/06/2015

CAS No.	Analyte	Result	Qual	M	RL	CRDL	DF	Prep Batch	Analysis Date/Time
64-18-6	Formic acid	0.00931	U	IC1	0.00931	0.00931	1	20150903-A019	08/25/2015 22:45

<b>Data Reporting Qualifiers (Qual)</b>	<b>Columns</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	RL - SwRI Reporting Limit	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	CRDL - Contract Req. Det. Limit	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	DF - Dilution Factor	
X - Analytical spike criteria was not met	M - Instrument	
E - Result is estimated due to interferences		
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form I-IN

010024

**SOUTHWEST RESEARCH INSTITUTE**  
WetChem Report - Form IIA

*Initial and Continuing Calibration Verification*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Result Units: mg/L  
Associated Analytical Batches: 20150903-A021

SDG: 579621  
SRR: 55929  
Initial Calibration Source: See Raw Data  
Continuing Calibration Source: See Raw Data

Case: 303757  
Project: 20933.01.006

Analyte	Initial Calibration Verification				Continuing Calibration Verification						
	True	Found	%Rec	Limit	True	Found1	%Rec	Found2	%Rec	Limit	M
Formate	10.0	9.74	97.4%	90%-110%	10.0	9.34	93.4%	9.41	94.1%	90%-110%	IC1

<b>Instruments/Methods (M)</b>
IC1 - Ion Chromatography DX 500/IC by 9056
NA - Not Applicable

SOUTHWEST RESEARCH INSTITUTE 010025  
WetChem Report - Form IIA  
*Initial and Continuing Calibration Verification*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Result Units: mg/L  
Associated Analytical Batches: 20150903-A021

SDG: 579621  
SRR: 55929  
Initial Calibration Source: See Raw Data  
Continuing Calibration Source: See Raw Data

Case: 303757  
Project: 20933.01.006

Continuing Calibration Verification					
Analyte	True	Found3	%Rec	Limit	M
Formate	10.0	9.44	94.4%	90%-110%	IC1

Analyte	True	Found3	%Rec	Limit	M
Formate	10.0	9.44	94.4%	90%-110%	IC1

***Instruments/Methods (M)***

IC1 - Ion Chromatography DX 500/IC  
by 9056  
NA - Not Applicable

010026

**SOUTHWEST RESEARCH INSTITUTE**  
WetChem Report - Form IIA

*Initial and Continuing Calibration Verification*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Result Units: mg/L  
Associated Analytical Batches: 20150904-A004

SDG: 579621  
SRR: 55929  
Initial Calibration Source: See Raw Data  
Continuing Calibration Source: See Raw Data

Case: 303757  
Project: 20933.01.006

Analyte	Initial Calibration Verification				Continuing Calibration Verification						
	True	Found	%Rec	Limit	True	Found1	%Rec	Found2	%Rec	Limit	M
Formate	10.0	9.21	92.1%	90%-110%	10.0	9.27	92.7%	9.18	91.8%	90%-110%	IC1

<b><i>Instruments/Methods (M)</i></b>
IC1 - Ion Chromatography DX 500/IC by 9056
NA - Not Applicable

010027

**SOUTHWEST RESEARCH INSTITUTE**  
 WetChem Report - Form IIB  
*Low Level Check Standard*

Client: CH2M Hill Plateau Remediation Company  
 Task Order: 150807-12  
 Result Units: mg/L  
 Associated Analytical Batch: 20150903-A021

SDG: 579621  
 SRR: 55929

Case: 303757  
 Project: 20933.01.006

LLC Standards					
Analyte	True	Found1	%Rec	Limit	M
Formate	0.100	0.143	143.0%	50%-150%	IC1

<b><i>Instruments/Methods (M)</i></b>
IC1 - Ion Chromatography DX 500/IC by 9056
NA - Not Applicable

010028

**SOUTHWEST RESEARCH INSTITUTE**  
 WetChem Report - Form IIB  
*Low Level Check Standard*

Client: CH2M Hill Plateau Remediation Company  
 Task Order: 150807-12  
 Result Units: mg/L  
 Associated Analytical Batch: 20150904-A004

SDG: 579621  
 SRR: 55929

Case: 303757  
 Project: 20933.01.006

LLC Standards					
Analyte	True	Found1	%Rec	Limit	M
Formate	0.100	0.118	118.0%	50%-150%	IC1

<b><i>Instruments/Methods (M)</i></b>
IC1 - Ion Chromatography DX 500/IC by 9056
NA - Not Applicable

**SOUTHWEST RESEARCH INSTITUTE**  
WetChem Report - Form III

010029

*Blanks*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Preparation Blank Result Units: mg/Kg  
Initial/Continuing Blank Result Units: mg/L

SDG: 579621  
SRR: 55929  
Preparation Blank Matrix: Soil  
Associated Prep Batches: 20150903-A018  
20150903-A019

Case: 303757  
Project: 20933.01.006  
Associated Analytical Batches: 20150903-A005  
20150903-A021  
20150904-A004

Analyte	Preparation Blank		Initial Calibration Blank		Continuing Calibration Blank						M
	Result	Qual	Found	Qual	Found1	Qual	Found2	Qual	Found3	Qual	
Formate	0.852	U	0.100	U	0.100	U	0.100	U	0.100	U	IC1

<b>Data Reporting Qualifiers (Qual)</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL) U - Result is less than the SwRI Reporting Limit (RL) N - Matrix spike and/or matrix spike duplicate criteria was not met X - Analytical spike criteria was not met E - Result is estimated due to interferences D - Result is reported from a dilution * - Duplicate criteria was not met	IC1 - Ion Chromatography DX 500/IC by 9056 NA - Not Applicable

Form III-IN

010030

**SOUTHWEST RESEARCH INSTITUTE**  
WetChem Report - Form III  
*Blanks*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Preparation Blank Result Units: mg/Kg  
Initial/Continuing Blank Result Units: mg/L

SDG: 579621  
SRR: 55929  
Preparation Blank Matrix: Soil  
Associated Prep Batches: 20150903-A018  
20150903-A019

Case: 303757  
Project: 20933.01.006  
Associated Analytical Batches: 20150903-A005  
20150903-A021  
20150904-A004

Analyte	Preparation Blank		Initial Calibration Blank		Continuing Calibration Blank				M
	Result	Qual	Found	Qual	Found1	Qual	Found2	Qual	
Formate	0.852	U	0.100	U	0.100	U	0.100	U	IC1

<b>Data Reporting Qualifiers (Qual)</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	
X - Analytical spike criteria was not met	
E - Result is estimated due to interferences	
D - Result is reported from a dilution	
* - Duplicate criteria was not met	

Form III-IN

**SOUTHWEST RESEARCH INSTITUTE**  
WetChem Report - Form VA

010031

**Client Sample ID**

**B32D16MS/MSD**

*Matrix Spike/Matrix Spike Duplicate Sample Recovery*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579621S  
Result Units: mg/Kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 96.70

Case: 303757  
Project: 20933.01.006

Analyte	Parent Sample Result	Qual	MS Result	MS Spike Added	MS %Rec	MSD Result	MSD Spike Added	MSD %Rec	%RPD	Control Limit %Rec	Control Limit %RPD	M	Note
Formic acid	0.942	U	85.3	92.4	92.3%	-	-	-	-	75%-125%	-	IC1	

<b>Data Reporting Qualifiers (Qual)</b>	<b>Columns</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	M - Instrument	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	MS - Matrix Spike	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	MSD - Matrix Spike Duplicate	
X - Analytical spike criteria was not met	Q - Qualifier	
E - Result is estimated due to interferences	RPD - Relative Percent Difference	
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Form VA-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form VI  
*Duplicates*

010032

Client Sample ID

B32D16D

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: 579621D  
Result Units: mg/Kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
% Solids: 96.70

Case: 303757  
Project: 20933.01.006

Analyte	Parent Sample Result	Qual	Duplicate Result	Qual	RPD	RPD Limit	Control Limit	M	Note
Formic acid	0.942	U	1.05	U	0.00%	20%	-	IC1	

<b>Data Reporting Qualifiers (Qual)</b>	<b>Columns</b>	<b>Instruments/Method (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL) U - Result is less than the SwRI Reporting Limit (RL) N - Matrix spike and/or matrix spike duplicate criteria was not met X - Analytical spike criteria was not met E - Result is estimated due to interferences D - Result is reported from a dilution * - Duplicate criteria was not met	M - Instrument RPD - Relative Percent Difference	IC1 - Ion Chromatography DX 500/IC by 9056 NA - Not Applicable

Form VI-IN

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form VII  
Laboratory Control Sample

010033

SwRI ID

LCS15J03JH1

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: LCS15J03JH1  
Result Units: mg/Kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
Associated Prep Batches: 20150903-A018

Case: 303757  
Project: 20933.01.006  
LCS Source:

Analyte	True	Found	Qual	%Rec.	Limit	M	Analysis Date/Time
Formic acid	1020	916		89.8%	90%-110%	IC1	08/21/2015 17:10

**Instruments/Methods (M)**

IC1 - Ion Chromatography DX 500/IC  
by 9056  
NA - Not Applicable

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form VII  
Laboratory Control Sample

010034

SwRI ID

LCS15J03JH2

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Lab ID: LCS15J03JH2  
Result Units: mg/Kg

SDG: 579621  
SRR: 55929  
Matrix: Soil  
Associated Prep Batches: 20150903-A019

Case: 303757  
Project: 20933.01.006  
LCS Source:

Analyte	True	Found	Qual	%Rec.	Limit	M	Analysis Date/Time
Formic acid	1020	946		92.7%	90%-110%	IC1	08/25/2015 18:41

**Instruments/Methods (M)**

IC1 - Ion Chromatography DX 500/IC  
by 9056  
NA - Not Applicable

SOUTHWEST RESEARCH INSTITUTE 010035  
WetChem Report - Form IX  
*Detection Limits*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Result Units: mg/L

SDG: 579621  
SRR: 55929  
Instrument: Ion Chromatography DX 500

Case: 303757  
Project: 20933.01.006

Analyte	RL	CRDL
Formate/Formic acid	0.100	0.100

<b>Columns</b>
RL - SwRI Reporting Limit
CRDL - Contract Req. Det. Limit

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form XII  
Analysis Run Log

010036

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Analytical Batch: 20150903-A021  
Analysis Method: IC by 9056

SDG: 579621  
SRR: 55929  
Instrument: Ion Chromatography DX 500

Case: 303757  
Project: 20933.01.006  
Start Date: 08/21/2015  
End Date: 08/22/2015

Lab Sample ID	Client Sample ID	Time	DF	F O
ICV	ICV	13:49	1	X
ICB	ICB	14:08	1	X
LLC	NA	14:26	1	X
PB15J03JH5	NA	16:51	1	X
LCS15J03JH1	NA	17:10	1	X
579621	B32D16	17:28	1	X
CCV	CCV	17:47	1	X
CCB	CCB	18:06	1	X
579622	B32D19	18:25	1	X
579623	B32D22	18:44	1	X
579624	B32D25	19:02	1	X
579625	B32D28	19:21	1	X
579626	B32D31	19:40	1	X
579627	B32D34	19:59	1	X
579628	B32D37	20:18	1	X
579629	B32D40	20:37	1	X
579630	B32D43	20:55	1	X
579631	B32D46	21:14	1	X
CCV2	CCV2	21:33	1	X
CCB2	CCB2	21:52	1	X
579632	B32D49	22:11	1	X
579633	B32D52	22:29	1	X
579634	B32D55	22:48	1	X
579635	B32D58	23:07	1	X
579636	B32D61	23:26	1	X
579637	B32D64	23:45	1	X
579638	B32D67	00:03	1	X
579639	B32D70	00:22	1	X
579640	B32D73	00:41	1	X
579621D	B32D16D	01:00	1	X
CCV3	CCV3	01:19	1	X
CCB3	CCB3	01:38	1	X

010037

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form XII  
*Analysis Run Log*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Analytical Batch: 20150904-A004  
Analysis Method: IC by 9056

SDG: 579621  
SRR: 55929  
Instrument: Ion Chromatography DX 500

Case: 303757  
Project: 20933.01.006  
Start Date: 08/25/2015  
End Date: 08/25/2015

Lab Sample ID	Client Sample ID	Time	DF	FO
ICV	ICV	16:10	1	X
ICB	ICB	16:29	1	X
LLC	NA	16:48	1	X
PB15J03JH6	NA	18:22	1	X
LCS15J03JH2	NA	18:41	1	X
CCV	CCV	19:56	1	X
CCB	CCB	20:15	1	X
579640	B32D73	22:45	1	X
579621S	B32D16MS	23:04	1	X
CCV2	CCV2	23:23	1	X
CCB2	CCB2	23:42	1	X

010038

SOUTHWEST RESEARCH INSTITUTE  
WetChem Report - Form XII  
Analysis Run Log

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12  
Analytical Batch: 20150903-A005  
Analysis Method: %Solids

SDG: 579621  
SRR: 55929  
Instrument:

Case: 303757  
Project: 20933.01.006  
Start Date: 09/03/2015  
End Date: 09/03/2015

Lab Sample ID	Client Sample ID	Time	DF	FO
PB15J03JH1	NA	11:15	1	
579621	B32D16	11:15	1	
579621D	B32D16D	11:15	1	
579622	B32D19	11:15	1	
579623	B32D22	11:15	1	
579624	B32D25	11:15	1	
579625	B32D28	11:15	1	
579626	B32D31	11:15	1	
579627	B32D34	11:15	1	
579628	B32D37	11:15	1	
579629	B32D40	11:15	1	
579630	B32D43	11:15	1	
579631	B32D46	11:15	1	
579632	B32D49	11:15	1	
579633	B32D52	11:15	1	
579634	B32D55	11:15	1	
579635	B32D58	11:15	1	
579636	B32D61	11:15	1	
579637	B32D64	11:15	1	
579638	B32D67	11:15	1	
579639	B32D70	11:15	1	
579640	B32D73	11:15	1	

SOUTHWEST RESEARCH INSTITUTE 010039  
WetChem Report - Form XVIII  
*Preparation/Digestion Summary*

Client: CH2M Hill Plateau Remediation Company  
Task Order: 150807-12

SDG: 579621  
SRR: 55929

Case: 303757  
Project: 20933.01.006

Prep Batch	Method	Preparation Date
20150903-A016	%Solids	09/03/2015
20150903-A018	IC by 9056	09/03/2015
20150903-A019	IC by 9056	09/03/2015

# Digestion Log

010040

Southwest Research Institute  
San Antonio, Texas 78228

Batch: 20150903-A016 (Ver. 1)  
Status: APPROVED

Client(s): CH2M Hill Plateau Remediation Company  
Task Order(s): 150807-12  
SDG(s): 579621  
Project(s): 20933.01.00X  
Matrix(s): Soil  
Balance(s): 135  
Heating Device: Oven #31 Temperature (C): NA  
Time In: NA Time Out: NA

<u>Sample Identification</u>	<u>Client Identification</u>	<u>Tare Wt (g)</u>	<u>WetSample+TareWt (g)</u>	<u>DriedSample+TareWt (g)</u>	<u>%Solids (%)</u>
PB15J03JH3	NA	1.0101	1.0101	1.0100	
579621	B32D16	1.0230	11.1378	10.8042	96.70
579621D	B32D16	1.0727	11.2197	10.8859	96.71
579622	B32D19	0.9869	11.0267	10.6282	96.03
579623	B32D22	1.0115	11.0565	10.7446	96.89
579624	B32D25	1.0104	11.1609	10.7903	96.35
579625	B32D28	1.0489	11.1377	10.7384	96.04
579626	B32D31	0.0348	11.2394	10.8062	96.13
579627	B32D34	1.0536	11.0916	10.9546	98.64
579628	B32D37	1.0341	11.2191	10.8440	96.32
579629	B32D40	0.9735	11.0688	10.7086	96.43
579630	B32D43	1.0074	11.0522	10.9749	99.23
579631	B32D46	1.0038	11.0570	10.7807	97.25
579632	B32D49	1.0263	11.2251	10.8183	96.01
579633	B32D52	1.0278	11.2895	10.6495	93.76
579634	B32D55	1.0099	11.3109	10.7398	94.46
579635	B32D58	1.0071	11.1197	10.7741	96.58
579636	B32D61	1.0092	11.2101	8.9433	77.78
579637	B32D64	1.0048	11.2596	10.3374	91.01
579638	B32D67	0.9839	11.0954	10.1845	90.99
579639	B32D70	0.9894	11.3743	10.2038	88.73
579640	B32D73	0.9961	11.2351	11.0021	97.72

Comments: NA

Prepared by: HERRERA, JUDY

Date: 09/03/2015

Reviewed by: MOKEN, JAMES

Date: 09/04/2015

Disposal Int/Date/Loc: \_\_\_\_\_

Page 1 of 1

Program version(8/11/2011)

# Digestion Log

010041

Southwest Research Institute  
San Antonio, Texas 78228

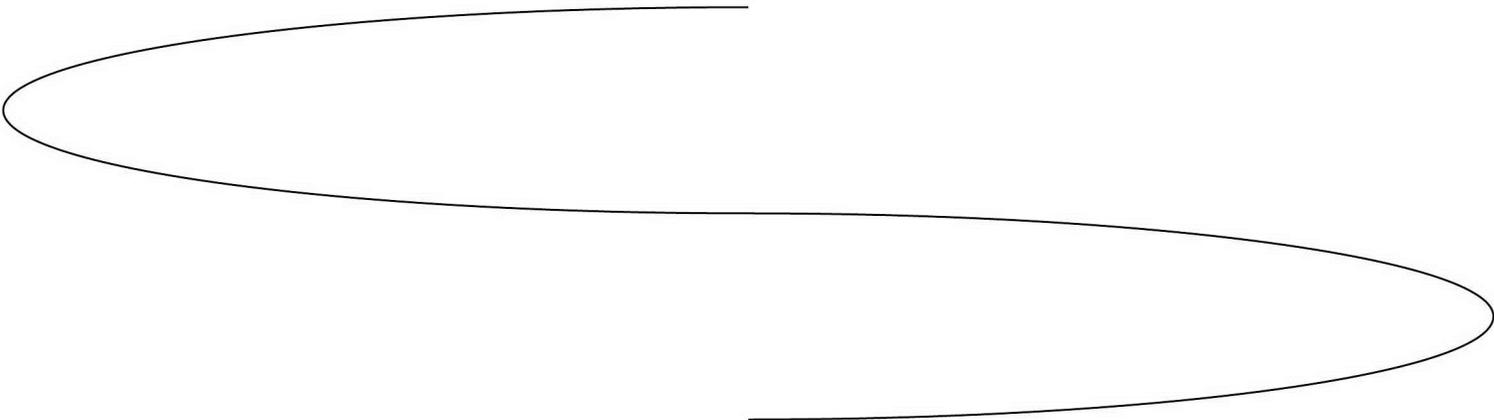
Batch: 20150903-A018 (Ver. 1)  
Status: APPROVED

Client(s): CH2M Hill Plateau Remediation Company  
Task Order(s): 150807-12  
SDG(s): 579621  
Project(s): 20933.01.00X  
Method(s): IC by 9056 (TAP: TAP-01-0406-042)  
Matrix(s): Soil  
Pipette(s): 5000-3, 1000-1, 200-H  
Time In: NA Time Out: NA

<u>Sample Identification</u>	<u>Client Identification</u>	<u>Initial Weight (g)</u>	<u>Final Volume (mL)</u>
PB15J03JH5	NA	1.2	10
LCS15J03JH1 *	NA	.1	10
579621	B32D16	1.1223	10
579621D	B32D16	1.01	10
579621MS *	B32D16	1.1427	10
579622	B32D19	1.1767	10
579623	B32D22	1.1340	10
579624	B32D25	1.0938	10
579625	B32D28	1.1019	10
579626	B32D31	1.0493	10
579627	B32D34	1.0482	10
579628	B32D37	1.1263	10
579629	B32D40	1.0106	10
579630	B32D43	1.1668	10
579631	B32D46	1.1054	10
579632	B32D49	1.0901	10
579633	B32D52	1.1788	10
579634	B32D55	1.1068	10
579635	B32D58	1.0386	10
579636	B32D61	1.1215	10
579637	B32D64	1.0331	10
579638	B32D67	1.1738	10
579639	B32D70	1.0624	10

\* spiked .1 mL of 27-04-WCS11 (ChemInv# , Source: , Exp: 09/04/2016)

Comments: NA



Prepared by: HERRERA, JUDY

Date: 09/03/2015

Reviewed by: MOKEN, JAMES

Date: 09/04/2015

Disposal Int/Date/Loc: \_\_\_\_\_

Page 1 of 1

Program version(8/11/2011)

# Digestion Log

010042

Southwest Research Institute  
San Antonio, Texas 78228

Batch: 20150903-A019 (Ver. 1)  
Status: APPROVED

Client(s): CH2M Hill Plateau Remediation Company  
Task Order(s): 150807-13, 150807-12  
SDG(s): 579641, 579621  
Project(s): 20933.01.00X  
Method(s): IC by 9056 (TAP: TAP-01-0406-042)  
Matrix(s): Soil  
Pipette(s): 5000-3, 1000-1, 200-H  
Time In: NA Time Out: NA

<u>Sample Identification</u>	<u>Client Identification</u>	<u>Initial Weight (g)</u>	<u>Final Volume (mL)</u>
PB15J03JH6	NA	1.2	10
LCS15J03JH2 *	NA	0.1	10
579641	B32D76	1.15	10
579641D	B32D76	1.03	10
579641MS *	B32D76	1.190	10
579642	B32DK9	1.1102	10
579643	B32DL0	1.0764	10
579644	B32F19	1.1399	10
579645	B32F22	1.1917	10
579646	B32F25	1.0522	10
579647	B32F28	1.1185	10
579648	B32F31	1.0483	10
579621MS *	B32D16	1.1437	10
579640	B32D73	1.0583	10

\* spiked .1 mL of 27-04-WCS11 (ChemInv# , Source: , Exp: 09/04/2016)

Comments: NA

Prepared by: HERRERA, JUDY

Date: 09/03/2015

Reviewed by: MOKEN, JAMES

Date: 09/04/2015

Disposal Int/Date/Loc: \_\_\_\_\_

010043

**SOUTHWEST RESEARCH INSTITUTE**  
**CLIENT: CH2M Hill Plateau Remediation**  
**Company**  
**TASK ORDER(s): 150807-12**  
**SRR: 55929**  
**SDG: 579621**  
**CASE: F15-048**  
**VTSR: 08.07.15**  
**PROJECT#: 20859.01.00X**

**RAW DATA**

Client: CH2M Hill Plateau Remediation Company

SDG: 579621

SwRI Project Number: 20933.01.006

SwRI Task Order Number(s): 150807-12

## Sample Calculation Sheet

IC, SW 846 9056A

A = Analyte Result (ug/L)

Final Result (mg/kg) = A X (1 mg/1000 ug) X (46 g/mol / 45 g/mol) X (Final Volume (mL) / Initial Weight) X %Solids

Conversion Factor of Formate to Formic Acid = 46/45

# 579621S

$$9230 \frac{\text{ug}}{\text{L}} \times \frac{1 \text{ mg}}{1000 \text{ ug}} \times \frac{46 \text{ g/mol}}{45 \text{ g/mol}} \times \frac{10 \text{ mL}}{1.1437 \text{ g}} \times \frac{100\%}{96.7\%} = 85.3 \frac{\text{mg}}{\text{kg}}$$

formic Acid

% Solids

A = Tare Weight (g)

B = Dried Sample + Tare Weight (g)

C = Wet Sample + Tare Weight (g)

B Tare 1.0230g

% Solids = [(B-A) / (C-A)] x 100%

# 579621

$$\left[ \frac{(10.8042 \text{ g} - 1.0230 \text{ g})}{(11.1378 \text{ g} - 1.0230 \text{ g})} \right] \times 100 = 96.7\%$$

# IC 9056A

010045

Southwest Research Institute  
San Antonio, Texas 78228

Batch: 20150903-A021 (Ver. 3)  
Status: DISPOSED

Limit: IC 9056A  
Analysis Method: IC 9056A (TAP: TAP-01-0406-042)  
Instrument: IC DX500  
Data File Name: 150821.csv  
Analyte Test: IC 9056A  
Start Time: 08/21/2015 13:49:16  
Stop Time: 08/22/2015 01:38:03  
Qualifier Set: Default  
Task Order: 150807-12  
SDG: 579621  
Project: 20933.01.00X  
Customer: CH2M Hill Plateau Remediation Company

Sample Identification	Client Identification	Formate/Formic acid		
		Analyte Result (ug/L)	Final Result (mg/Kg)	RL (mg/Kg)
ICV ^	NA	9740	9.96 (mg/L)	0.102 (mg/L)
ICB	NA	88.3 U	0.100 U (mg/L)	0.102 (mg/L)
LLC ^^	NA	143	0.146 (mg/L)	0.102 (mg/L)
PB15J03JH5 +	NA	0.00 U	0.852 U	0.852
LCS15J03JH1 +	NA	8960	916	10.2
579621 ++	B32D16	91.9 U	0.942 U	0.942
CCV ^	NA	9340	9.55 (mg/L)	0.102 (mg/L)
CCB	NA	83.3 U	0.100 U (mg/L)	0.102 (mg/L)
579622 ++	B32D19	0.00 U	0.905 U	0.905
579623 ++	B32D22	0.00 U	0.930 U	0.930
579624 ++	B32D25	0.00 U	0.970 U	0.970
579625 ++	B32D28	0.00 U	0.966 U	0.966
579626 ++	B32D31	0.00 U	1.01 U	1.01
579627 ++	B32D34	0.00 U	0.989 U	0.989
579628 ++	B32D37	0.00 U	0.942 U	0.942
579629 ++	B32D40	0.00 U	1.05 U	1.05
579630 ++	B32D43	0.00 U	0.883 U	0.883
579631 ++	B32D46	0.00 U	0.951 U	0.951
CCV2 ^	NA	9410	9.62 (mg/L)	0.102 (mg/L)
CCB2	NA	0.00 U	0.100 U (mg/L)	0.102 (mg/L)
579632 ++	B32D49	0.00 U	0.977 U	0.977
579633 ++	B32D52	0.00 U	0.925 U	0.925
579634 ++	B32D55	0.00 U	0.978 U	0.978
579635 ++	B32D58	0.00 U	1.02 U	1.02
579636 ++	B32D61	0.00 U	1.17 U	1.17
579637 ++	B32D64	0.00 U	1.09 U	1.09
579638 ++	B32D67	78.9 U	0.957 U	0.957
579639 ++	B32D70	0.00 U	1.08 U	1.08
579640 ++	B32D73	0.00 U	0.963 U	0.963
579621D ++	B32D16	0.00 U	1.05 U	1.05
CCV3 ^	NA	9440	9.65 (mg/L)	0.102 (mg/L)
CCB3	NA	0.00 U	0.100 U (mg/L)	0.102 (mg/L)

U - Result is less than the SwRI Reporting Limit (RL)

Prepared by: HERRERA, JUDY

Date: 08/21/2015

Reviewed by: MOKEN, JAMES

Date: 09/04/2015

Southwest Research Institute  
San Antonio, Texas 78228

Batch: 20150903-A021 (Ver. 3)  
Status: DISPOSED

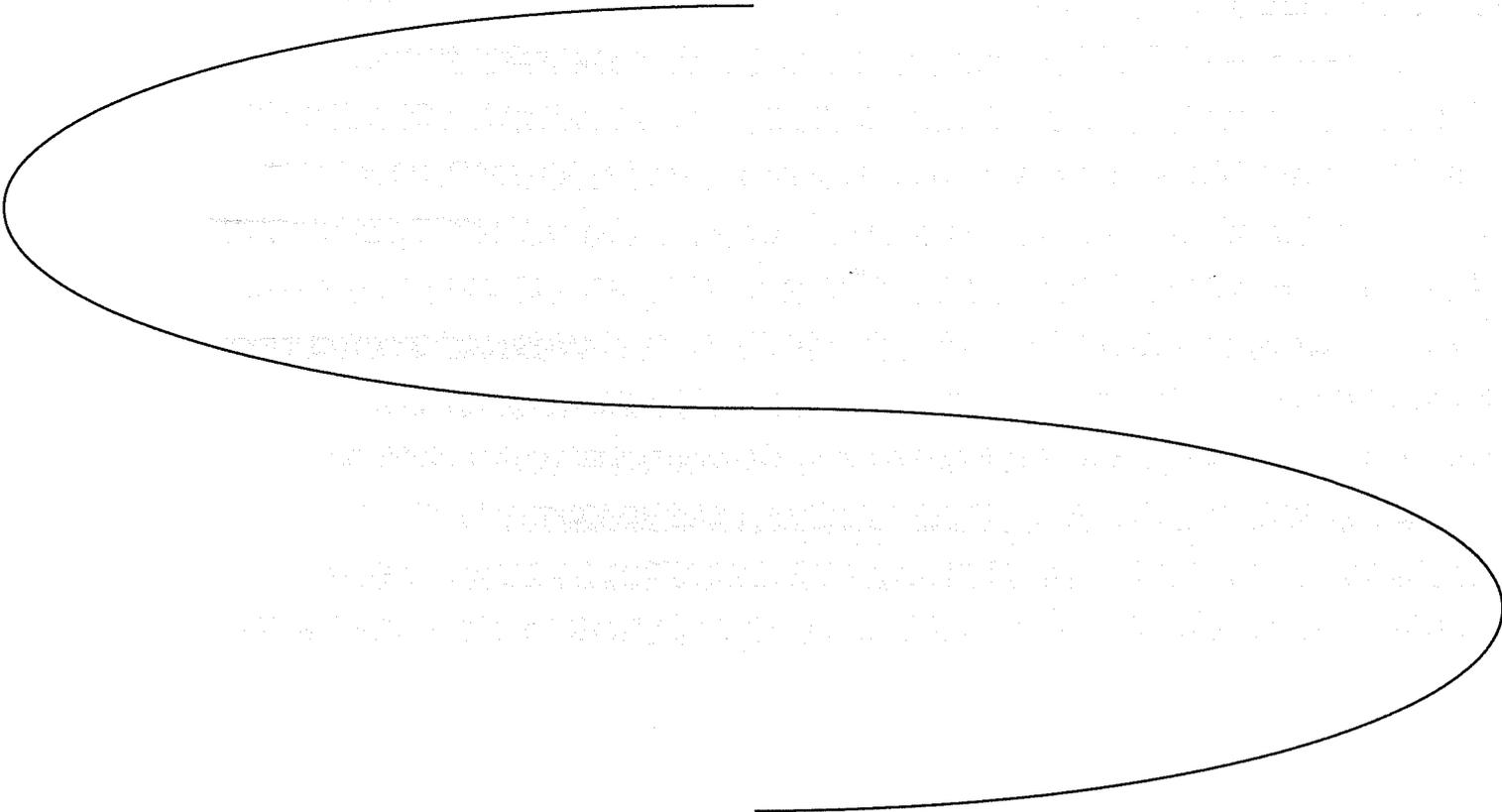
Limit: IC 9056A  
Analysis Method: IC 9056A (TAP: TAP-01-0406-042)  
Instrument: IC DX500  
Data File Name: 150821.csv  
Analyte Test: IC 9056A  
Start Time: 08/21/2015 13:49:16  
Stop Time: 08/22/2015 01:38:03  
Qualifier Set: Default  
Task Order: 150807-12  
SDG: 579621  
Project: 20933.01.00X  
Customer: CH2M Hill Plateau Remediation Company

**Formate/Formic acid**

<u>Sample Identification</u>	<u>Client Identification</u>	<u>Analyte Result (ug/L)</u>	<u>Final Result (mg/Kg)</u>	<u>RL (mg/Kg)</u>
------------------------------	------------------------------	------------------------------	-----------------------------	-------------------

- ^ spiked 0.05 mL of 27-04-WCS11 (ChemInv# UNDEFINED, Source: UNDEFINED, Exp: ) at 1000
- ^^ spiked .0005 mL of 27-04-WCS11 (ChemInv# UNDEFINED, Source: UNDEFINED, Exp: ) at 1000
- + prepared in batch 20150903-A018
- ++ prepared in batch 20150903-A016

Comments: NA



U - Result is less than the SwRI Reporting Limit (RL)

Prepared by: HERRERA, JUDY

Date: 08/21/2015

Reviewed by: MOKEN, JAMES

Date: 09/04/2015

010047

Line	Sample	Sample Type	Level	Method	Data File	Dilution
1	ICV	Sample		ice-as1_formate_150810.met	150821_001.dxd	1
2	ICB	Sample		ice-as1_formate_150810.met	150821_002.dxd	1
3	LLC	Sample		ice-as1_formate_150810.met	150821_003.dxd	1
4	LOD	Sample		ice-as1_formate_150810.met	150821_004.dxd	1
5	LOQ1	Sample		ice-as1_formate_150810.met	150821_005.dxd	1
6	LOQ2	Sample		ice-as1_formate_150810.met	150821_006.dxd	1
7	LOQ3	Sample		ice-as1_formate_150810.met	150821_007.dxd	1
8	LOQ1-R	Sample		ice-as1_formate_150810.met	150821_008.dxd	1
9	LOQ2-R	Sample		ice-as1_formate_150810.met	150821_009.dxd	1
10	PB 22-00113*	Sample		ice-as1_formate_150810.met	150821_010.dxd	1
11	LCS 22-00113*	Sample		ice-as1_formate_150810.met	150821_011.dxd	1
12	579621	Sample		ice-as1_formate_150810.met	150821_012.dxd	1
13	CCV	Sample		ice-as1_formate_150810.met	150821_013.dxd	1
14	CCB	Sample		ice-as1_formate_150810.met	150821_014.dxd	1
15	579622	Sample		ice-as1_formate_150810.met	150821_015.dxd	1
16	579623	Sample		ice-as1_formate_150810.met	150821_016.dxd	1
17	579624	Sample		ice-as1_formate_150810.met	150821_017.dxd	1
18	579625	Sample		ice-as1_formate_150810.met	150821_018.dxd	1
19	579626	Sample		ice-as1_formate_150810.met	150821_019.dxd	1
20	579627	Sample		ice-as1_formate_150810.met	150821_020.dxd	1
21	579628	Sample		ice-as1_formate_150810.met	150821_021.dxd	1
22	579629	Sample		ice-as1_formate_150810.met	150821_022.dxd	1
23	579630	Sample		ice-as1_formate_150810.met	150821_023.dxd	1
24	579631	Sample		ice-as1_formate_150810.met	150821_024.dxd	1
25	CCV2	Sample		ice-as1_formate_150810.met	150821_025.dxd	1
26	CCB2	Sample		ice-as1_formate_150810.met	150821_026.dxd	1
27	579632	Sample		ice-as1_formate_150810.met	150821_027.dxd	1
28	579633	Sample		ice-as1_formate_150810.met	150821_028.dxd	1
29	579634	Sample		ice-as1_formate_150810.met	150821_029.dxd	1
30	579635	Sample		ice-as1_formate_150810.met	150821_030.dxd	1
31	579636	Sample		ice-as1_formate_150810.met	150821_031.dxd	1
32	579637	Sample		ice-as1_formate_150810.met	150821_032.dxd	1
33	579638	Sample		ice-as1_formate_150810.met	150821_033.dxd	1
34	579639	Sample		ice-as1_formate_150810.met	150821_034.dxd	1
35	579640	Sample		ice-as1_formate_150810.met	150821_035.dxd	1
36	579621D	Sample		ice-as1_formate_150810.met	150821_036.dxd	1
37	CCV3	Sample		ice-as1_formate_150810.met	150821_037.dxd	1
38	CCB3	Sample		ice-as1_formate_150810.met	150821_038.dxd	1

Default Method Path: C:\PEAKNET\METHOD.ACI  
 Default Data Path: C:\PEAKNET\DATA\150821  
 Comment:  
 CH2M Hill Plateau Remediation Company; 20033-01-000; TO# 150807-12

*20859.01.000*

*\*Cl 08/25/15 gcl*  
*\* W0 8/28/15 gcl*

"M" INDICATES MANUAL INTEGRATION

ICV:  
 27-04-010 WCS11 Tc 919115 gcl  
 T.V. = 10 ppm

LLC:  
 27-04-010 WCS11 Tc 919115 gcl  
 T.V. = 0.100 ppm

EP:  
 5000-3  
 1000-1  
 200-H

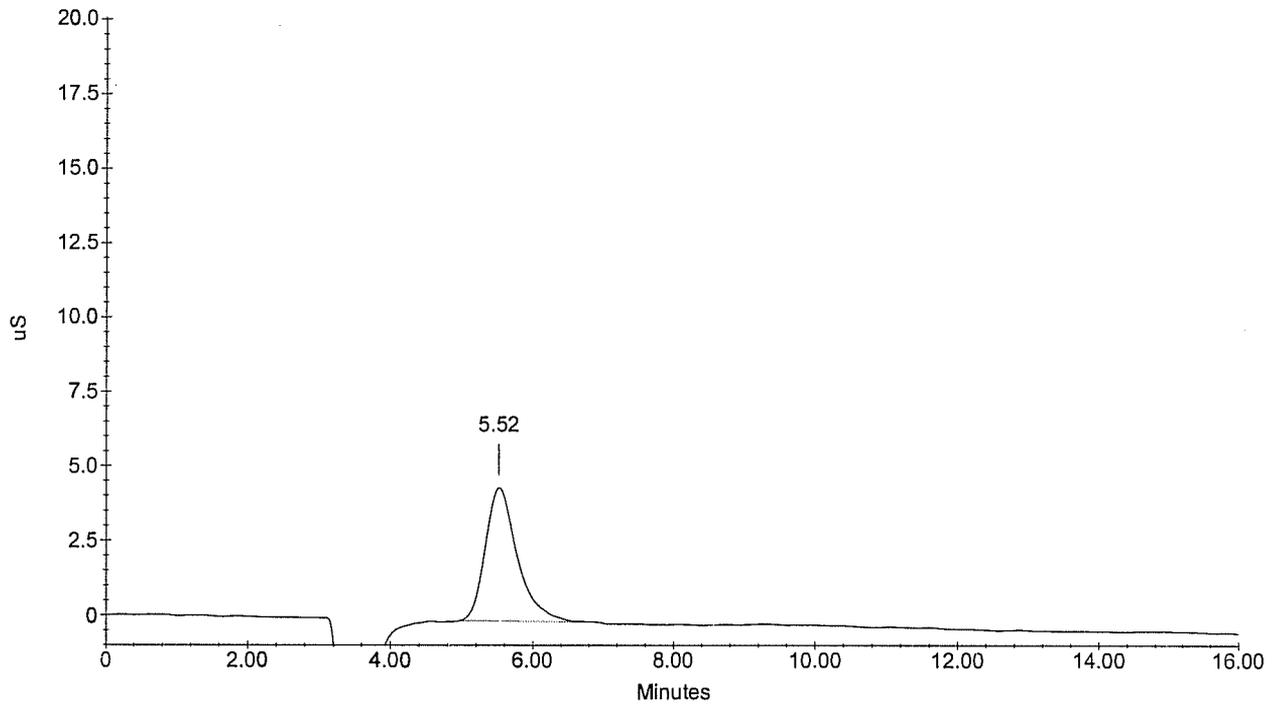
*Joseph Lemerc*  
*8/25/15*

Sample Name : ICV  
Dilution Factor : 1.00  
Injection Number : 1  
Data File Name : ...150821\_001.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 1:49:16 PM 010048  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.52	FORMATE	9741.031	4430400	139609739	1	-0.54	
			---total(s)---					
0.00			9741.031	139609739				

### ICV



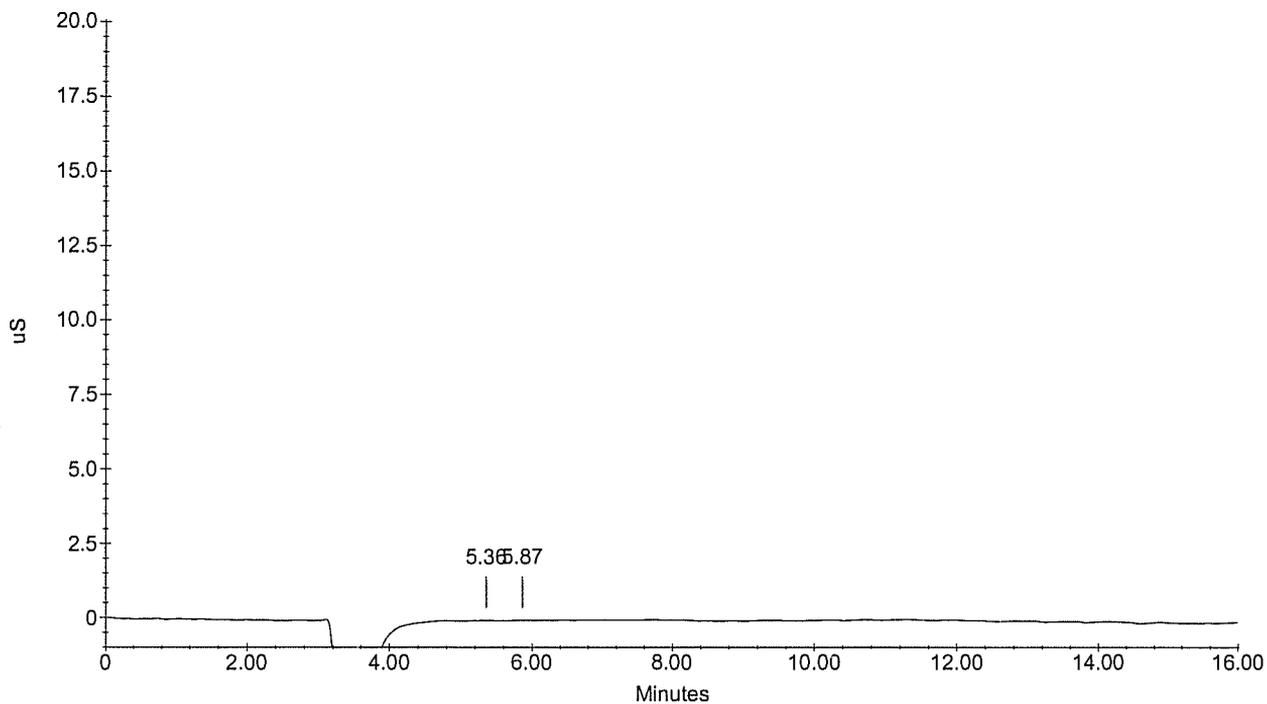
Sample Name : ICB  
 Dilution Factor : 1.00  
 Injection Number : 2  
 Data File Name : ...150821\_002.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 2:08:05 PM  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

010049

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.36	FORMATE	88.306	20698	433973	1	-3.42	
				---total(s)---				
0.00				88.306	433973			

ICB

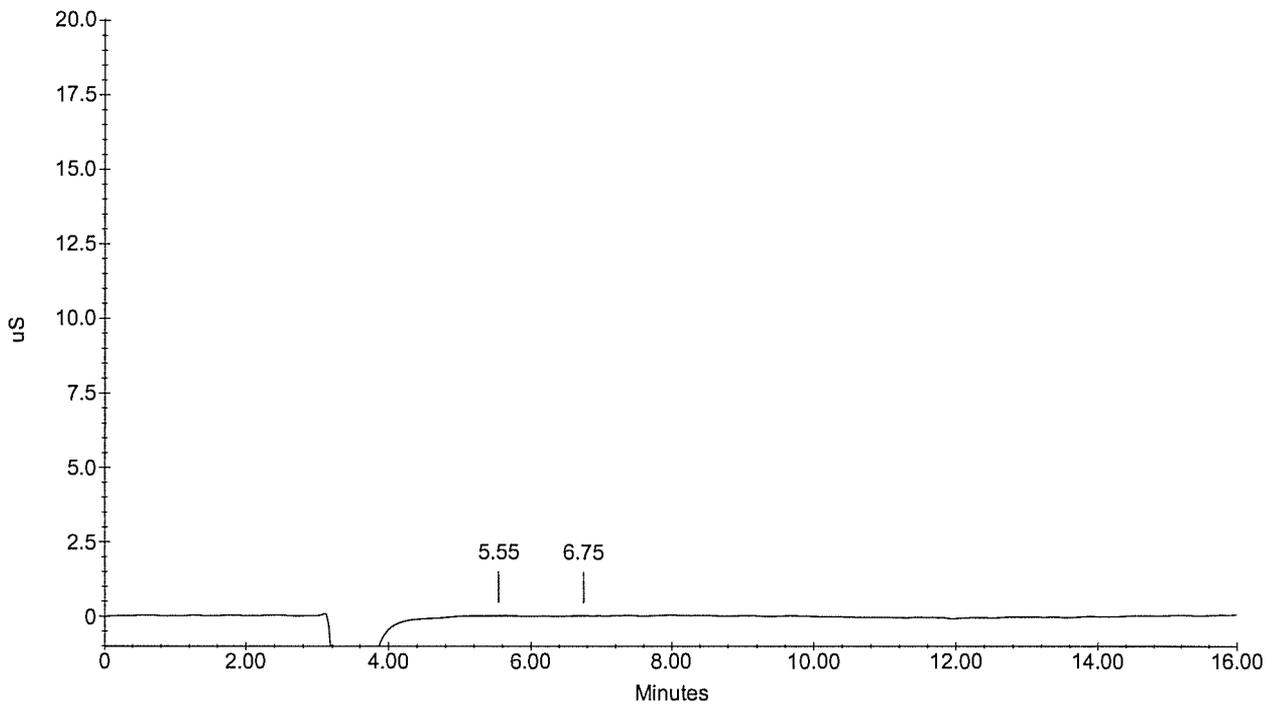


Sample Name : LLC  
 Dilution Factor : 1.00  
 Injection Number : 3  
 Data File Name : ...\\150821\_003.DXD  
 Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 2:26:53 PM **010050**  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	5.55	FORMATE	143.218	35029	1224776	1	-0.06	
			---total(s)---					
0.00			143.218			1224776		

**LLC**

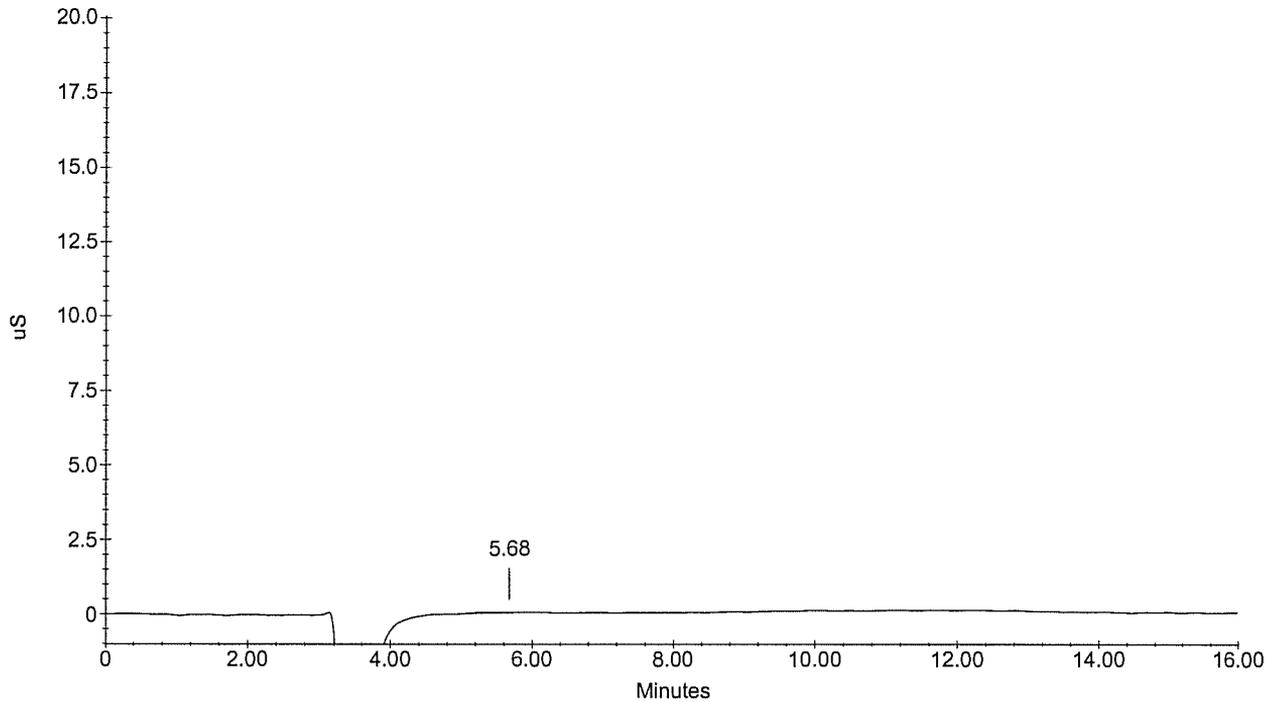


Sample Name : LOD  
 Dilution Factor : 1.00  
 Injection Number : 4  
 Data File Name : ...150821\_004.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 2:45:42 PM **010051**  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.68	FORMATE	138.528	24720	1157225	1	2.34	
				---total(s)---				
0.00				138.528	1157225			

**LOD**



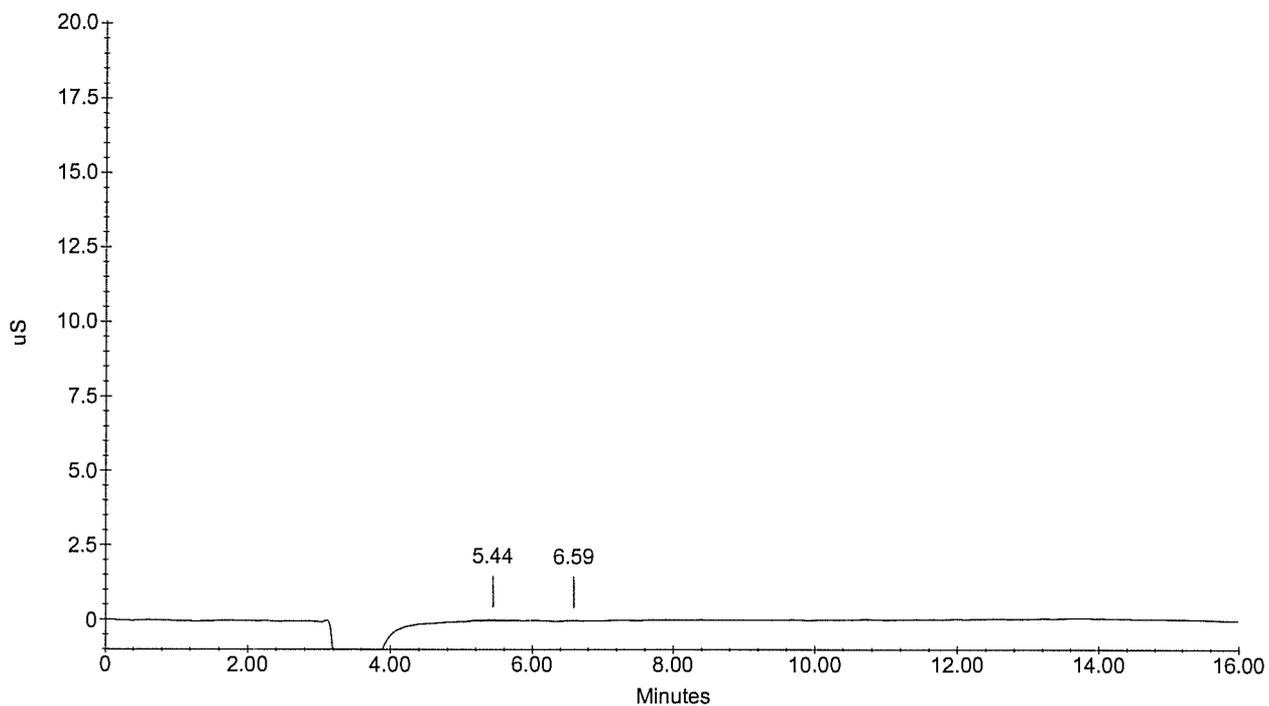
010052

Sample Name : LOQ1  
Dilution Factor : 1.00  
Injection Number : 5  
Data File Name : ...150821\_005.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 3:04:31 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	5.44	FORMATE	131.610	41004	1057597	1	-1.98	
			---total(s)---					
0.00			131.610			1057597		

### LOQ1

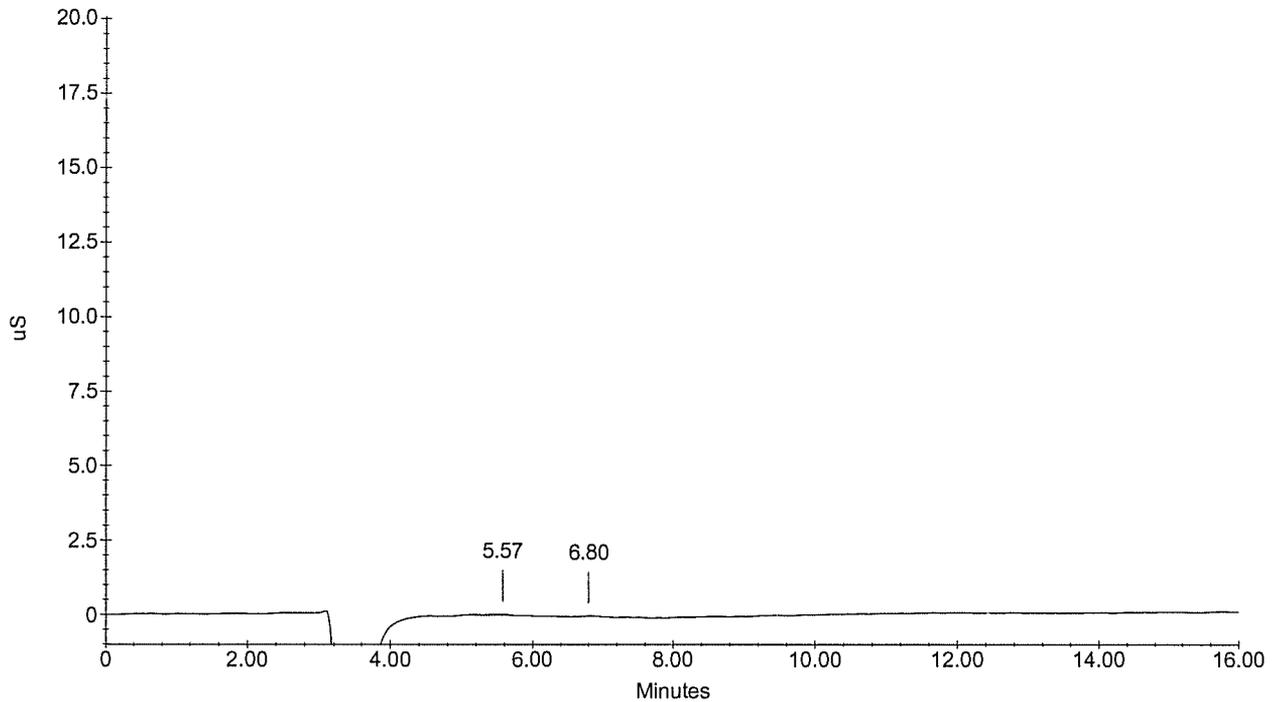


Sample Name : LOQ2  
 Dilution Factor : 1.00  
 Injection Number : 6  
 Data File Name : ...150821\_006.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 3:23:20 PM **010053**  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	5.57	FORMATE	146.515	45129	1272247	1	0.42	
				---total(s)---				
0.00				146.515	1272247			

### LOQ2



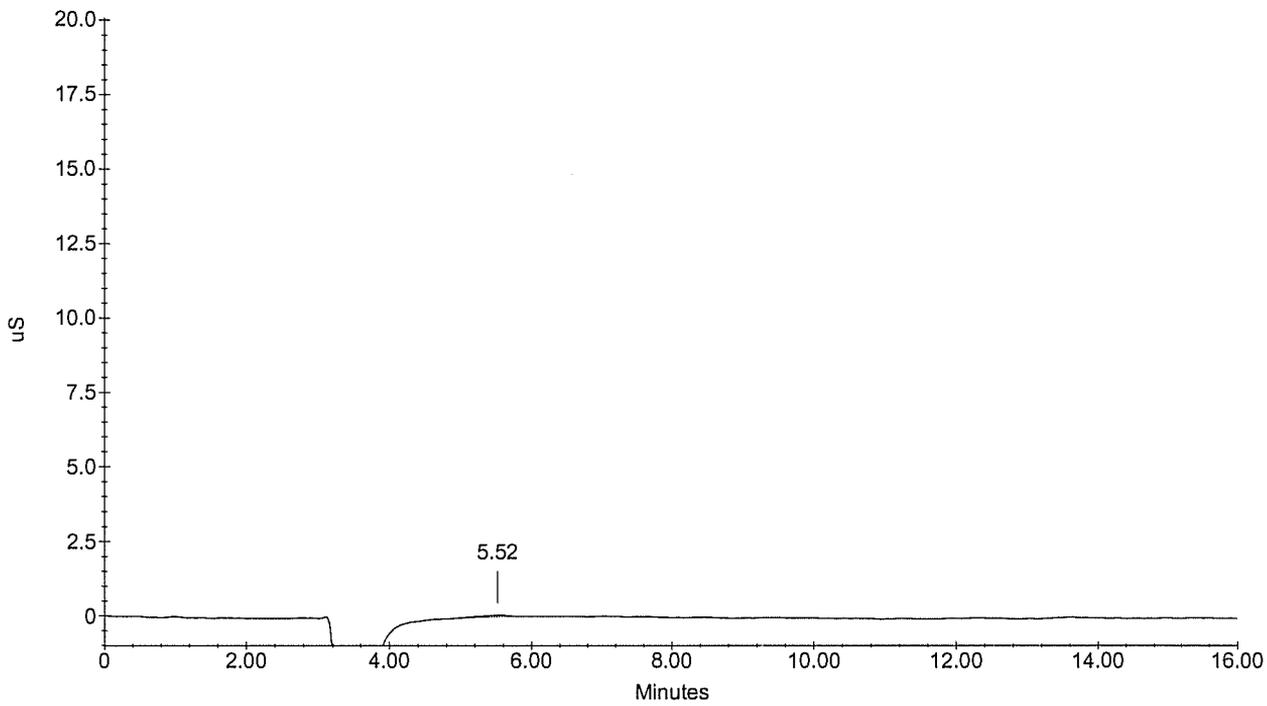
010054

Sample Name : LOQ3  
Dilution Factor : 1.00  
Injection Number : 7  
Data File Name : ...150821\_007.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 3:42:09 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.52	FORMATE	167.713	57182	1577527	1	-0.54	
			---total(s)---					
0.00			167.713	1577527				

### LOQ3



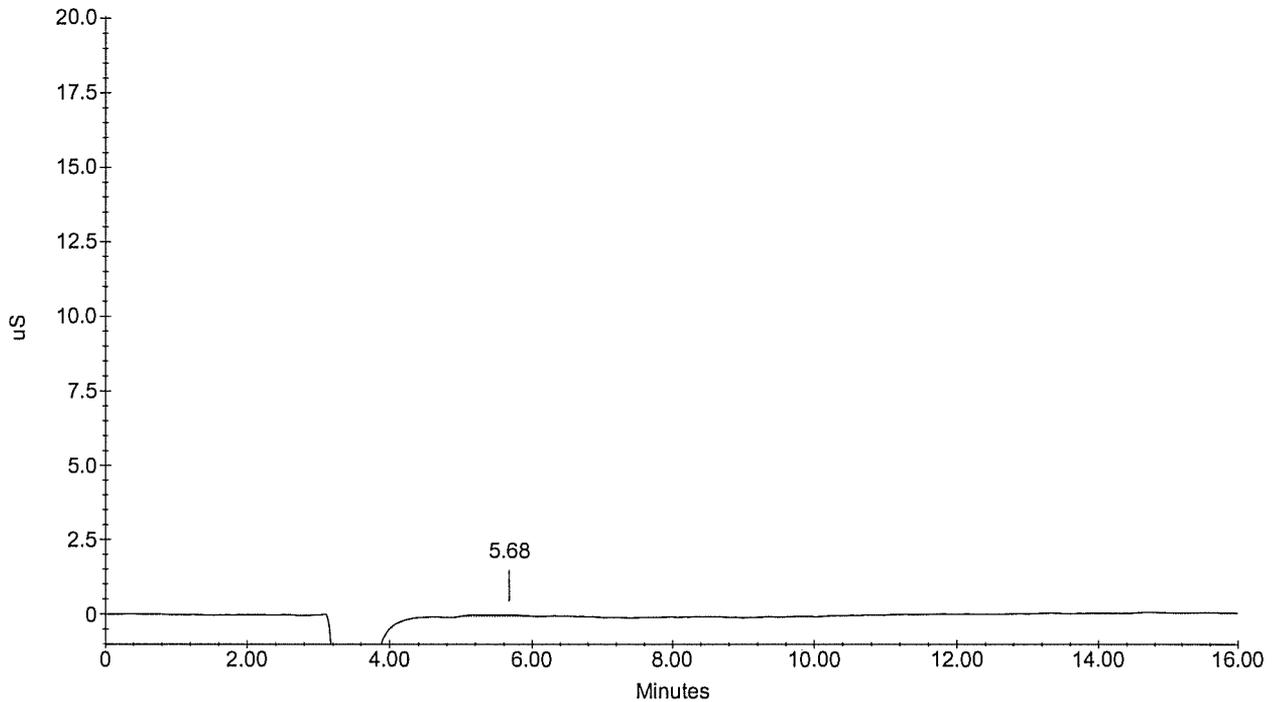
Sample Name : LOQ1-R  
Dilution Factor : 1.00  
Injection Number : 8  
Data File Name : ...\\150821\_008.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 4:06:07 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

010055

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.68	FORMATE	238.164	54292	2592121	1	2.34	
			---total(s)---					
0.00			238.164	2592121				

### LOQ1-R

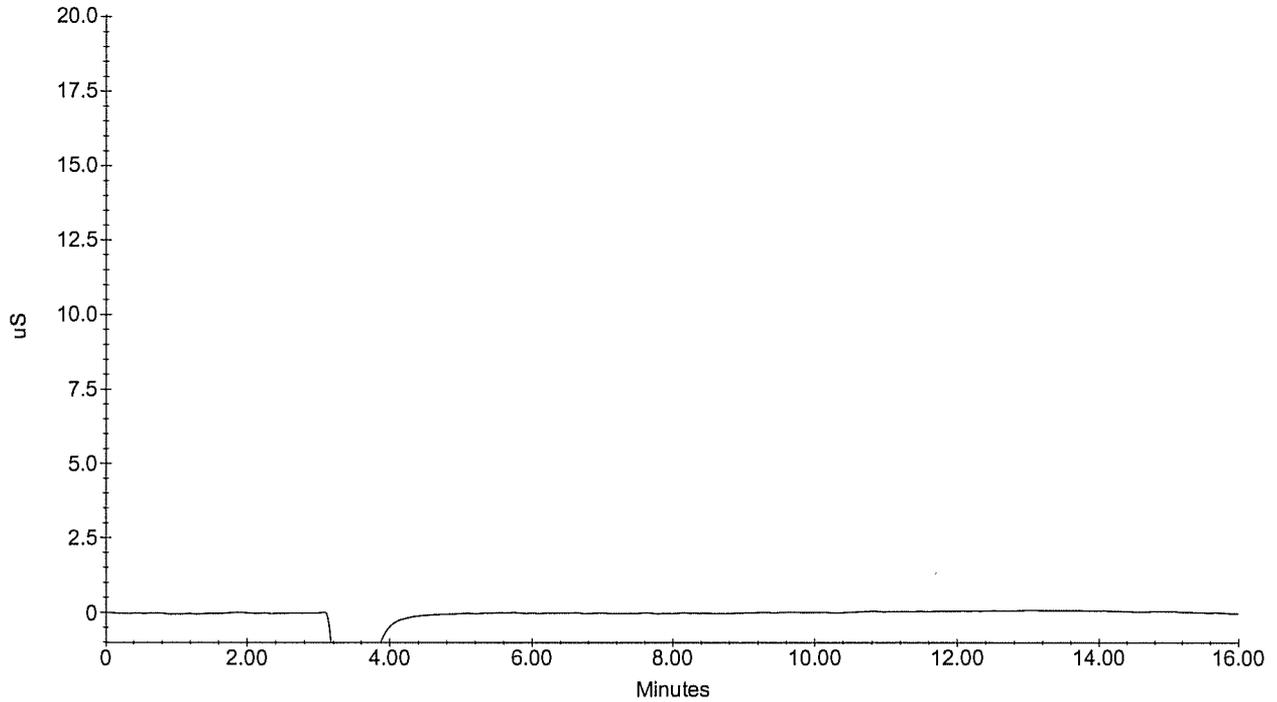


Sample Name : LOQ2-R  
Dilution Factor : 1.00  
Injection Number : 9  
Data File Name : ...150821\_009.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 4:25:00 PM 010056  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
			---total(s)---					
0.00			0.000			0		

### LOQ2-R

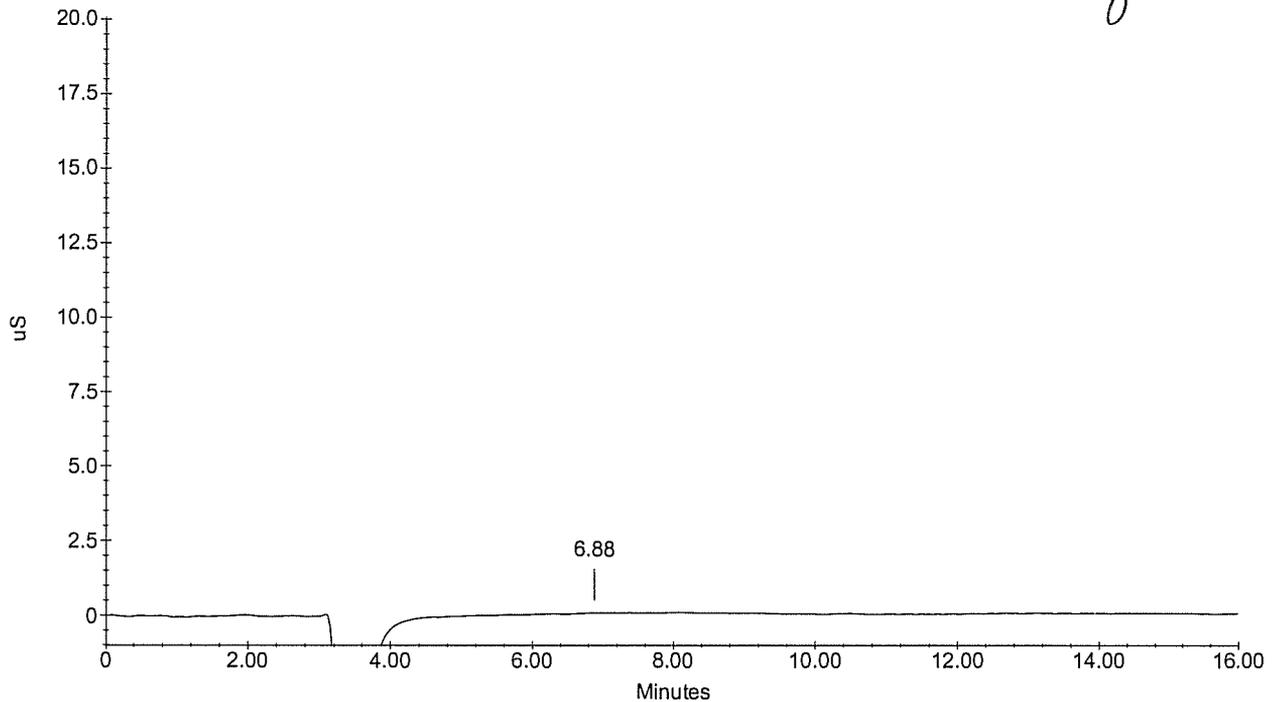


Sample Name : PB  
Dilution Factor : 1.00  
Injection Number : 10  
Data File Name : ...150821\_010.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 4:51:16 PM **010057**  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	6.88		0.000	1698	134947	1		
	0.00		---total(s)---	0.000	134947			

**PB 22-00113** *cl 08125/15gcu*

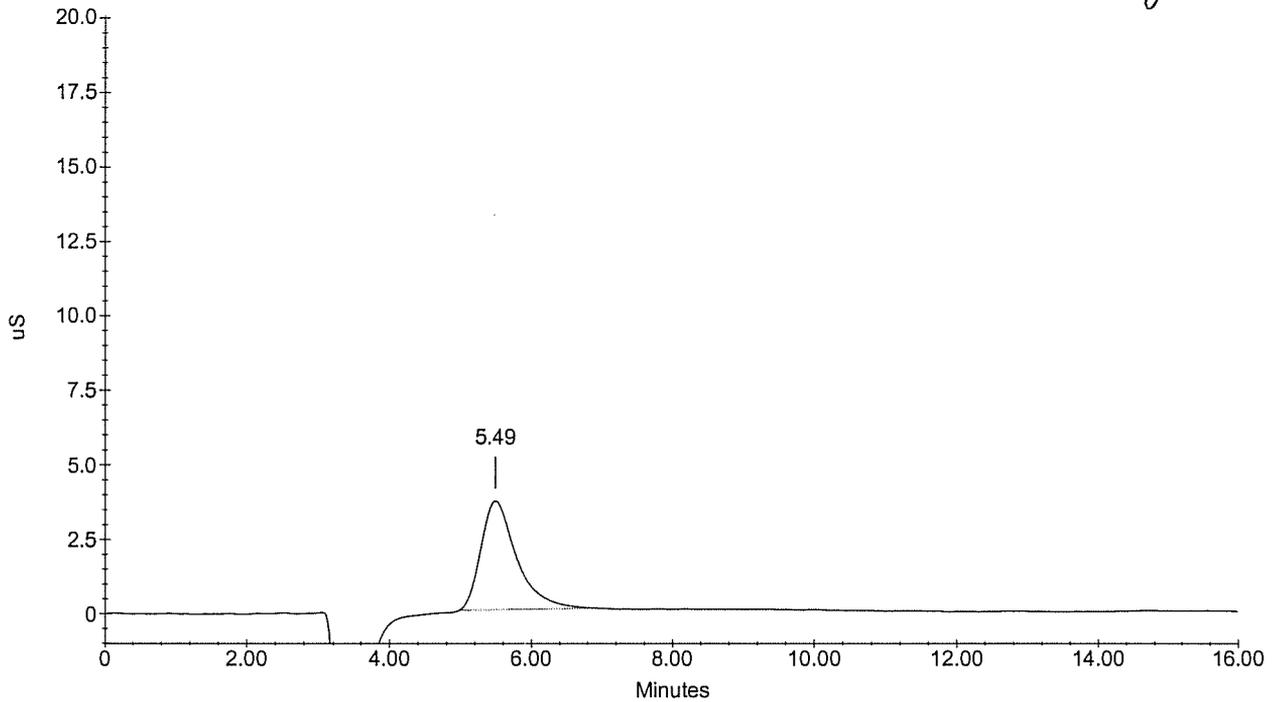


Sample Name : LCS  
Dilution Factor : 1.00  
Injection Number : 11  
Data File Name : ...\\150821\_011.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 5:10:05 PM **010058**  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	5.49	FORMATE	8961.268	3643451	128354487	1	-1.02	
			---total(s)---					
0.00			8961.268	128354487				

**LCS** 22-00113 C10812F115gca

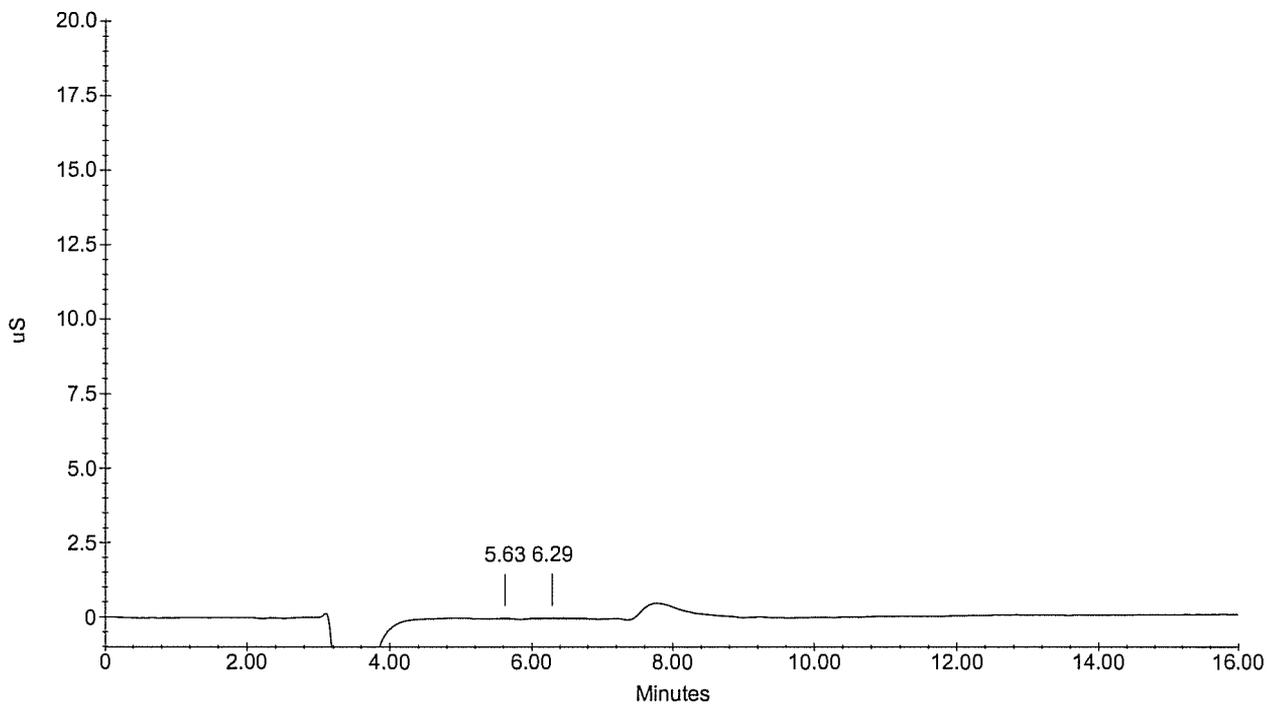


Sample Name : 579621  
 Dilution Factor : 1.00  
 Injection Number : 12  
 Data File Name : ...\\150821\_012.DXD  
 Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 5:28:54 PM **010059**  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	5.63	FORMATE	91.925	34166	486090	1	1.38	
				---total(s)---				
0.00				91.925	486090			

**579621**

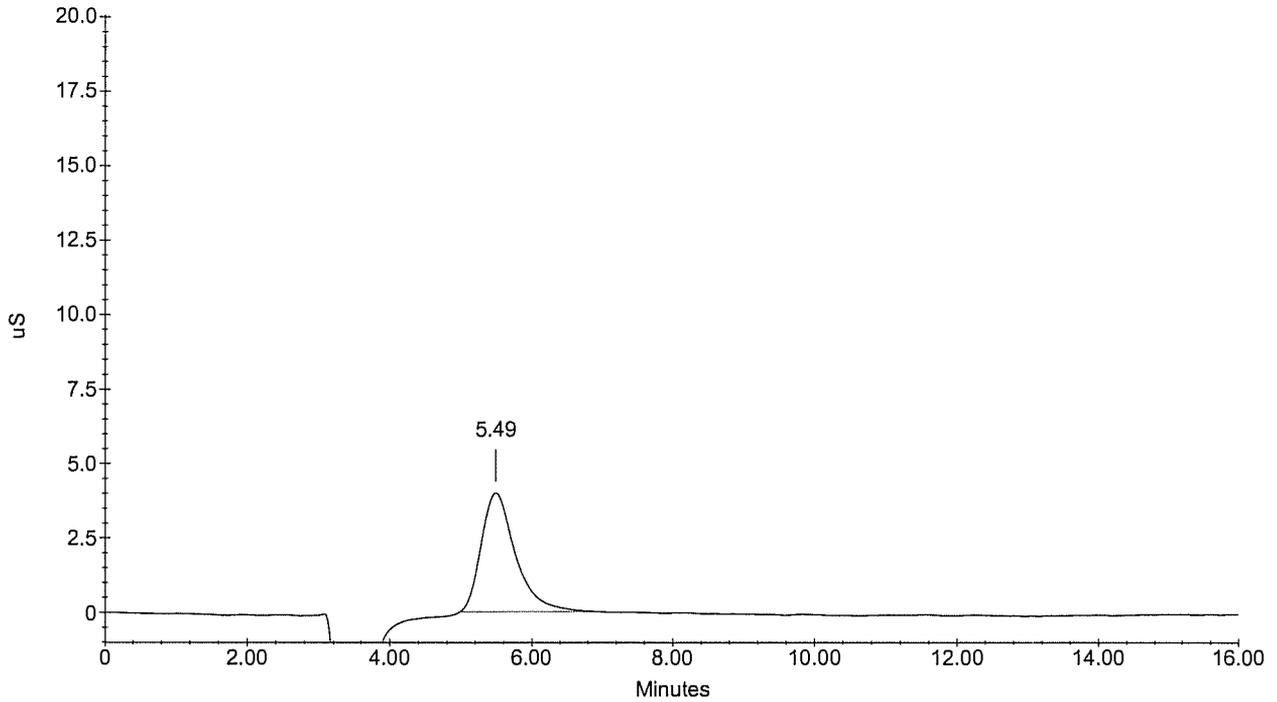


Sample Name : CCV  
 Dilution Factor : 1.00  
 Injection Number : 13  
 Data File Name : ...150821\_013.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 5:47:43 PM **010060**  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.49	FORMATE	9340.865	3975623	133833391	1	-1.02	
			---total(s)---					
0.00			9340.865	133833391				

**CCV**

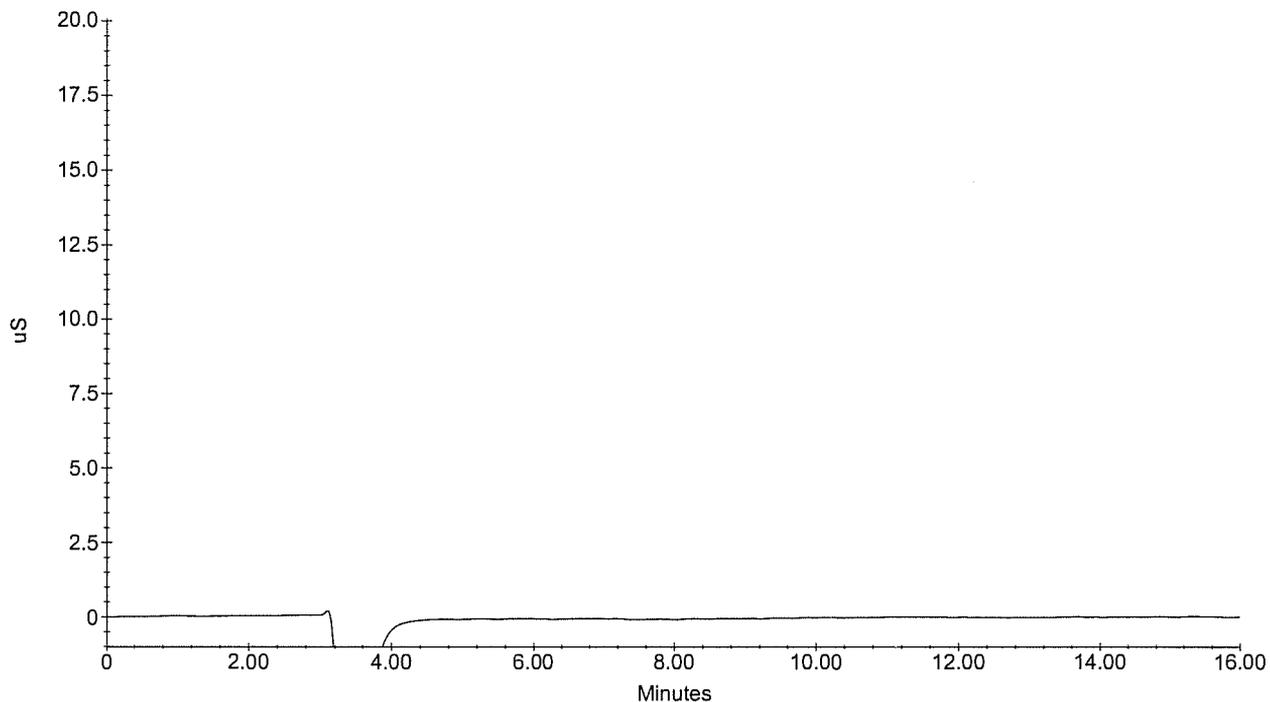


Sample Name : CCB  
Dilution Factor : 1.00  
Injection Number : 14  
Data File Name : ...\\150821\_014.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 6:06:32 PM **010061**  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	5.72	FORMATE	83.320	18690	362169	1	3.00	
			---total(s)---					
0.00			83.320	362169				

### CCB

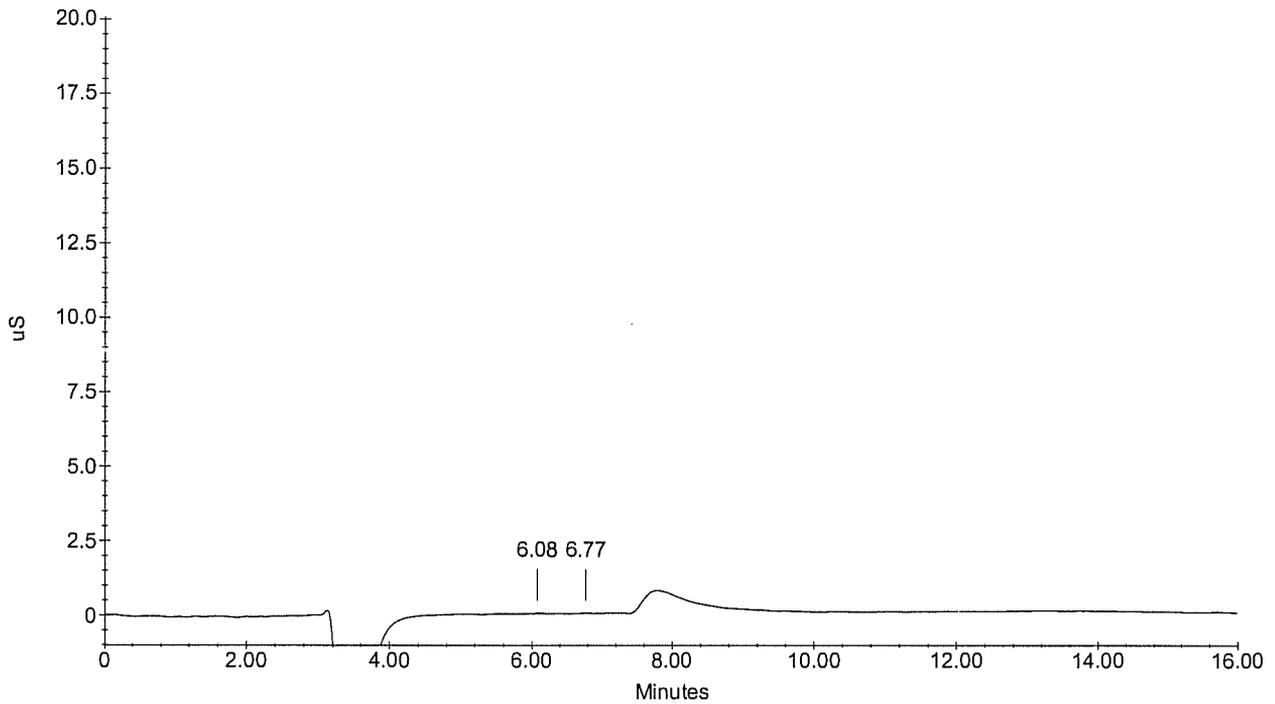


Sample Name : 579622  
Dilution Factor : 1.00  
Injection Number : 15  
Data File Name : ...\\150821\_015.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 6:25:21 PM 010062  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	6.08		0.000	30591	1292670	1		
			---total(s)---					
0.00			0.000			1292670		

**579622**

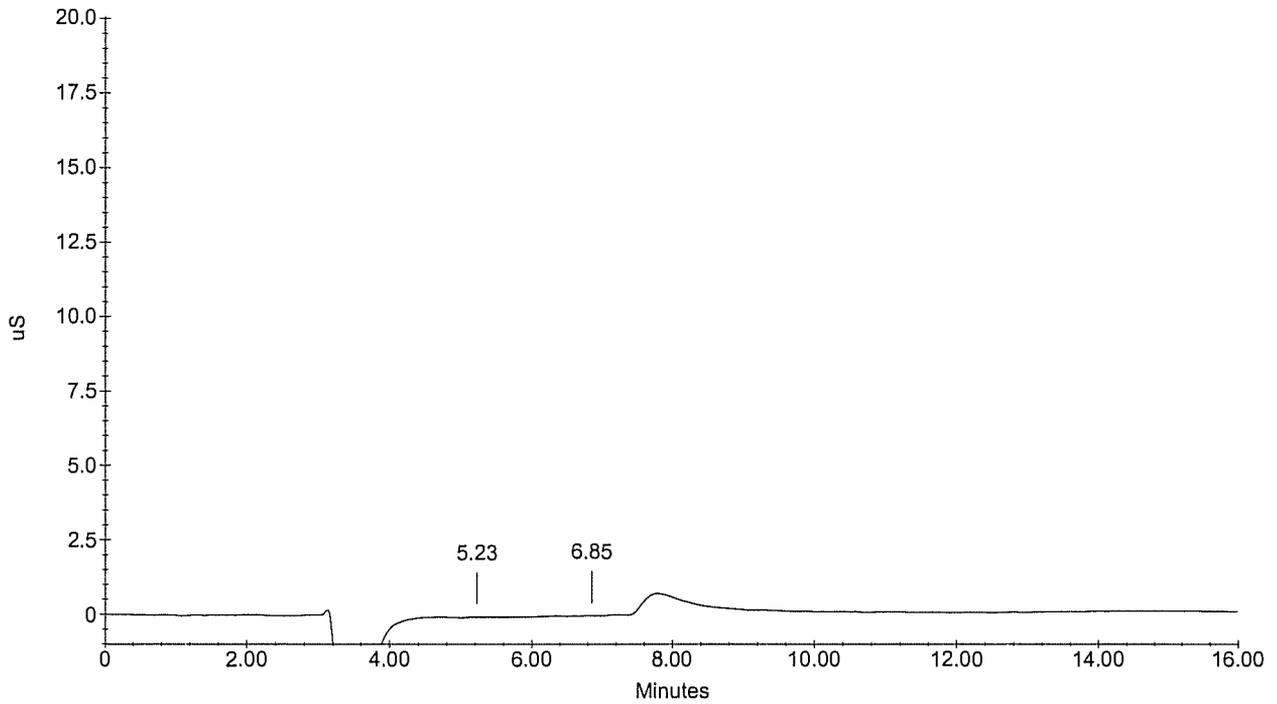


Sample Name : 579623  
Dilution Factor : 1.00  
Injection Number : 16  
Data File Name : ...\\150821\_016.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 6:44:09 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :  
**010063**

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.23		0.000	32938	849565	1		
				---total(s)---				
0.00				0.000	849565			

**579623**

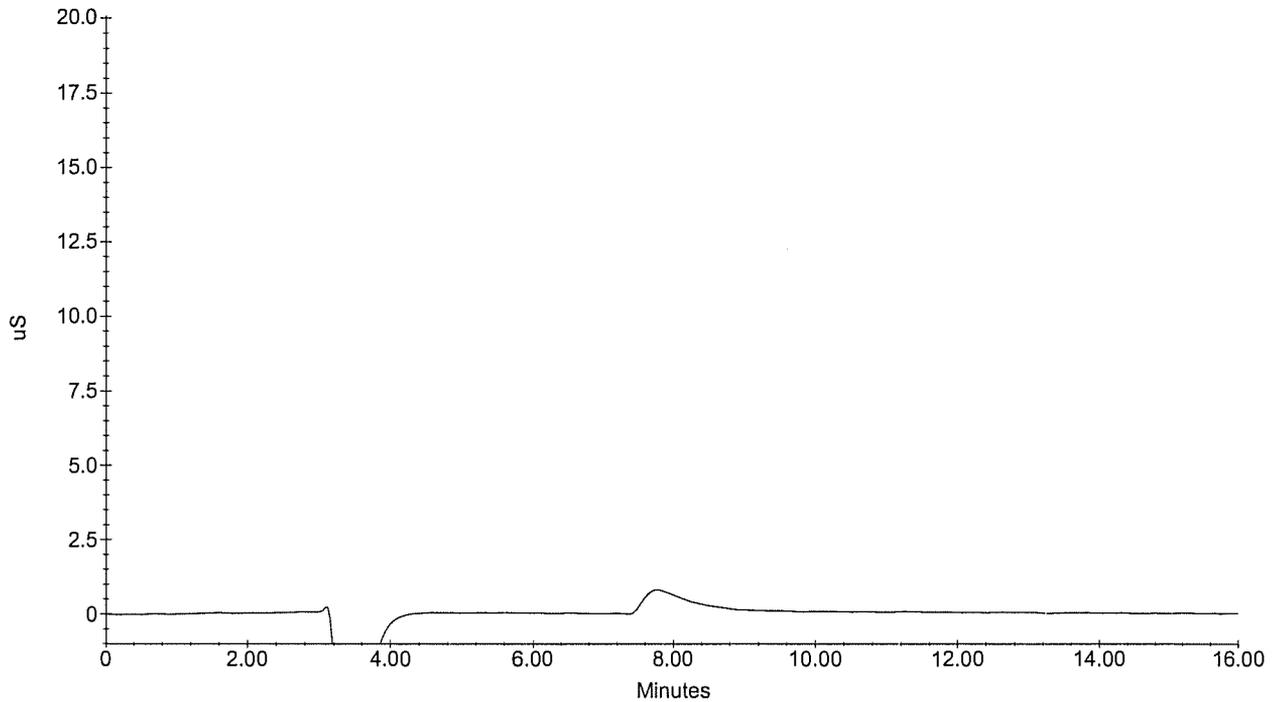


Sample Name : 579624  
Dilution Factor : 1.00  
Injection Number : 17  
Data File Name : ...\\150821\_017.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 7:02:58 PM **010064**  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
			---total(s)---					
0.00			0.000			0		

### 579624



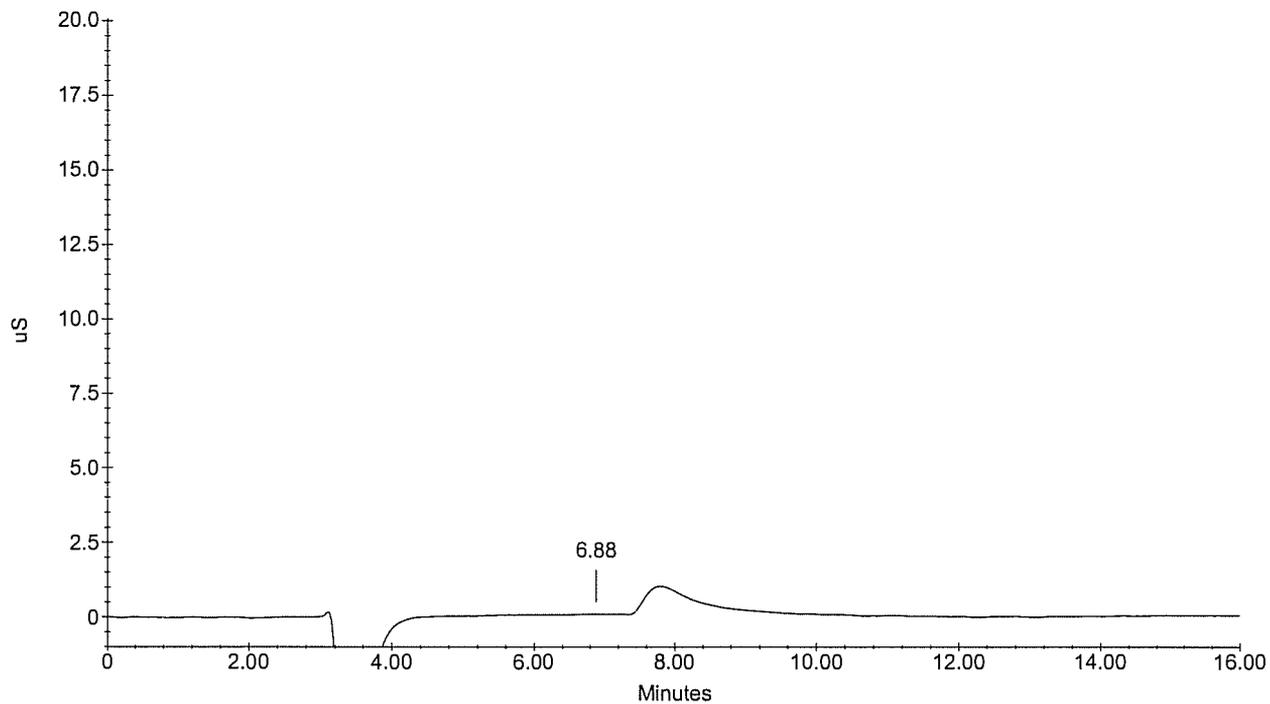
Sample Name : 579625  
Dilution Factor : 1.00  
Injection Number : 18  
Data File Name : ...\\150821\_018.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 7:21:47 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

010065

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	6.88		0.000	1416	91570	1		
	0.00		---total(s)---	0.000	91570			

579625

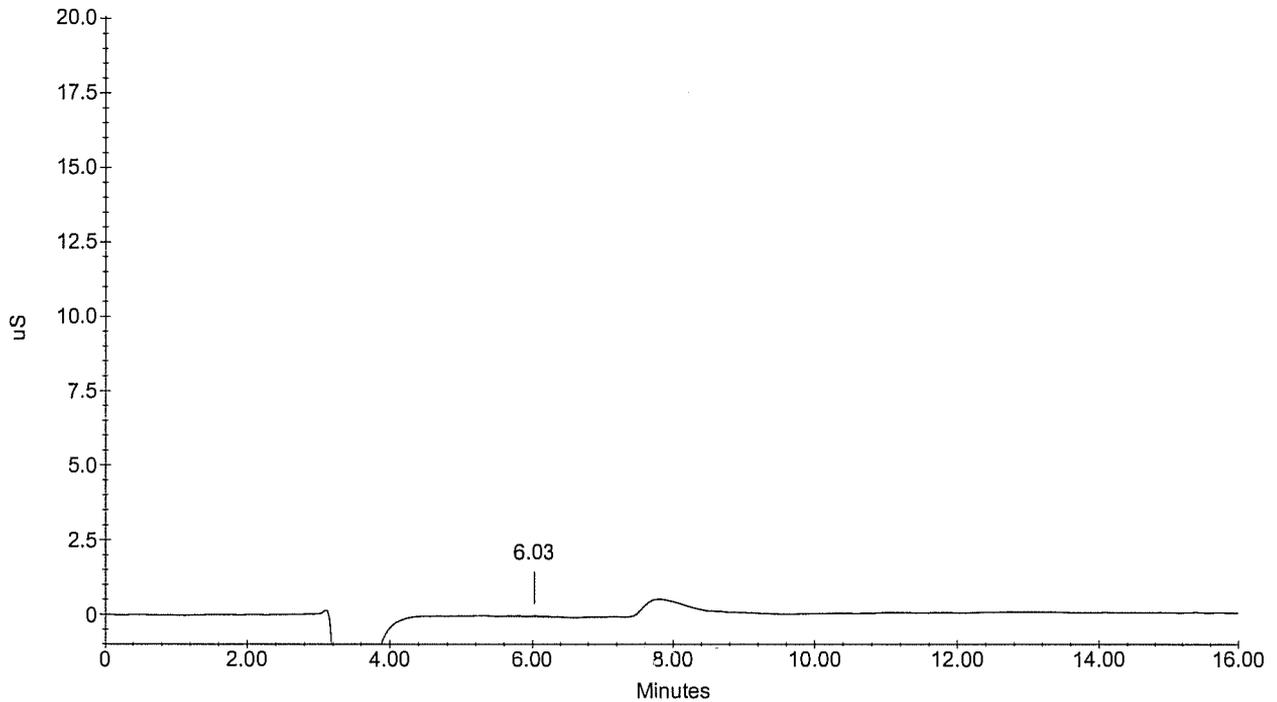


Sample Name : 579626  
Dilution Factor : 1.00  
Injection Number : 19  
Data File Name : ...\\150821\_019.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 7:40:36 PM **010066**  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	6.03		0.000	40781	1501047	1		
			---total(s)---					
0.00			0.000	1501047				

### 579626

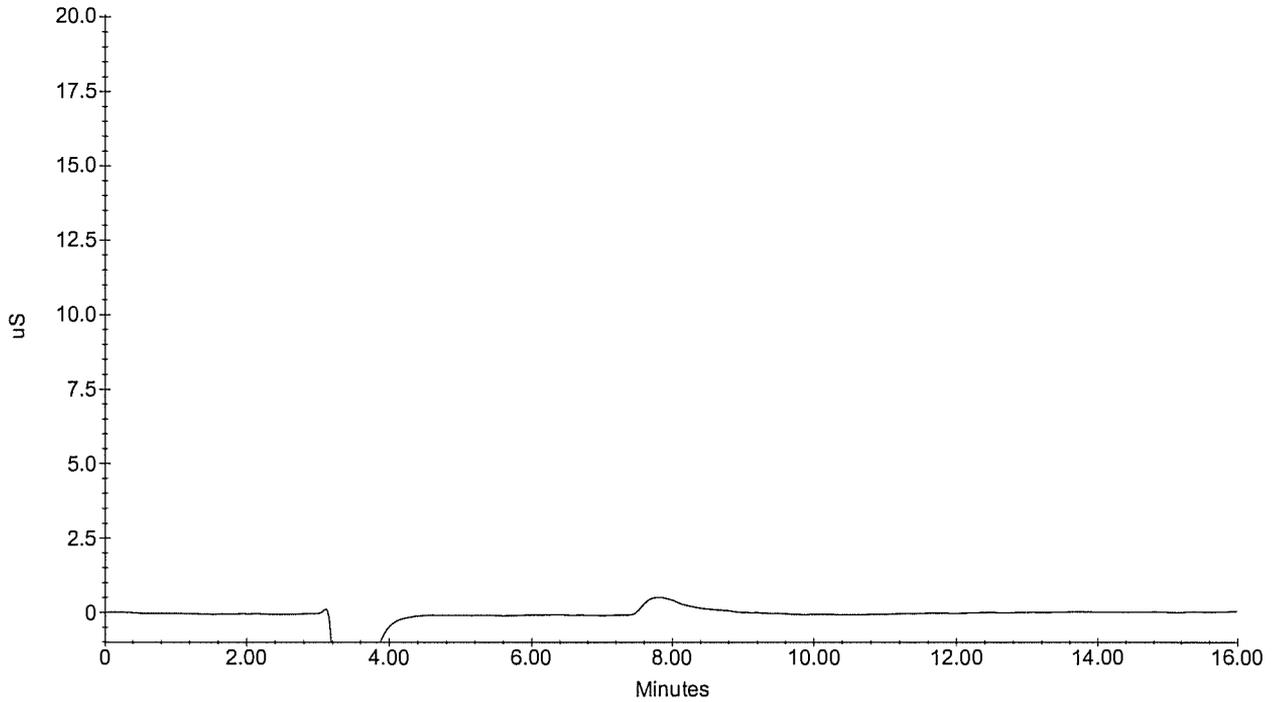


Sample Name : 579627  
Dilution Factor : 1.00  
Injection Number : 20  
Data File Name : ...\\150821\_020.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 7:59:25 PM **010067**  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
			---total(s)---					
0.00			0.000			0		

**579627**

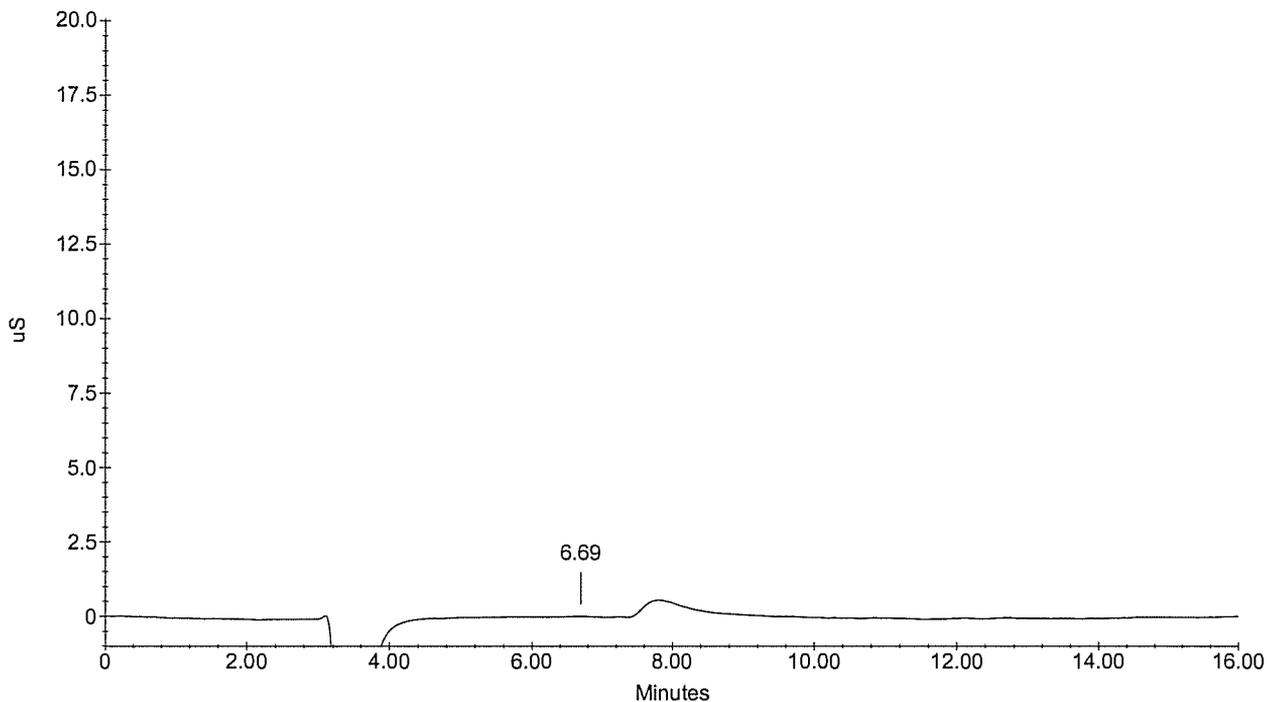


Sample Name : 579628  
 Dilution Factor : 1.00  
 Injection Number : 21  
 Data File Name : ...150821\_021.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 8:18:13 PM **010068**  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	6.69		0.000	19267	387319	1		
			---total(s)---	0.00	387319			

**579628**

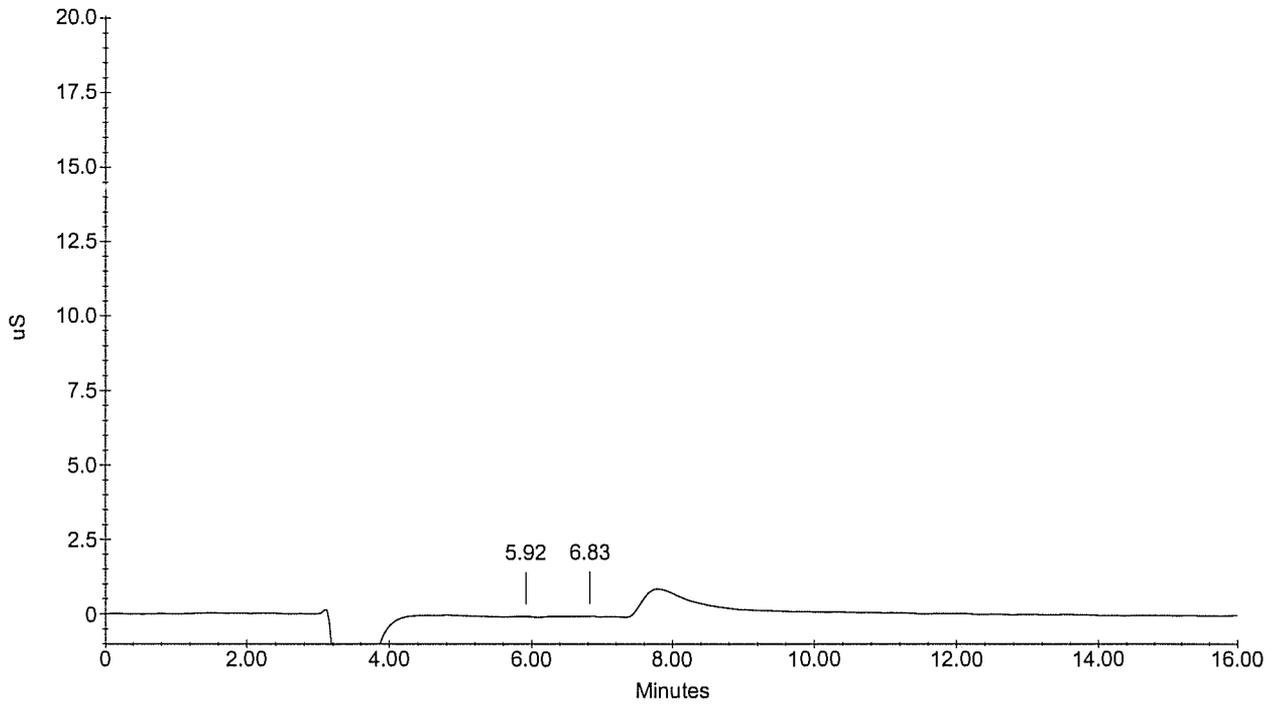


Sample Name : 579629  
 Dilution Factor : 1.00  
 Injection Number : 22  
 Data File Name : ...\\150821\_022.DXD  
 Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 8:37:02 PM **010069**  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	5.92		0.000	25689	468576	1		
			---total(s)---					
0.00			0.000			468576		

**579629**

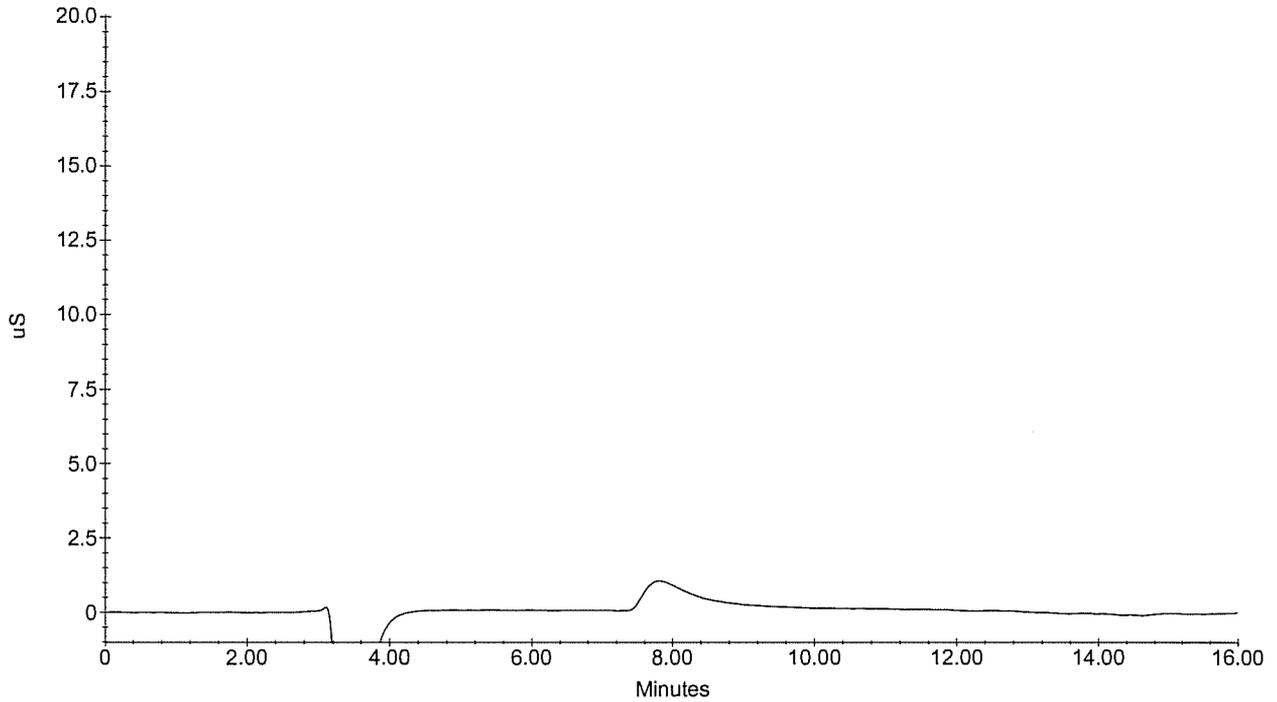


Sample Name : 579630  
Dilution Factor : 1.00  
Injection Number : 23  
Data File Name : ...\\150821\_023.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 8:55:51 PM **010070**  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
				---total(s)---				
0.00				0.000	0			

**579630**

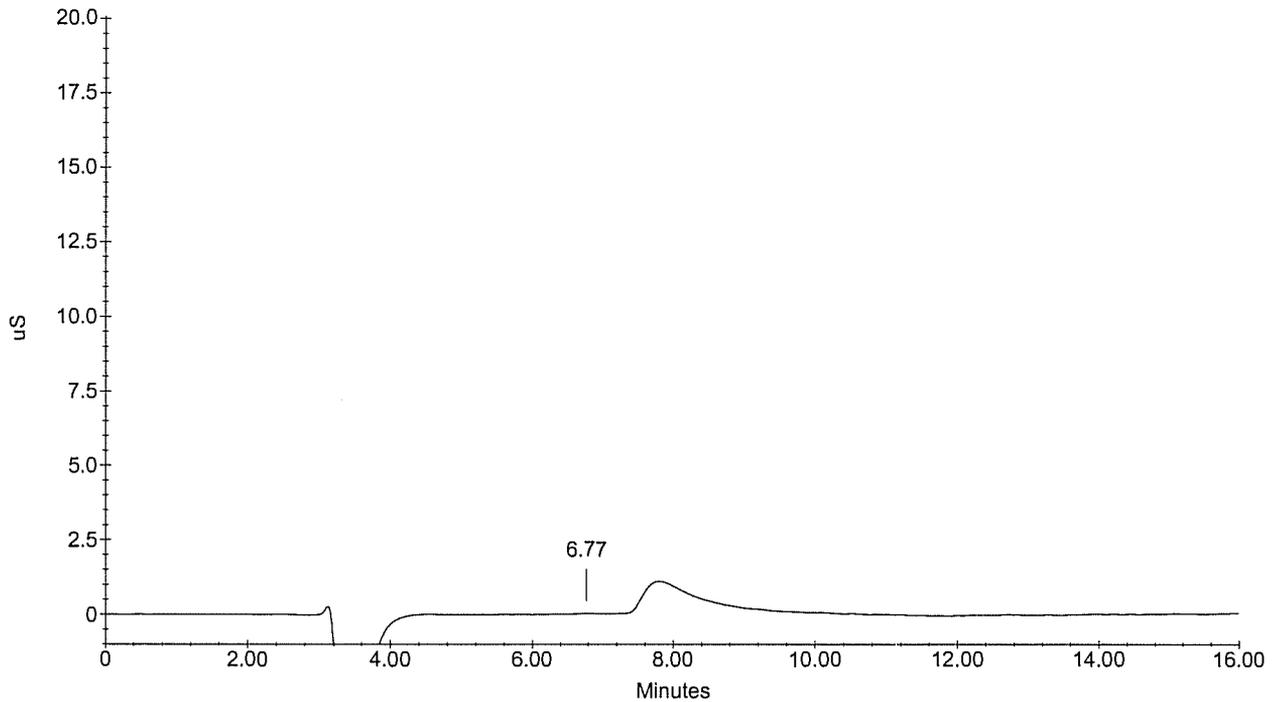


Sample Name : 579631  
Dilution Factor : 1.00  
Injection Number : 24  
Data File Name : ...\\150821\_024.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 9:14:40 PM **010071**  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	6.77		0.000	12254	197572	1		
			---total(s)---					
0.00			0.000	197572				

### 579631

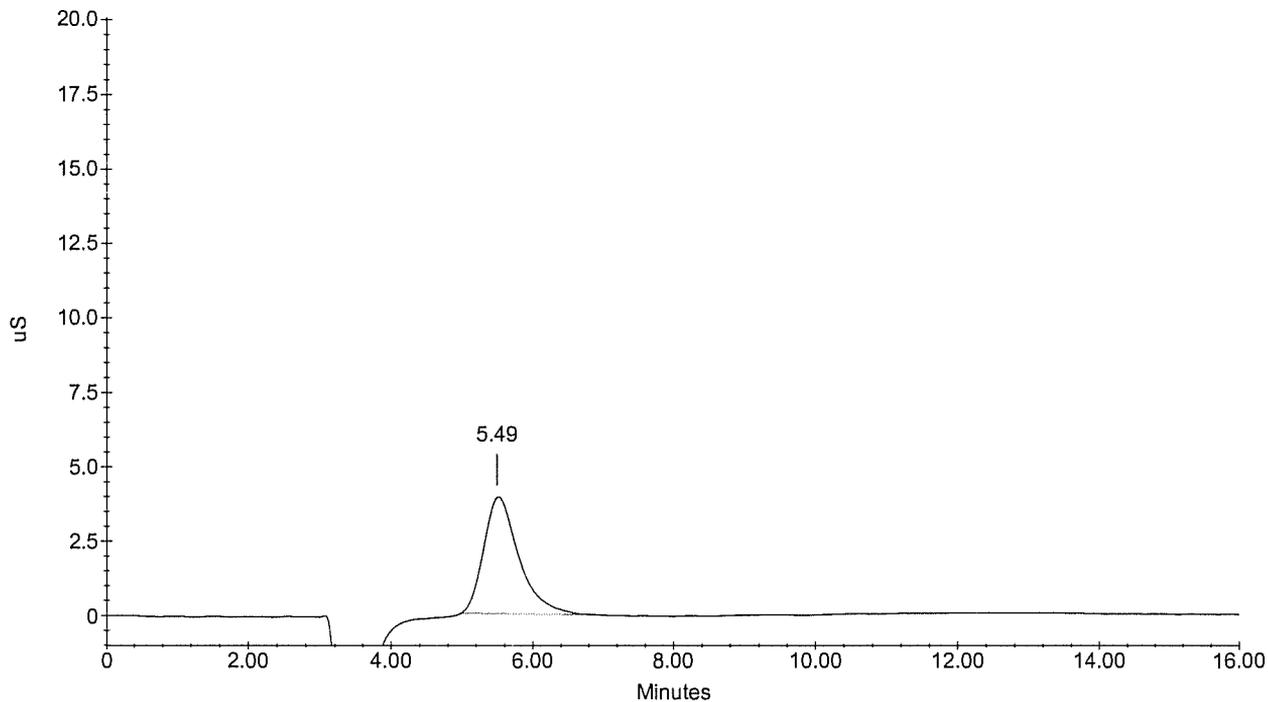


Sample Name : CCV2  
 Dilution Factor : 1.00  
 Injection Number : 25  
 Data File Name : ...150821\_025.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 9:33:29 PM **010072**  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.49	FORMATE	9413.310	3884158	134879095	1	-1.02	
			---total(s)---					
0.00			9413.310		134879095			

### CCV2

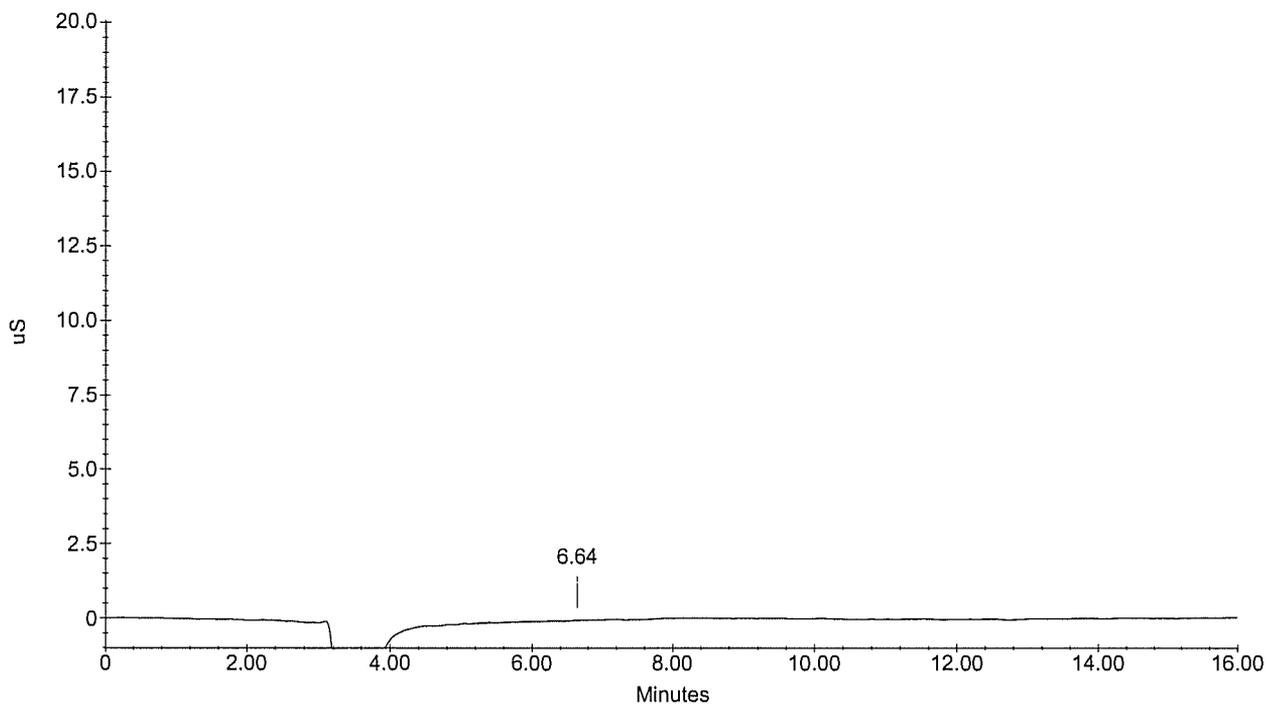


Sample Name : CCB2  
 Dilution Factor : 1.00  
 Injection Number : 26  
 Data File Name : ...150821\_026.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 9:52:17 PM **010073**  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	6.64		0.000	11818	1342142	1		
			---total(s)---					
			0.00	0.000	1342142			

### CCB2



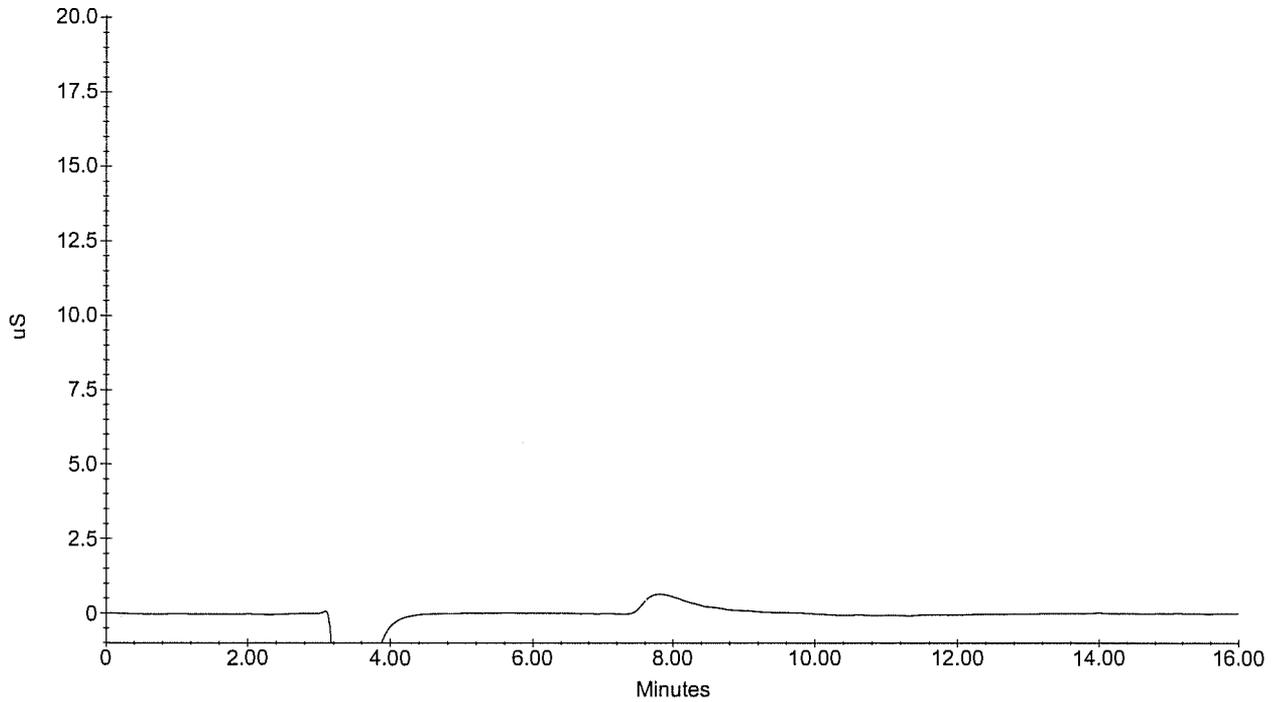
Sample Name : 579632  
 Dilution Factor : 1.00  
 Injection Number : 27  
 Data File Name : ...150821\_027.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

010074

Date Time Collected : 8/21/2015 10:11:06 PM  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
			---total(s)---					
			0.00	0.000	0			

**579632**

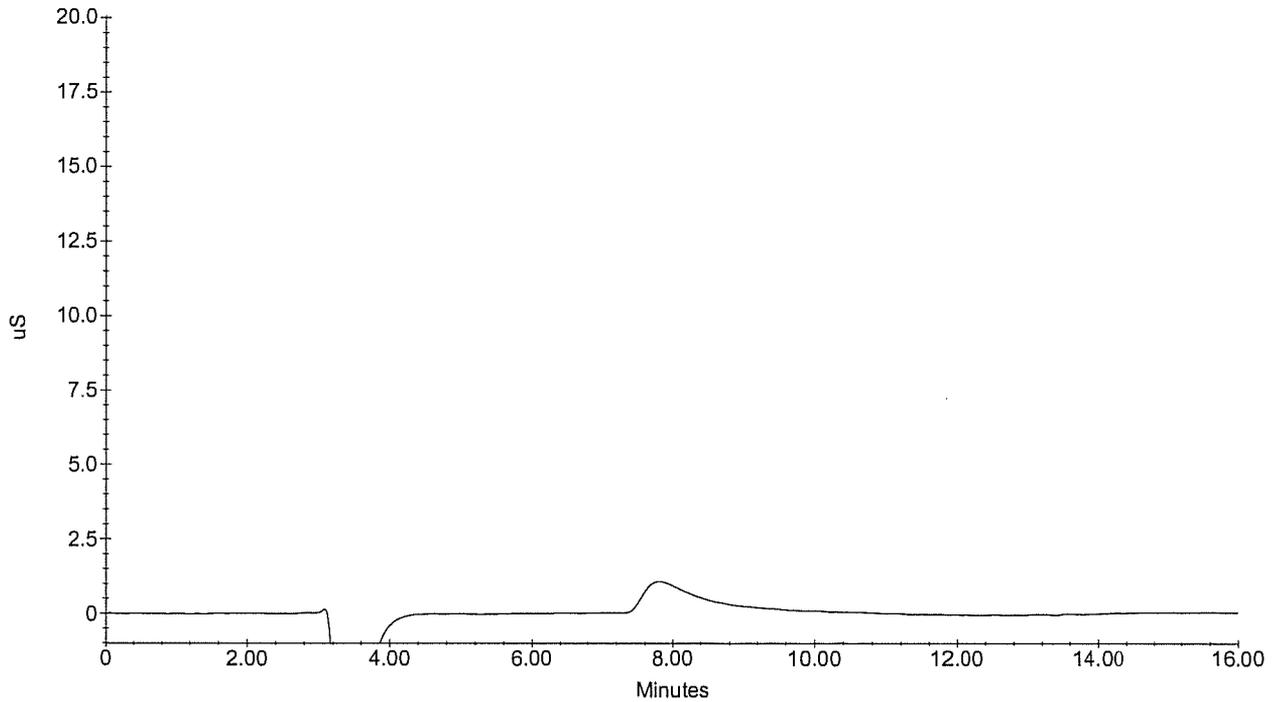


Sample Name : 579633  
Dilution Factor : 1.00  
Injection Number : 28  
Data File Name : ...150821\_028.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 10:29:55 PM **010075**  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
			---total(s)---					
0.00			0.000			0		

**579633**

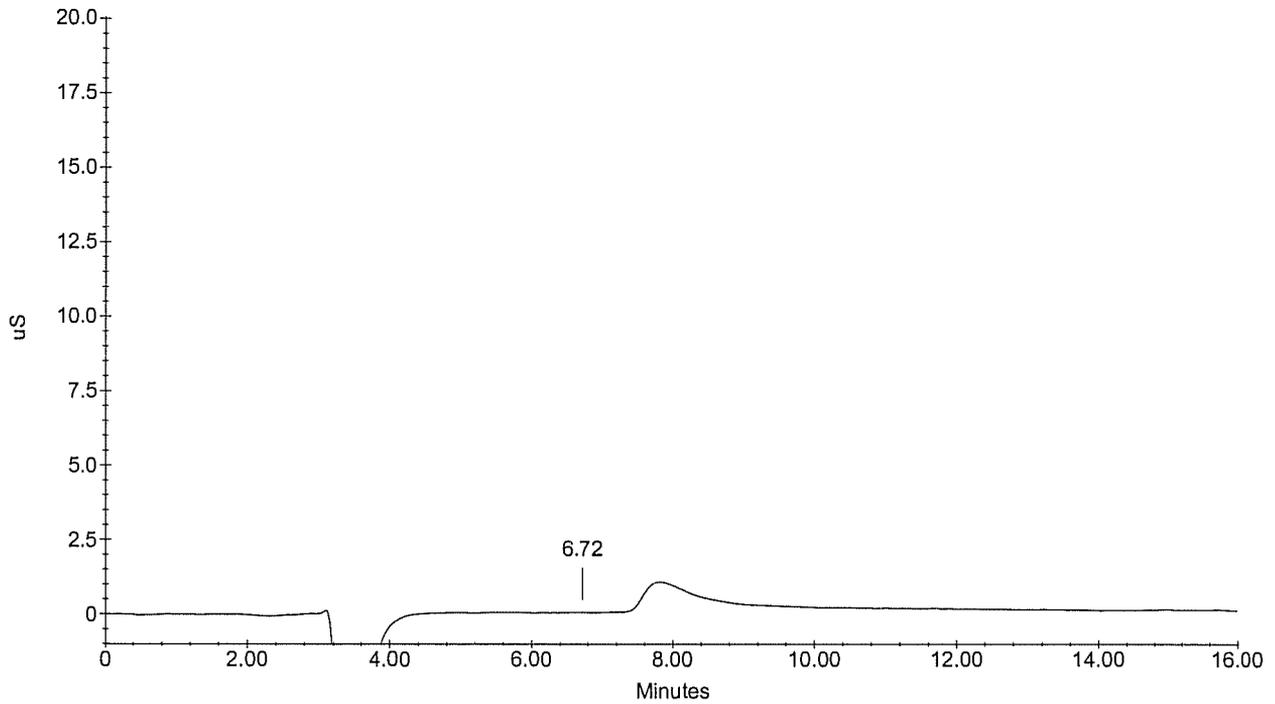


Sample Name : 579634  
Dilution Factor : 1.00  
Injection Number : 29  
Data File Name : ...150821\_029.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 10:48:44 PM **010076**  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	6.72		0.000	17575	280681	1		
			---total(s)---					
0.00			0.000	280681				

**579634**

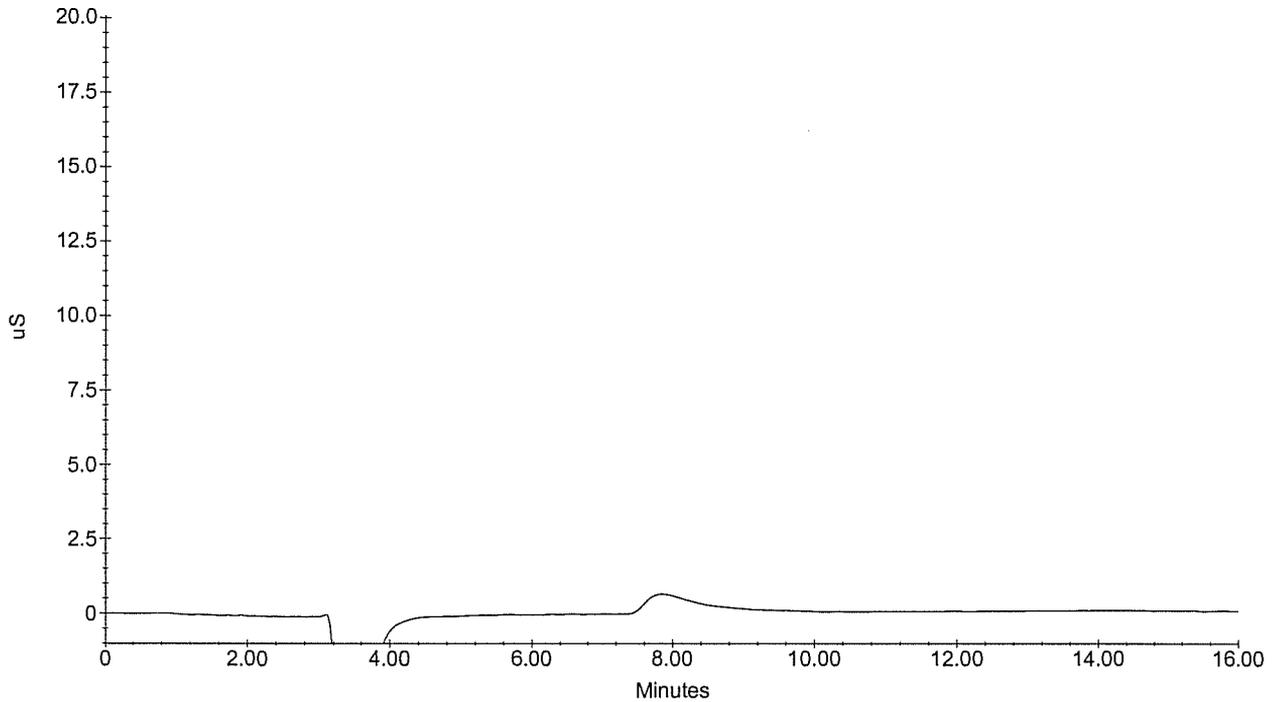


Sample Name : 579635  
Dilution Factor : 1.00  
Injection Number : 30  
Data File Name : ...150821\_030.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/21/2015 11:07:33 PM **010077**  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
			---total(s)---					
0.00			0.000		0			

**579635**

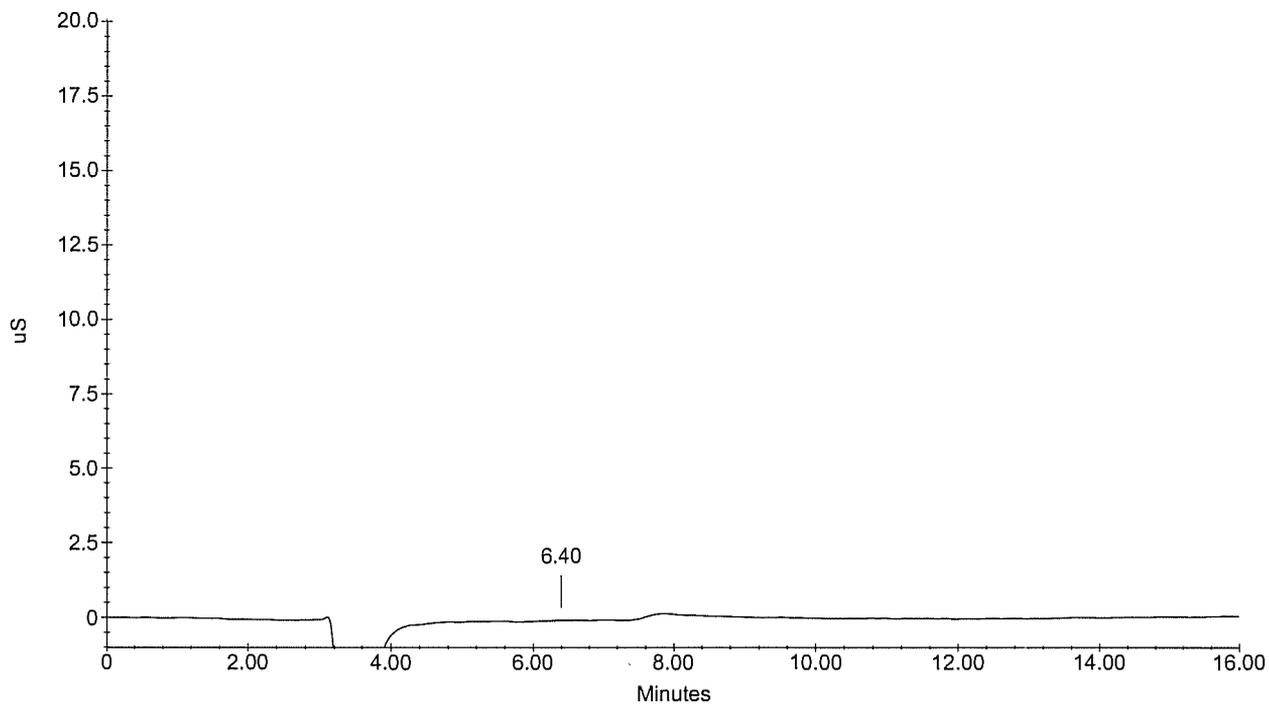


Sample Name : 579636  
 Dilution Factor : 1.00  
 Injection Number : 31  
 Data File Name : ...\\150821\_031.DXD  
 Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 11:26:22 PM **010078**  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	6.40		0.000	39024	1034561	1		
			---total(s)---	0.000	1034561			
0.00								

**579636**



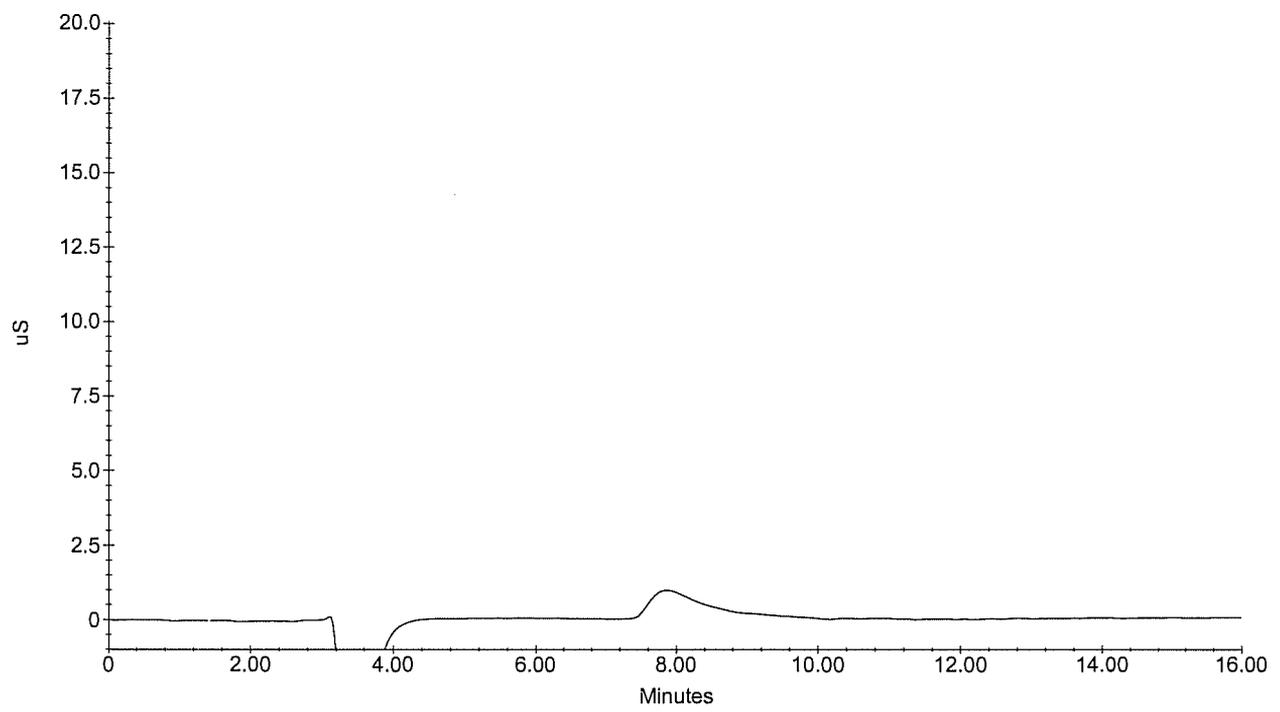
010079

Sample Name : 579637  
Dilution Factor : 1.00  
Injection Number : 32  
Data File Name : ...\\150821\_032.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/21/2015 11:45:10 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
				---total(s)---				
0.00				0.000	0			

**579637**

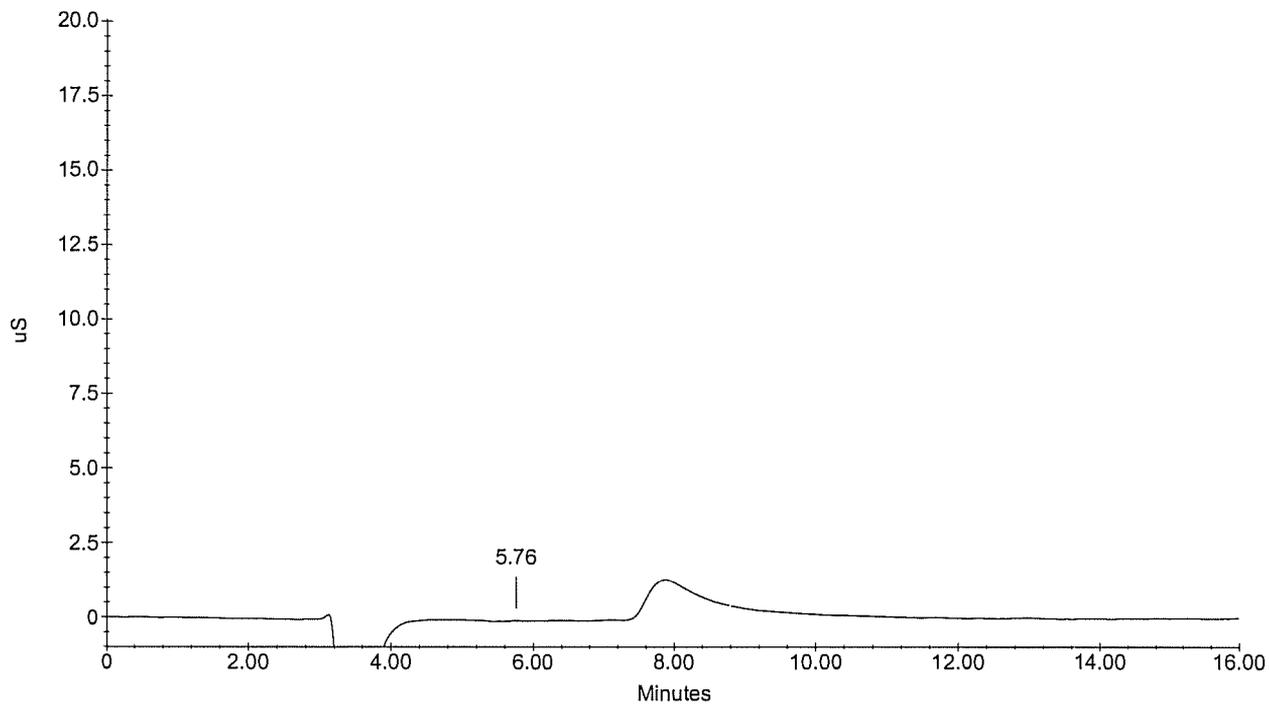


Sample Name : 579638  
Dilution Factor : 1.00  
Injection Number : 33  
Data File Name : ...150821\_033.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/22/2015 12:03:59 AM **010080**  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.76	FORMATE	78.909	21170	298645	1	3.78	
				---total(s)---				
0.00				78.909	298645			

**579638**

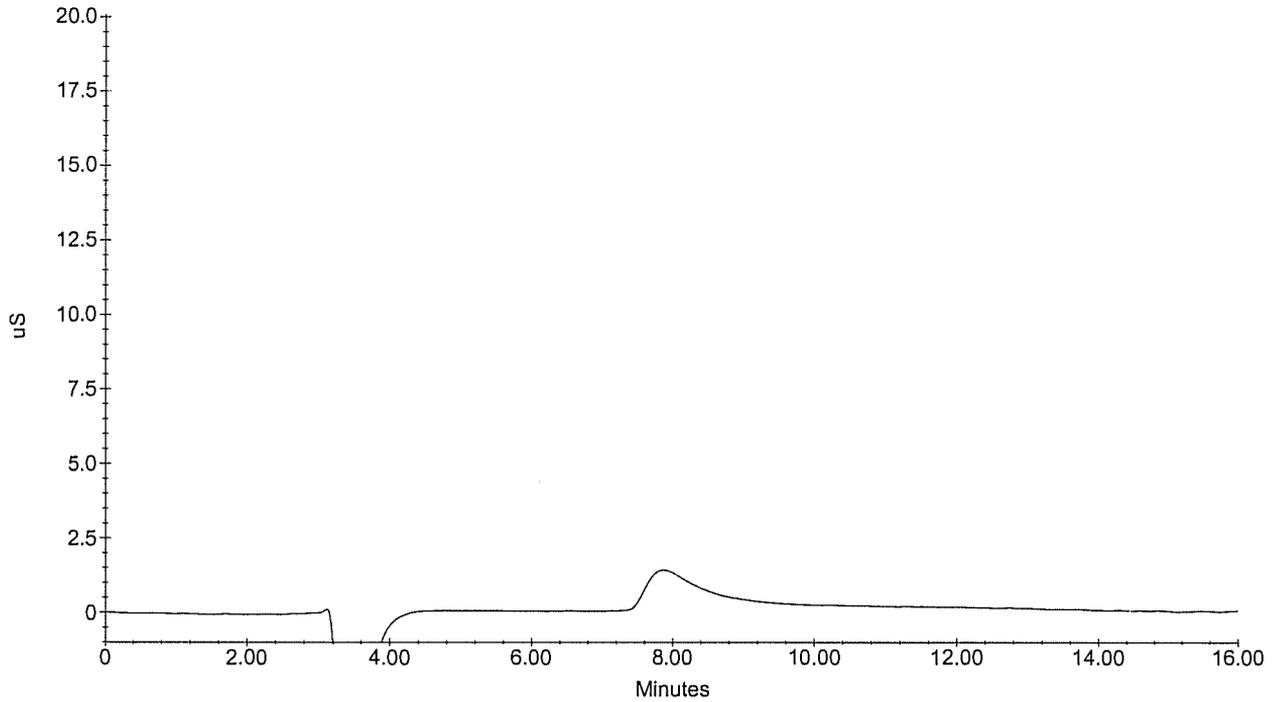


Sample Name : 579639  
 Dilution Factor : 1.00  
 Injection Number : 34  
 Data File Name : ...150821\_034.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/22/2015 12:22:48 AM **010081**  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
			---total(s)---					
0.00			0.000			0		

**579639**

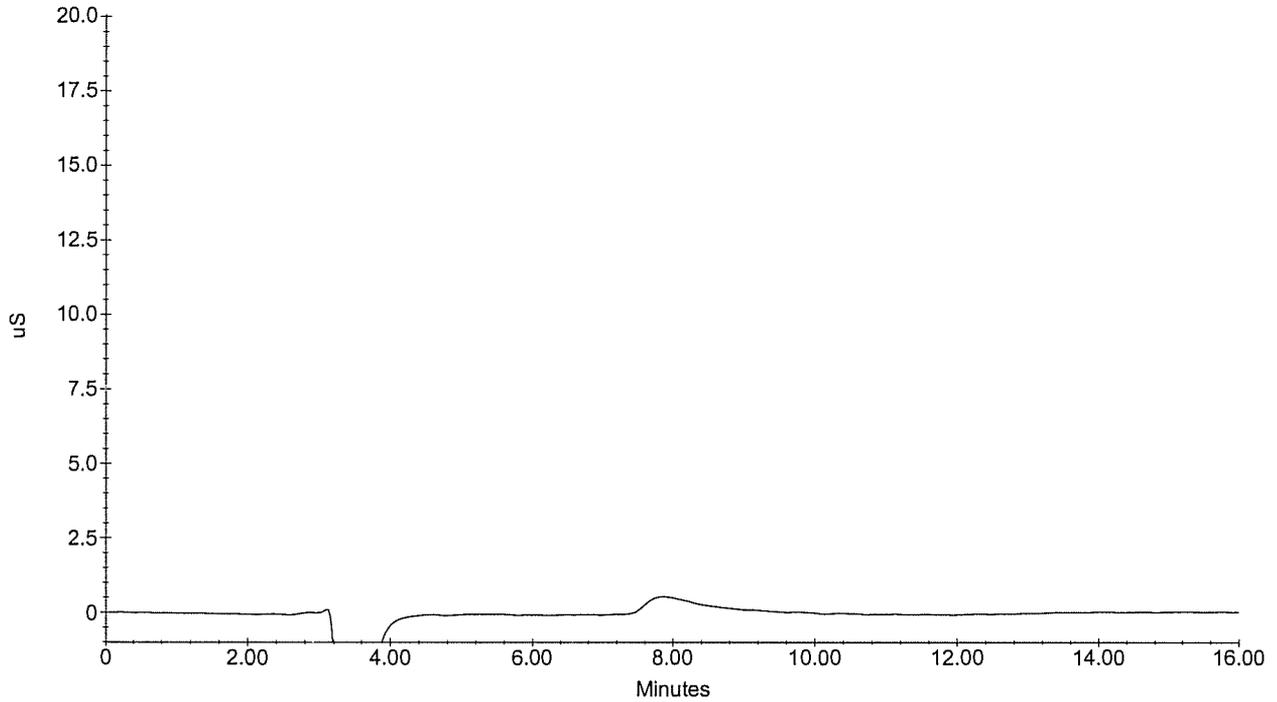


Sample Name : 579640  
Dilution Factor : 1.00  
Injection Number : 35  
Data File Name : ...150821\_035.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/22/2015 12:41:37 AM **010082**  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
			---total(s)---					
0.00			0.000			0		

**579640**

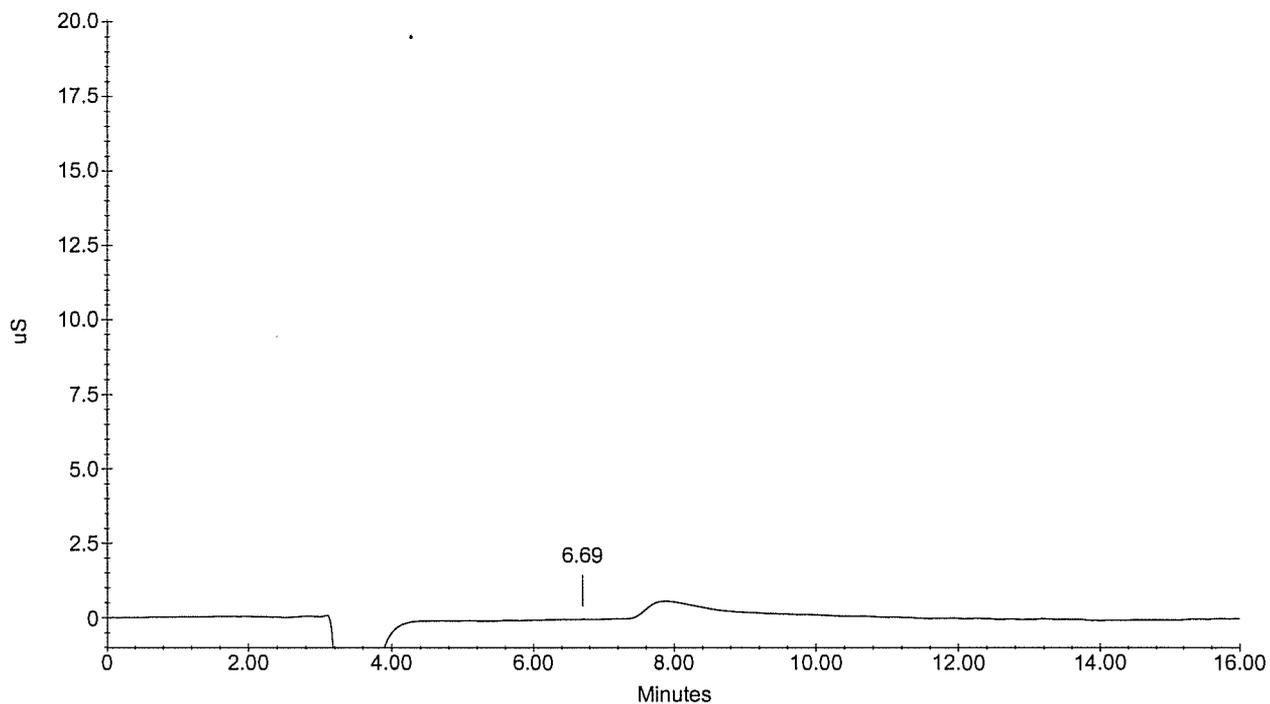


Sample Name : 579621D  
 Dilution Factor : 1.00  
 Injection Number : 36  
 Data File Name : ...\\150821\_036.DXD  
 Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/22/2015 1:00:26 AM **010083**  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	6.69		0.000	9907	754901	1		
			---total(s)---					
	0.00		0.000		754901			

### 579621D

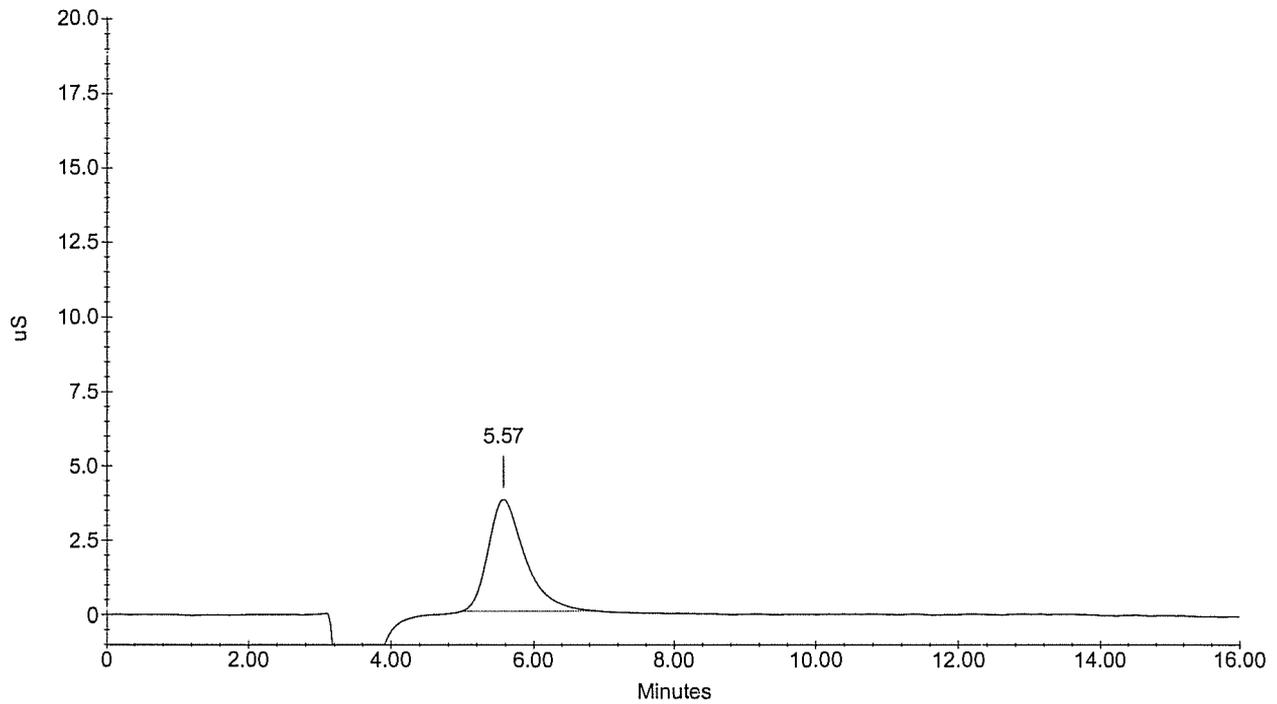


Sample Name : CCV3  
Dilution Factor : 1.00  
Injection Number : 37  
Data File Name : ...150821\_037.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\21AUG15.sch

Date Time Collected : 8/22/2015 1:19:14 AM **010084**  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	5.57	FORMATE	9443.550	3744773	135315590	1	0.42	
			---total(s)---					
0.00			9443.550		135315590			

### CCV3

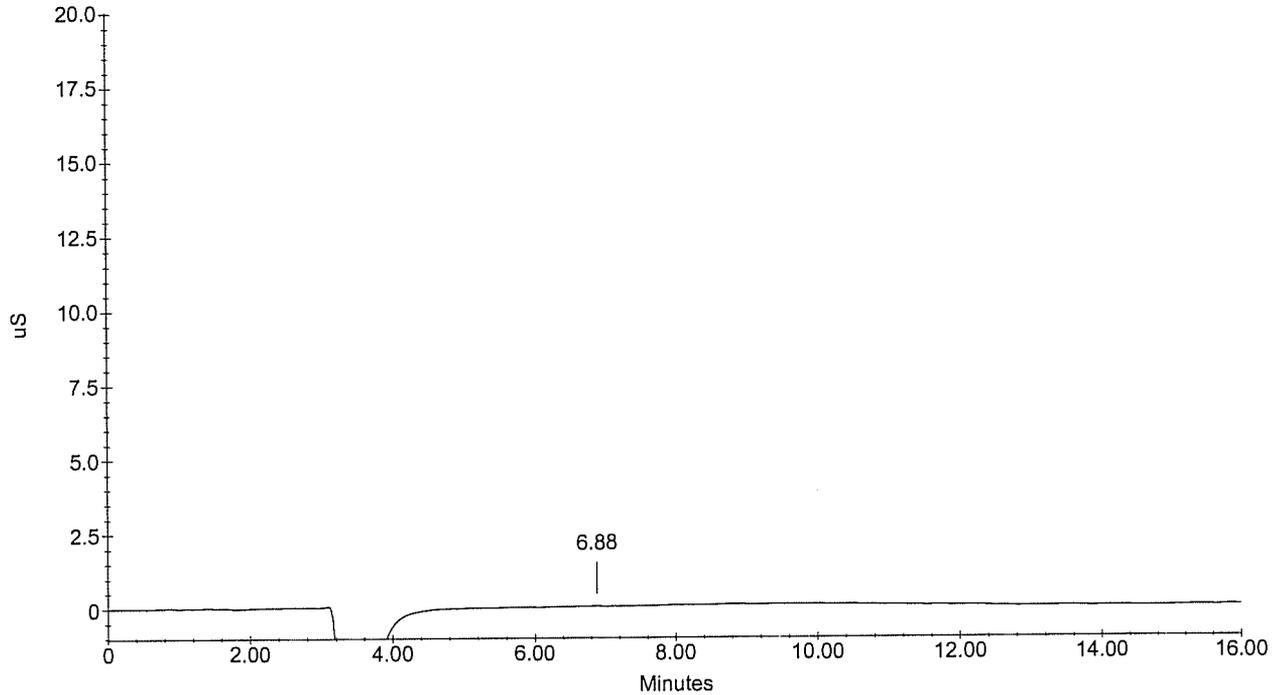


Sample Name : CCB3  
 Dilution Factor : 1.00  
 Injection Number : 38  
 Data File Name : ...\\150821\_038.DXD  
 Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\\PeakNet\\schedule\\21AUG15.sch

Date Time Collected : 8/22/2015 1:38:03 AM **010085**  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components						
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code %Delta
1	6.88		0.000	1103	146580	1
			---total(s)---			
	0.00		0.000		146580	

**CCB3**



# IC 9056A

010086

Southwest Research Institute  
San Antonio, Texas 78228

Batch: 20150904-A004 (Ver. 2)  
Status: COMPLETED

Limit: IC 9056A  
Analysis Method: IC 9056A (TAP: TAP-01-0406-042)  
Instrument: IC DX500  
Data File Name: 150825.csv  
Analyte Test: IC 9056A  
Start Time: 08/25/2015 16:10:39  
Stop Time: 08/25/2015 23:42:10  
Task Order: 150807-13, 150807-12  
Project: 20933.01.00X  
Customer: CH2M Hill Plateau Remediation Company  
SDG: 579641, 579621  
Qualifier Set: Default

Sample Identification	Client Identification	Formate/Formic acid		
		Analyte Result (ug/L)	Final Result (mg/Kg)	RL (mg/Kg)
ICV ^	NA	9210	9.41 (mg/L)	0.102 (mg/L)
ICB	NA	0.00 U	0.100 U (mg/L)	0.102 (mg/L)
LLC ^^	NA	118	0.121 (mg/L)	0.102 (mg/L)
PB15J03JH6 +	NA	0.00 U	0.852 U	0.852
LCS15J03JH2 +	NA	9250	946	10.2
579641 ++	B32D76	0.00 U	0.977 U	0.977
579641D ++	B32D76	0.00 U	1.09 U	1.09
579641S ++	B32D76	9330	88.1	0.944
CCV ^	NA	9270	9.48 (mg/L)	0.102 (mg/L)
CCB	NA	0.00 U	0.100 U (mg/L)	0.102 (mg/L)
579642 ++	B32DK9	0.00 U	0.946 U	0.946
579643 ++	B32DL0	0.00 U	1.00 U	1.00
579644 ++	B32F19	0.00 U	0.935 U	0.935
579645 ++	B32F22	0.00 U	0.943 U	0.943
579646 ++	B32F25	89.3 U	1.20 U	1.20
579647 ++	B32F28	0.00 U	0.946 U	0.946
579648 ++	B32F31	0.00 U	1.07 U	1.07
579640 +++	B32D73	0.00 U	0.00931 U	0.00931
579621S +++	B32D16	9230	85.3	0.924
CCV2 ^	NA	9180	9.38 (mg/L)	0.102 (mg/L)
CCB2	NA	0.00 U	0.100 U (mg/L)	0.102 (mg/L)

^ spiked .05 mL of 27-04-WCS11 (ChemInv# UNDEFINED, Source: UNDEFINED, Exp: ) at 1000  
^^ spiked .0005 mL of 27-04-WCS11 (ChemInv# UNDEFINED, Source: UNDEFINED, Exp: ) at 1000

+ prepared in batch 20150903-A019  
++ prepared in batch 20150903-A017  
+++ prepared in batch 20150903-A016

Comments: NA

U - Result is less than the SwRI Reporting Limit (RL)

Prepared by: HERRERA, JUDY

Date: 08/25/2015

Reviewed by: MOKEN, JAMES

Date: 9/4/15

Line	Sample	Sample Type	Level	Method	Data File	Dilution
1	ICV	Sample		ice-as1_formate_150810.met	150825_001.dxd	1
2	ICB	Sample		ice-as1_formate_150810.met	150825_002.dxd	1
3	LLC	Sample		ice-as1_formate_150810.met	150825_003.dxd	1
4	LOD	Sample		ice-as1_formate_150810.met	150825_004.dxd	1
5	LOQ1	Sample		ice-as1_formate_150810.met	150825_005.dxd	1
6	LOQ2	Sample		ice-as1_formate_150810.met	150825_006.dxd	1
7	LOQ3	Sample		ice-as1_formate_150810.met	150825_007.dxd	1
8	PB 22-00114*	Sample		ice-as1_formate_150810.met	150825_008.dxd	1
9	LCS 22-00114*	Sample		ice-as1_formate_150810.met	150825_009.dxd	1
10	579641	Sample		ice-as1_formate_150810.met	150825_010.dxd	1
11	579641D	Sample		ice-as1_formate_150810.met	150825_011.dxd	1
12	579641S	Sample		ice-as1_formate_150810.met	150825_012.dxd	1
13	CCV	Sample		ice-as1_formate_150810.met	150825_013.dxd	1
14	CCB	Sample		ice-as1_formate_150810.met	150825_014.dxd	1
15	579642*	Sample		ice-as1_formate_150810.met	150825_015.dxd	1
16	579643	Sample		ice-as1_formate_150810.met	150825_016.dxd	1
17	579644	Sample		ice-as1_formate_150810.met	150825_017.dxd	1
18	579645	Sample		ice-as1_formate_150810.met	150825_018.dxd	1
19	579646	Sample		ice-as1_formate_150810.met	150825_019.dxd	1
20	579647	Sample		ice-as1_formate_150810.met	150825_020.dxd	1
21	579648	Sample		ice-as1_formate_150810.met	150825_021.dxd	1
22	579640	Sample		ice-as1_formate_150810.met	150825_022.dxd	1
23	579621S	Sample		ice-as1_formate_150810.met	150825_023.dxd	1
24	CCV2	Sample		ice-as1_formate_150810.met	150825_024.dxd	1
25	CCB2	Sample		ice-as1_formate_150810.met	150825_025.dxd	1
26	STOP	Sample		astop.met	150825	1

Default Method Path: C:\PEAKNET\METHOD.ACI  
 Default Data Path: C:\PEAKNET\DATA\150825  
 Comment:  
 CH2M Hill Plateau Remediation Company, 20033-01-006, TO# 150807-12  
 20059.01.006

"M" INDICATES MANUAL INTEGRATION

ICV:  
 27-04-10-10 WCSII TE 9/9/15 JCU  
 T.V. = 10 ppm

LLC:  
 27-04-10-10 WCSII TE 9/9/15 JCU  
 T.V. = 0.100 ppm

EP:  
 5000-3  
 1000-1  
 200-H

\* 08/28/15 JCU  
 \* sample should read 579 --- 08/28/15 JCU

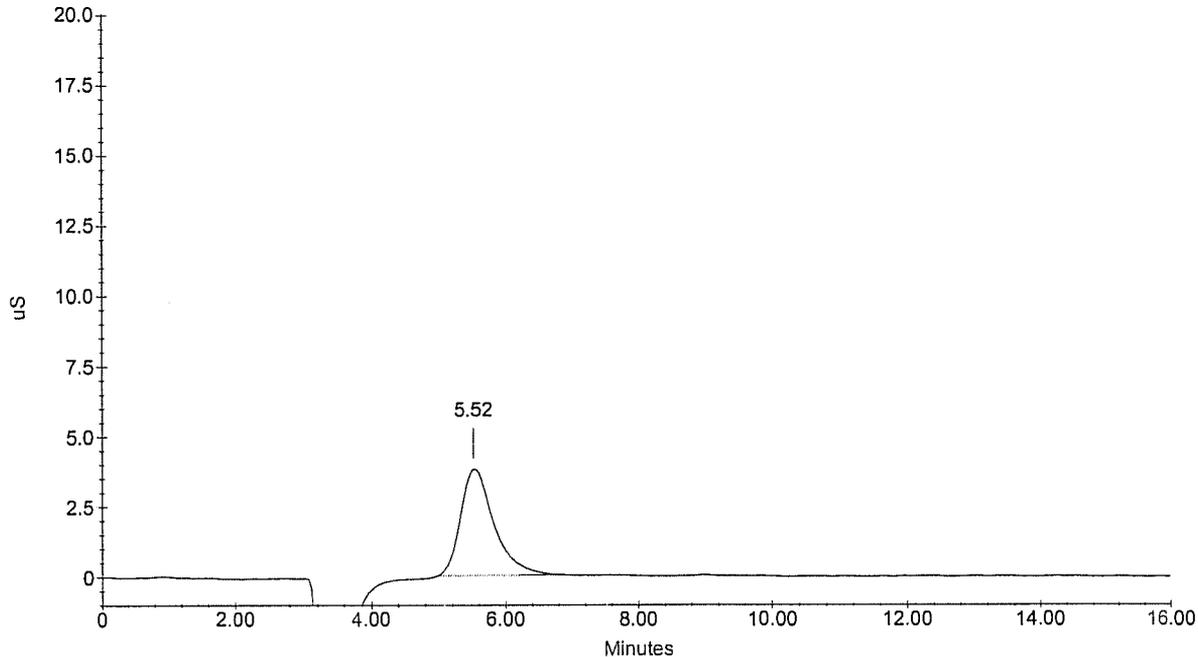
*Handwritten signature:* JCU  
 8/26/15

Sample Name : ICV  
Dilution Factor : 1.00  
Injection Number : 1  
Data File Name : ...150825\_001.DXD  
Method File Name : ...NICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 4:10:39 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.52	FORMATE	9206.919	3764761	131900033	1	-0.54	
			---total(s)---					
0.00			9206.919	131900033				

## ICV

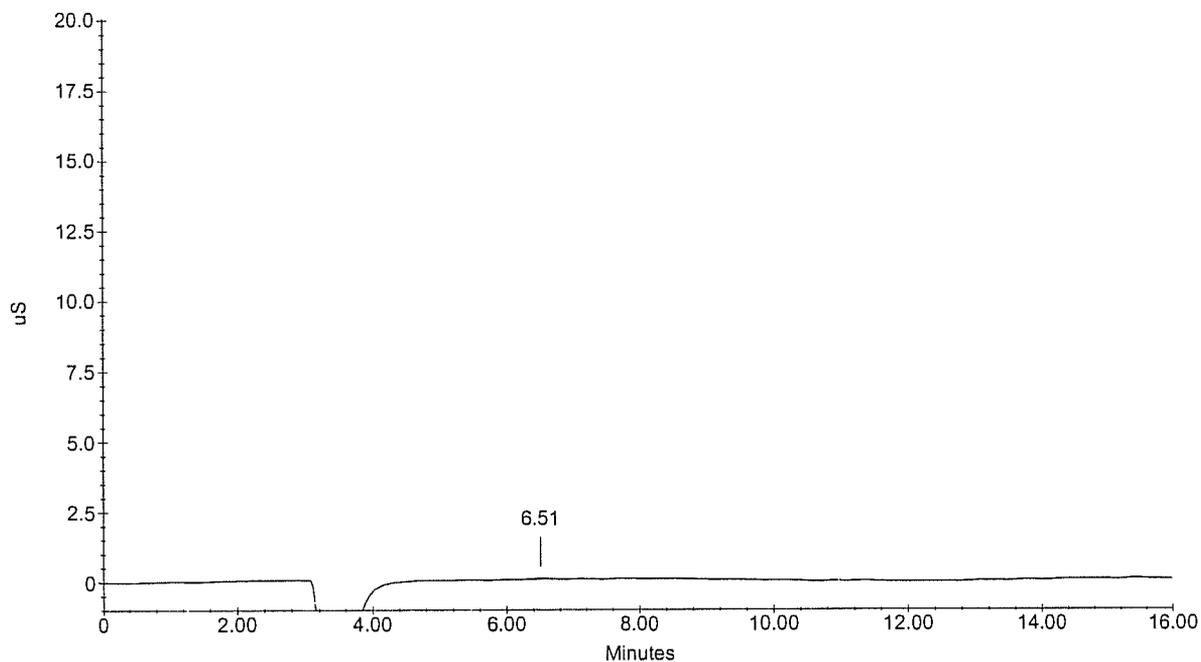


Sample Name : ICB  
Dilution Factor : 1.00  
Injection Number : 2  
Data File Name : ...150825\_002.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 4:29:27 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components						
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code %Delta
1	6.51		0.000	37540	822167	1
			---total(s)---			
	0.00		0.000		822167	

## ICB

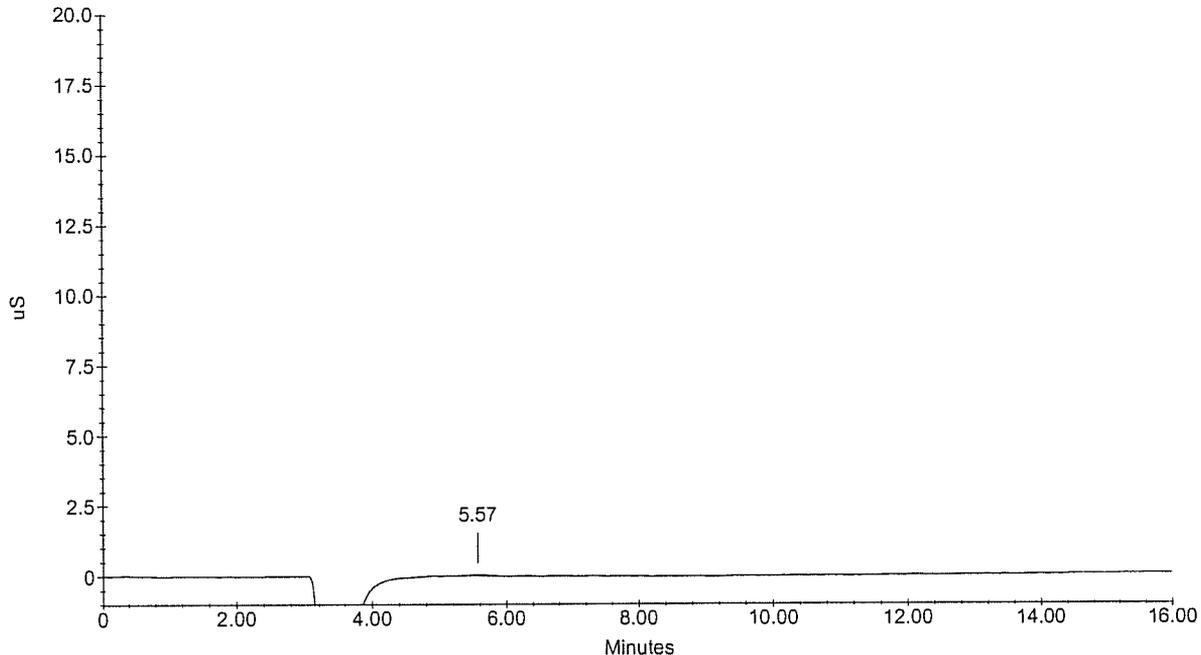


Sample Name : LLC  
Dilution Factor : 1.00  
Injection Number : 3  
Data File Name : ...\\150825\_003.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 4:48:16 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components							
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta
1	5.57	FORMATE	117.774	38007	858349	1	0.42
			---total(s)---				
0.00			117.774		858349		

## LLC

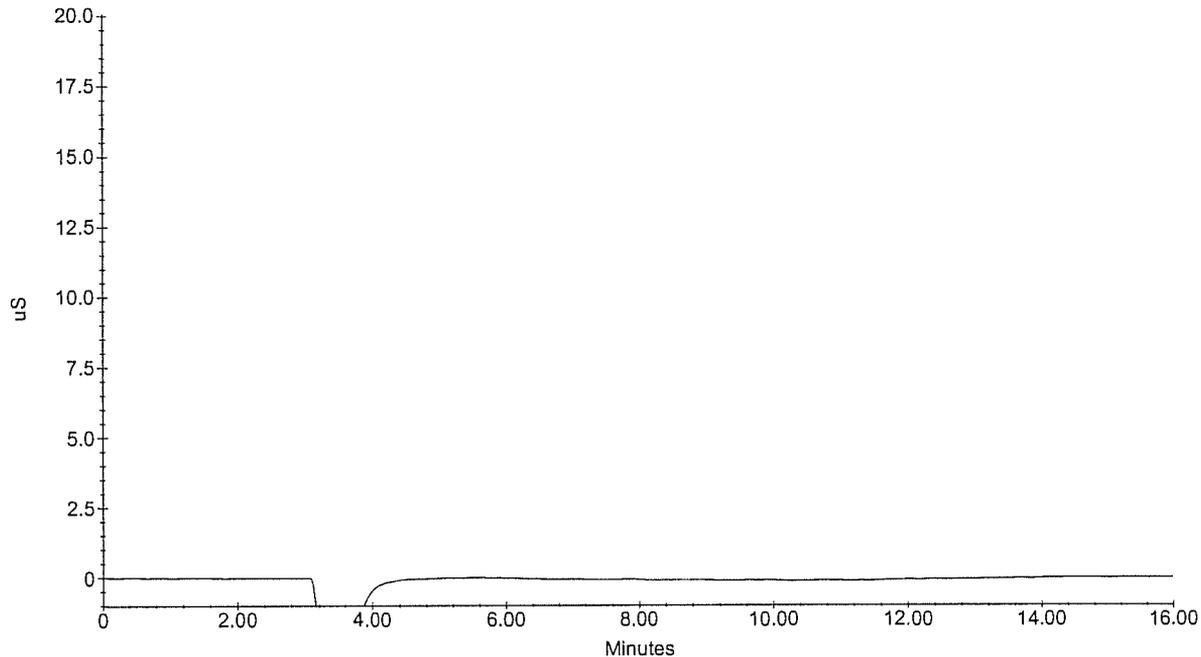


Sample Name : LOD  
Dilution Factor : 1.00  
Injection Number : 4  
Data File Name : ...\\150825\_004.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 5:07:05 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0	0	0.00	
			---total(s)---					
0.00			0.000			0		

### LOD

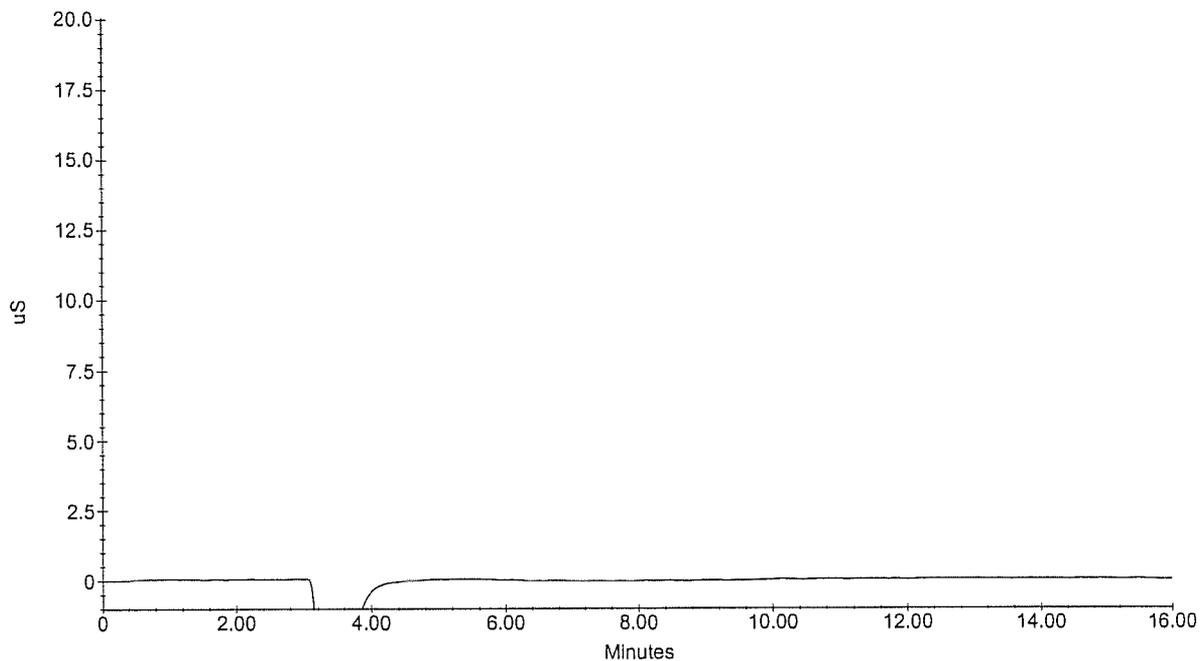


Sample Name : LOQ1  
Dilution Factor : 1.00  
Injection Number : 5  
Data File Name : ...\\150825\_005.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 5:25:54 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
0	0.00	(null)	0.000	0	0	0	0.00	
			---total(s)---					
0.00			0.000			0		

## LOQ1

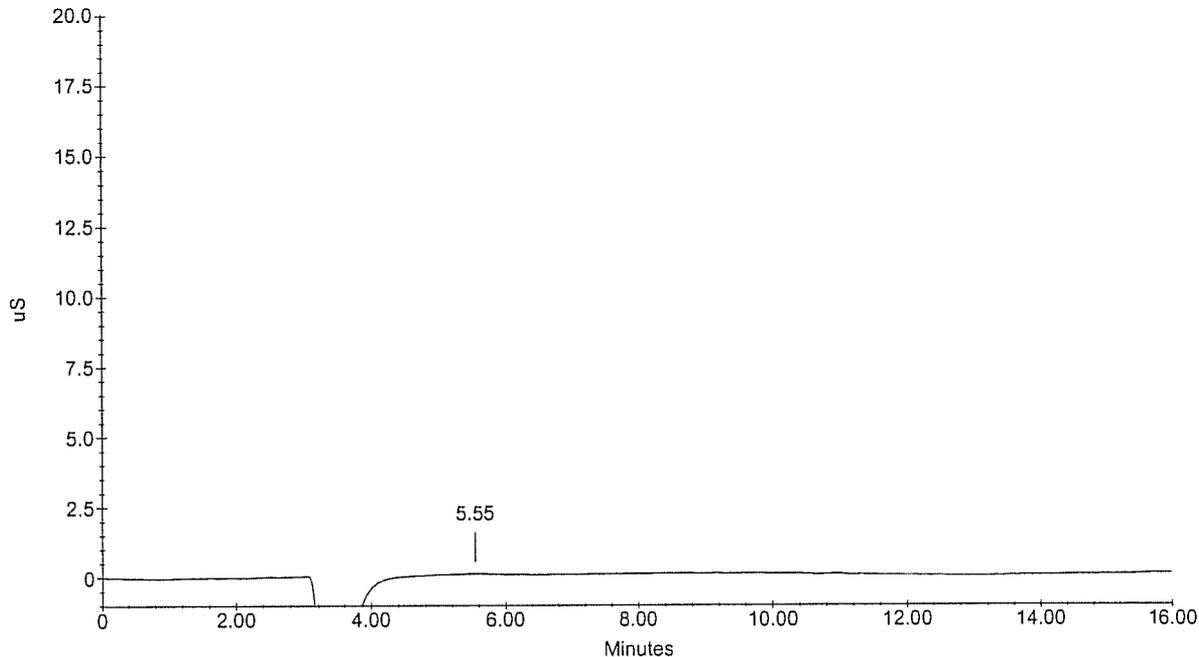


Sample Name : LOQ2  
Dilution Factor : 1.00  
Injection Number : 6  
Data File Name : ...\\150825\_006.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 5:44:43 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components							
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta
1	5.55	FORMATE	124.845	40898	960178	1	-0.06
			---total(s)---				
0.00			124.845		960178		

## LOQ2

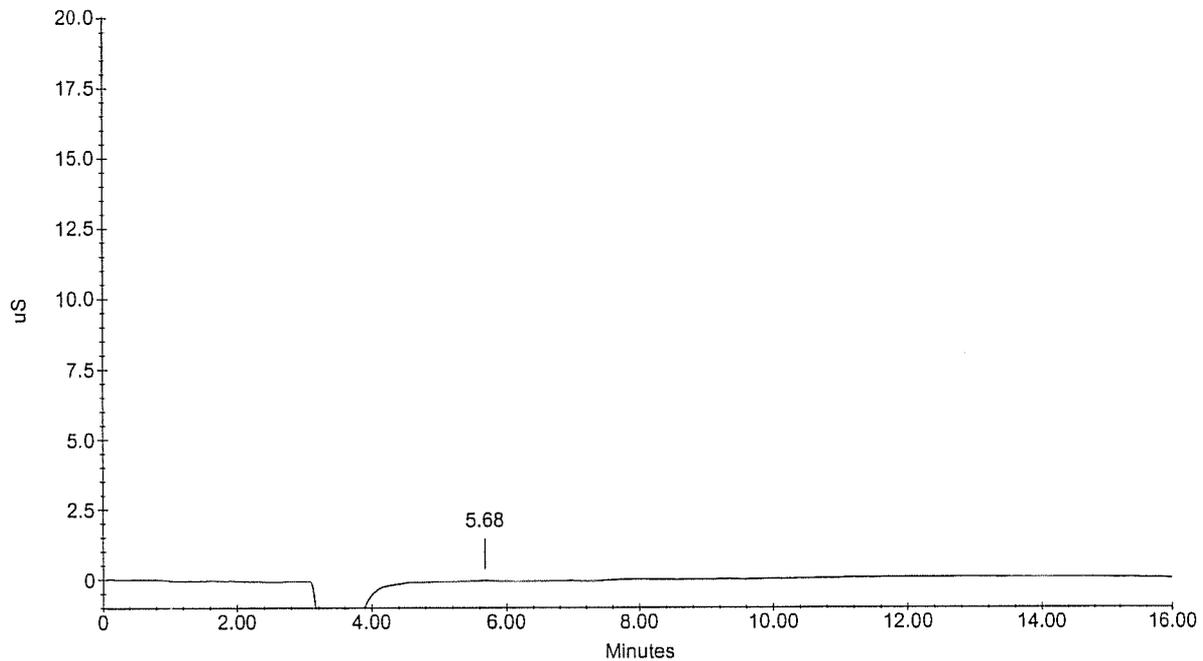


Sample Name : LOQ3  
Dilution Factor : 1.00  
Injection Number : 7  
Data File Name : ...150825\_007.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 6:03:31 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.68	FORMATE	132.456	38883	1069784	1	2.34	
			---total(s)---					
0.00			132.456	1069784				

## LOQ3

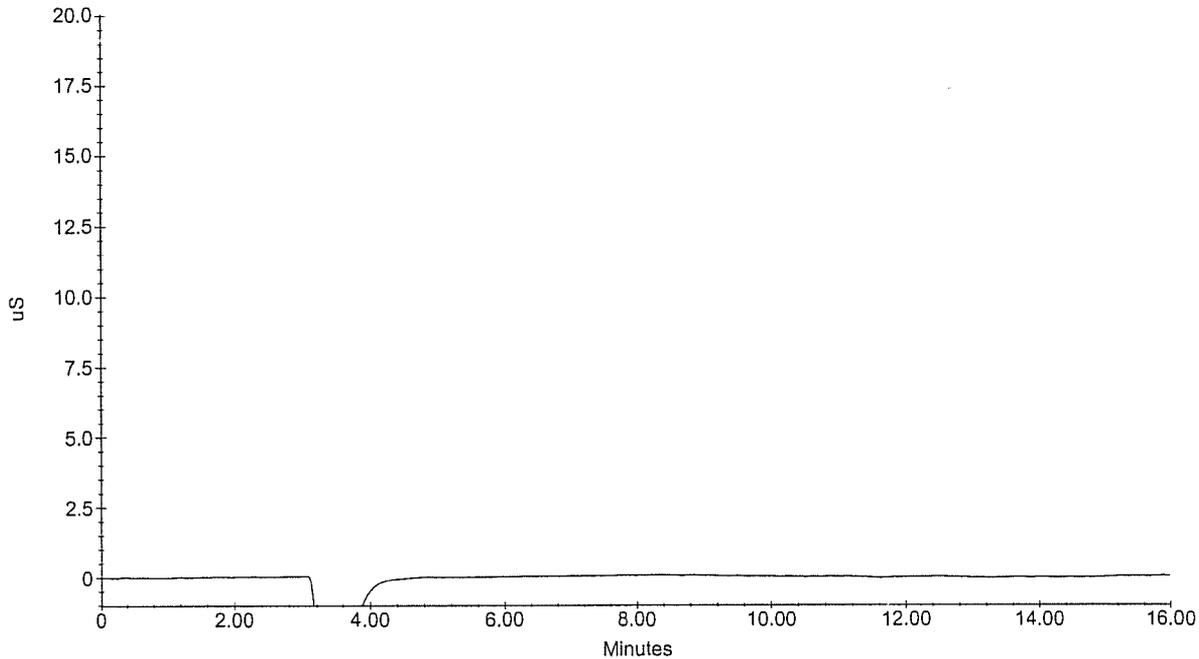


Sample Name : PB  
Dilution Factor : 1.00  
Injection Number : 8  
Data File Name : ...150825\_008.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 6:22:20 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
0	0.00	(null)	0.000	0	0	0	0.00	
			---total(s)---					
0.00			0.000			0		

PB 22-00114\*



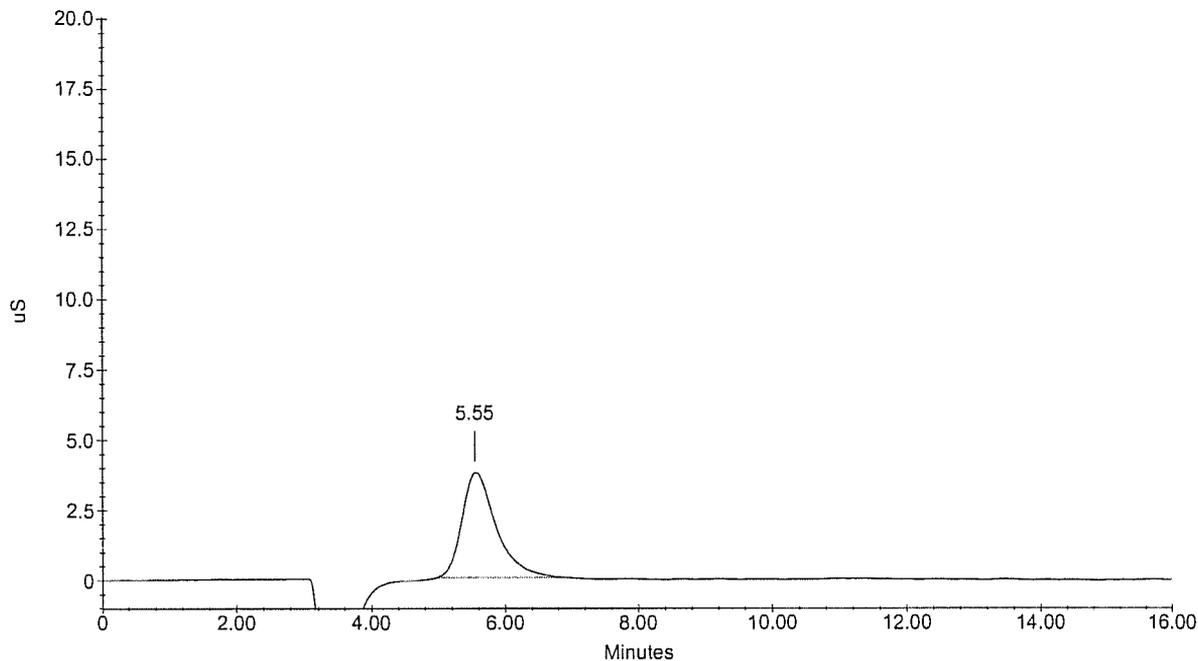
\* Cl 08128159cu

Sample Name : LCS  
Dilution Factor : 1.00  
Injection Number : 9  
Data File Name : ...150825\_009.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 6:41:09 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.55	FORMATE	9247.112	3713146	132480166	1	-0.06	
			---total(s)---					
0.00			9247.112	132480166				

LCS 02-00114\*



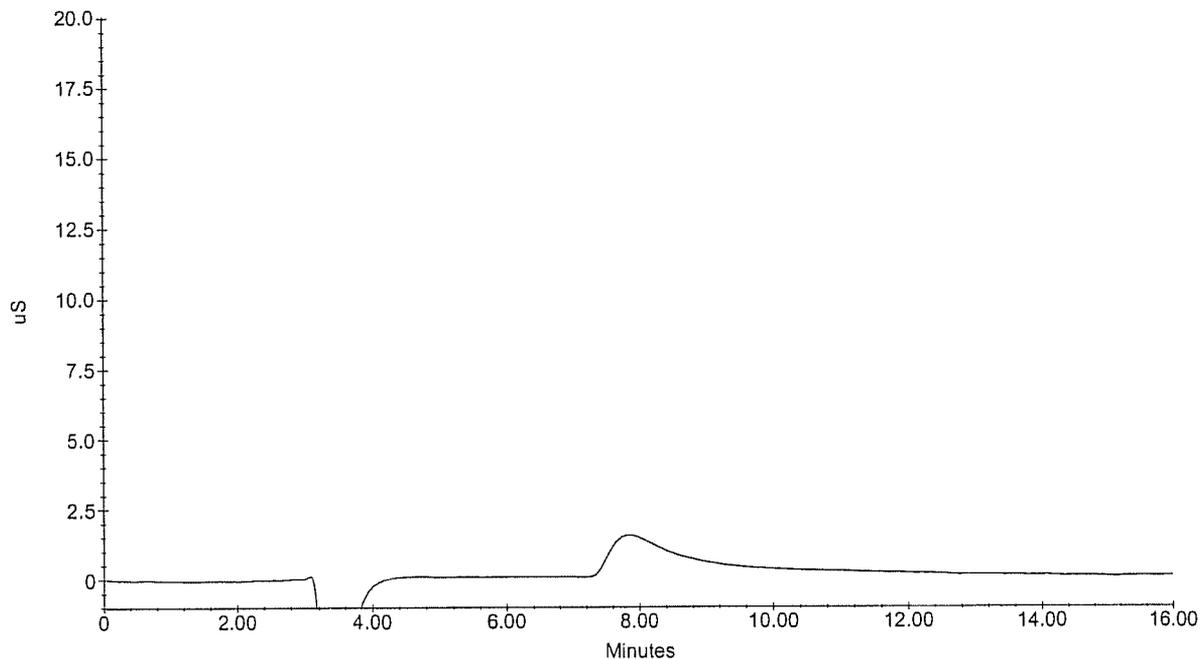
\* el 08/28/15 gclm

Sample Name : 579641  
Dilution Factor : 1.00  
Injection Number : 10  
Data File Name : ...\\150825\_010.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 6:59:58 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
0	0.00	(null)	0.000	0	0	0	0.00	
			---total(s)---					
0.00			0.000			0		

## 579641

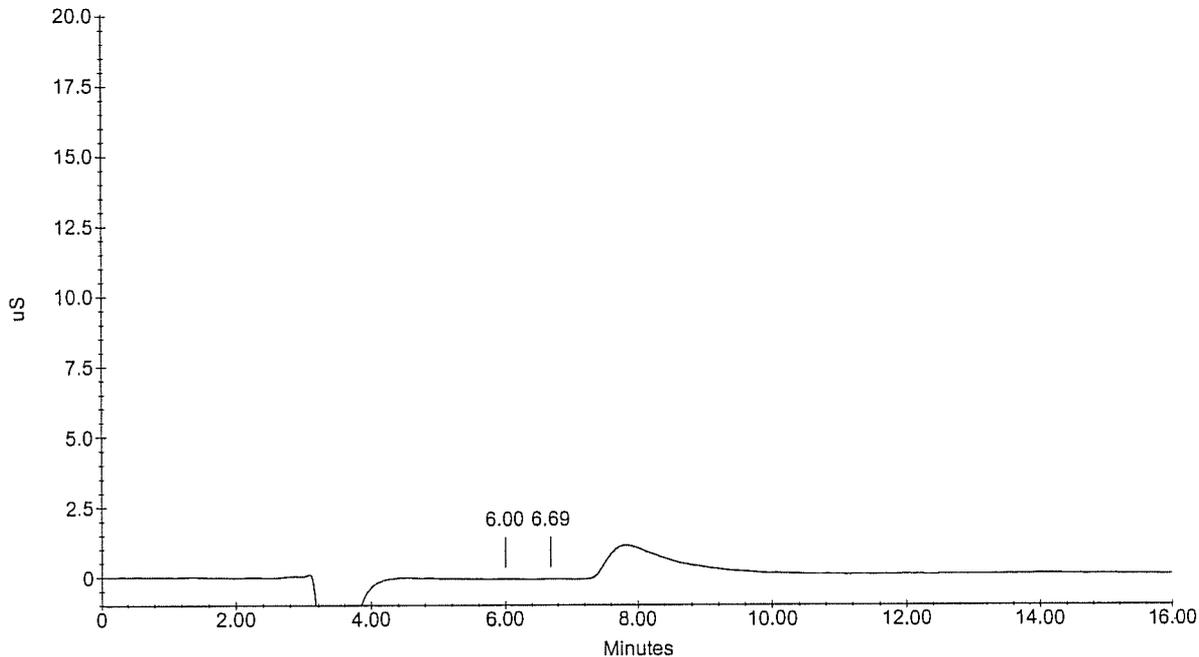


Sample Name : 579641D  
Dilution Factor : 1.00  
Injection Number : 11  
Data File Name : ...\\150825\_011.DXD  
Method File Name : ...\\NICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 7:18:47 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components							
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta
1	6.00		0.000	26707	609809	1	
	0.00		--- <td>0.000</td> <td>609809</td> <td></td> <td></td>	0.000	609809		

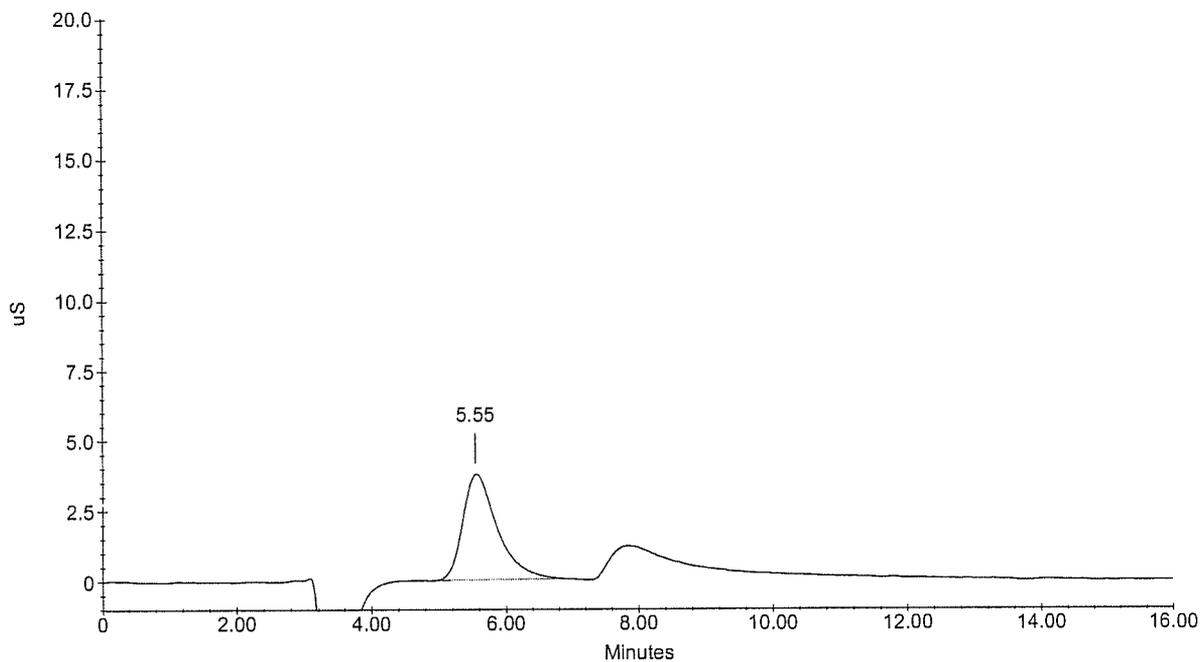
## 579641D



Sample Name : 579641S  
Dilution Factor : 1.00  
Injection Number : 12  
Data File Name : ...150825\_012.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 7:37:36 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components							
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta
1	5.55	FORMATE	9325.048	3722408	133605095	1	-0.06
			---total(s)---				
0.00			9325.048		133605095		

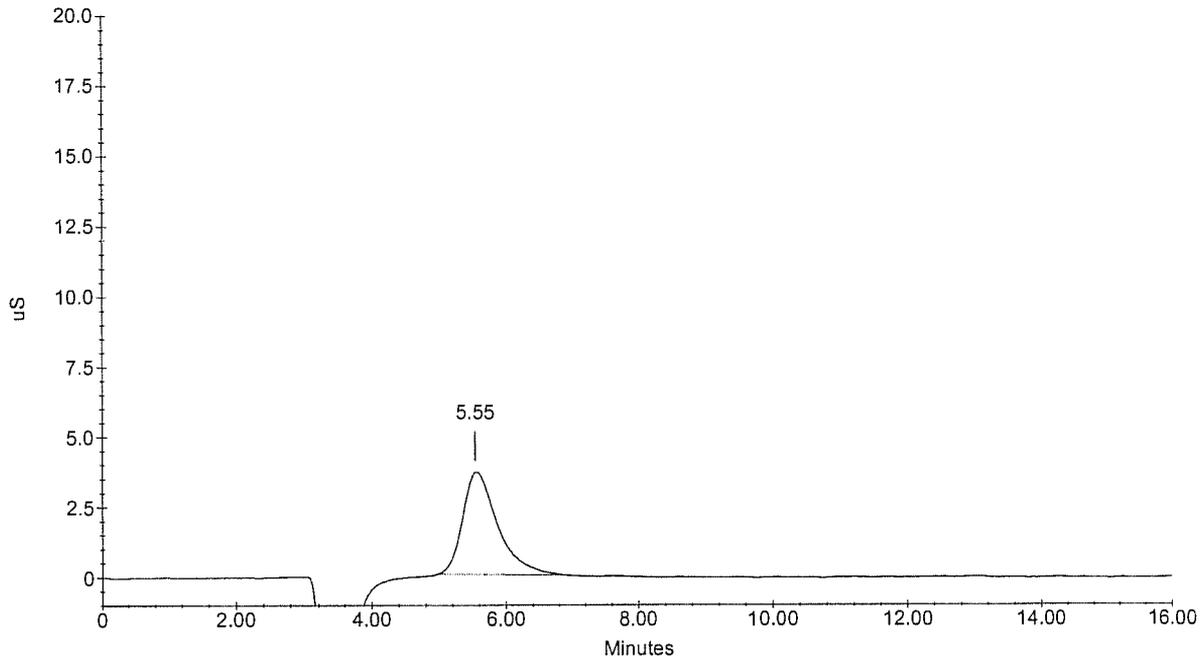
**579641S**

Sample Name : CCV  
Dilution Factor : 1.00  
Injection Number : 13  
Data File Name : ...\\150825\_013.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 7:56:24 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components							
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta
1	5.55	FORMATE	9265.673	3619177	132748069	1	-0.06
			---total(s)---				
0.00			9265.673		132748069		

## CCV

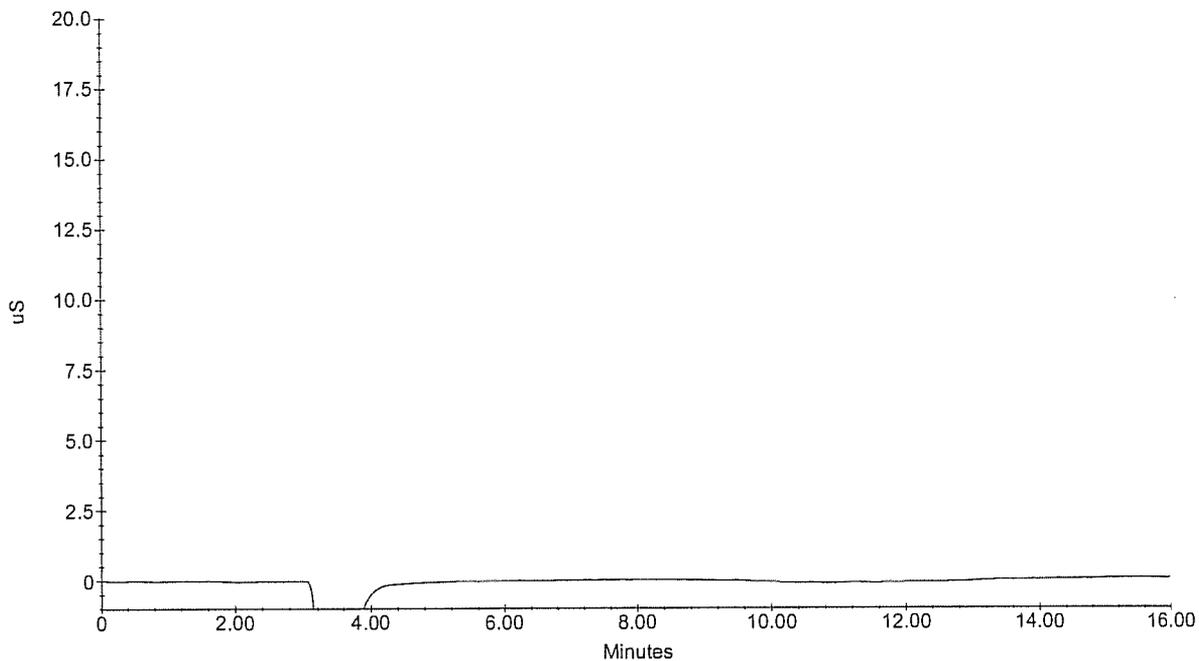


Sample Name : CCB  
Dilution Factor : 1.00  
Injection Number : 14  
Data File Name : ...\\150825\_014.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 8:15:13 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0	0	0.00	
			---total(s)---					
0.00			0.000			0		

## CCB

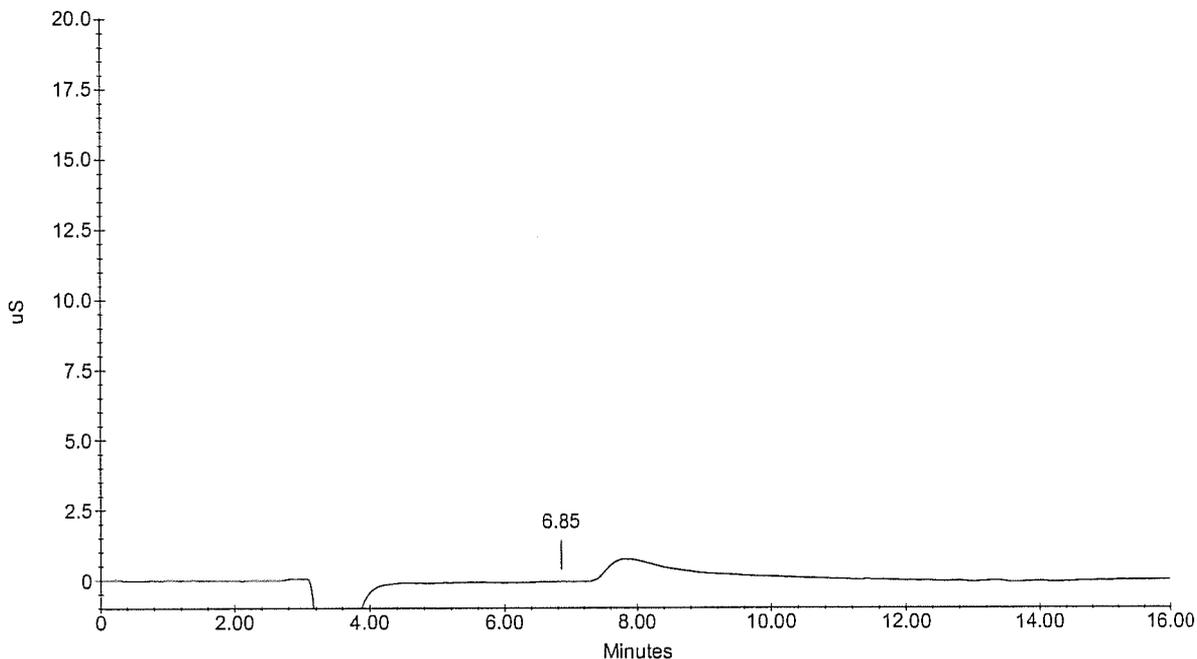


Sample Name : 576642  
 Dilution Factor : 1.00  
 Injection Number : 15  
 Data File Name : ...\\150825\_015.DXD  
 Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 8:34:02 PM  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	6.85		0.000	5310	315028	1		
			0.00	---0.000	315028			

9 TE01201187CU  
 576642

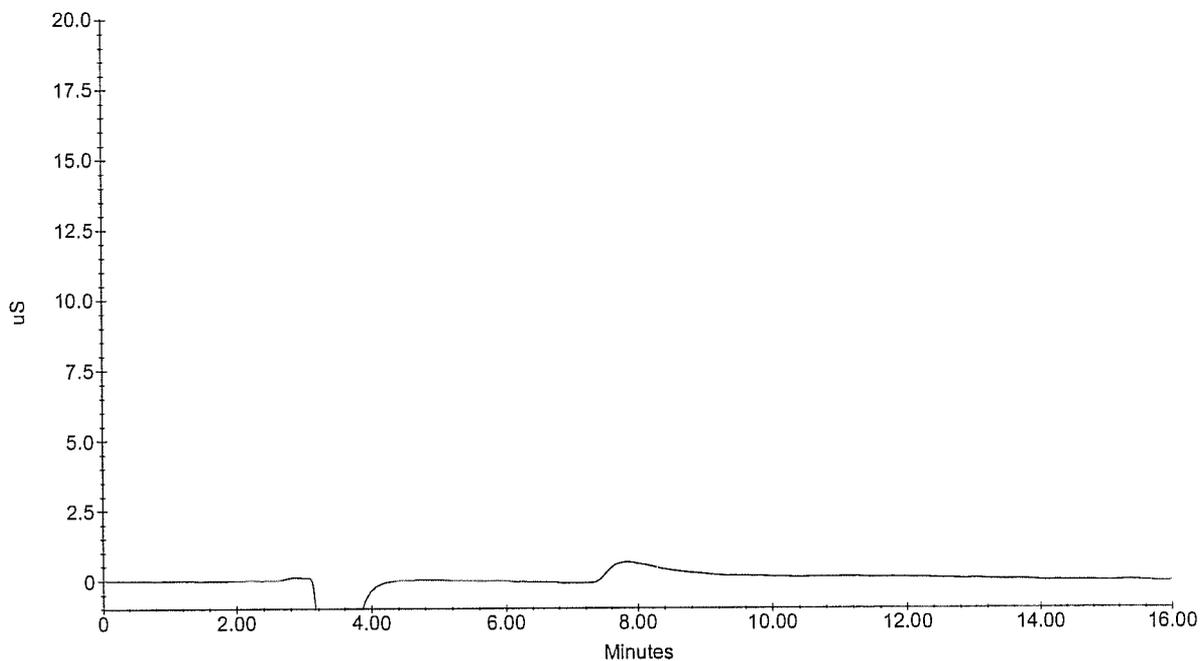


Sample Name : 576643  
Dilution Factor : 1.00  
Injection Number : 16  
Data File Name : ...\\150825\_016.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 8:52:51 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
0	0.00	(null)	0.000	0	0 0	0	0.00	
				---total(s)---				
				0.000				
				0				

576643  
a TE 8/28/15 gley

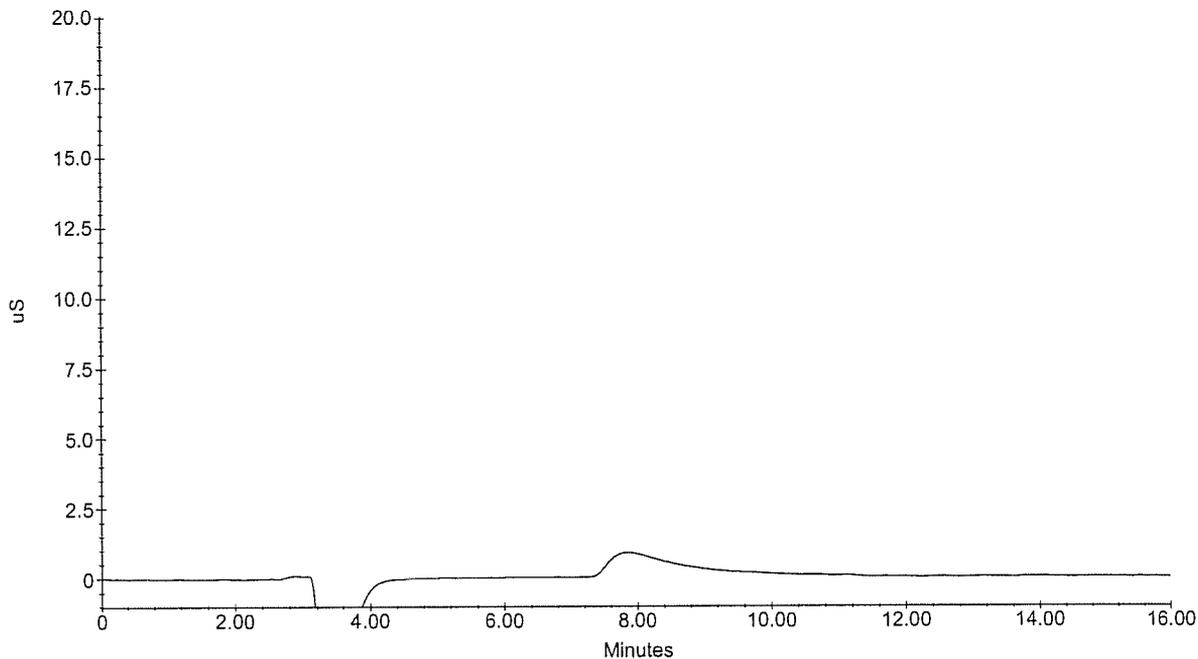


Sample Name : 576644  
Dilution Factor : 1.00  
Injection Number : 17  
Data File Name : ...150825\_017.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 9:11:40 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0	0	0.00	
			---total(s)---					
0.00			0.000			0		

9 TR 8/28/15 gcu  
**576644**

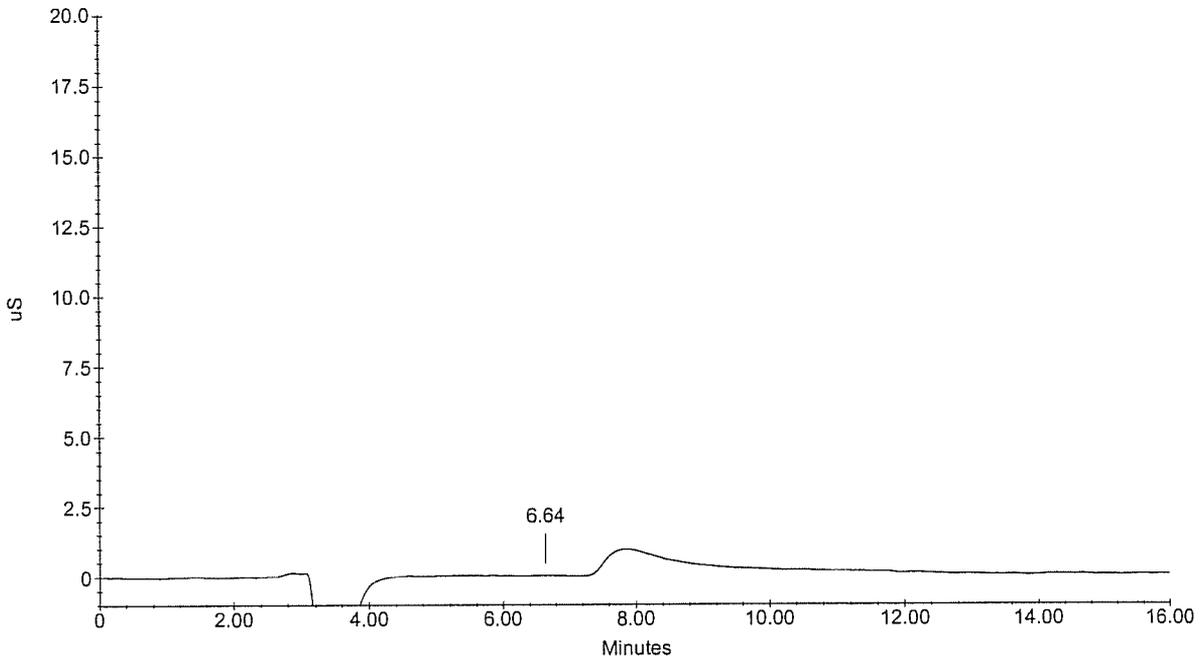


Sample Name : 576645  
 Dilution Factor : 1.00  
 Injection Number : 18  
 Data File Name : ...150825\_018.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 9:30:28 PM  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	6.64		0.000	16134	289645	1		
			---total(s)---	0.000	289645			

9 TE 8/28/15 JCU  
 576645



Sample Name : 576646  
Dilution Factor : 1.00  
Injection Number : 19  
Data File Name : ...150825\_019.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 9:49:17 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

## Peak Information : All Components

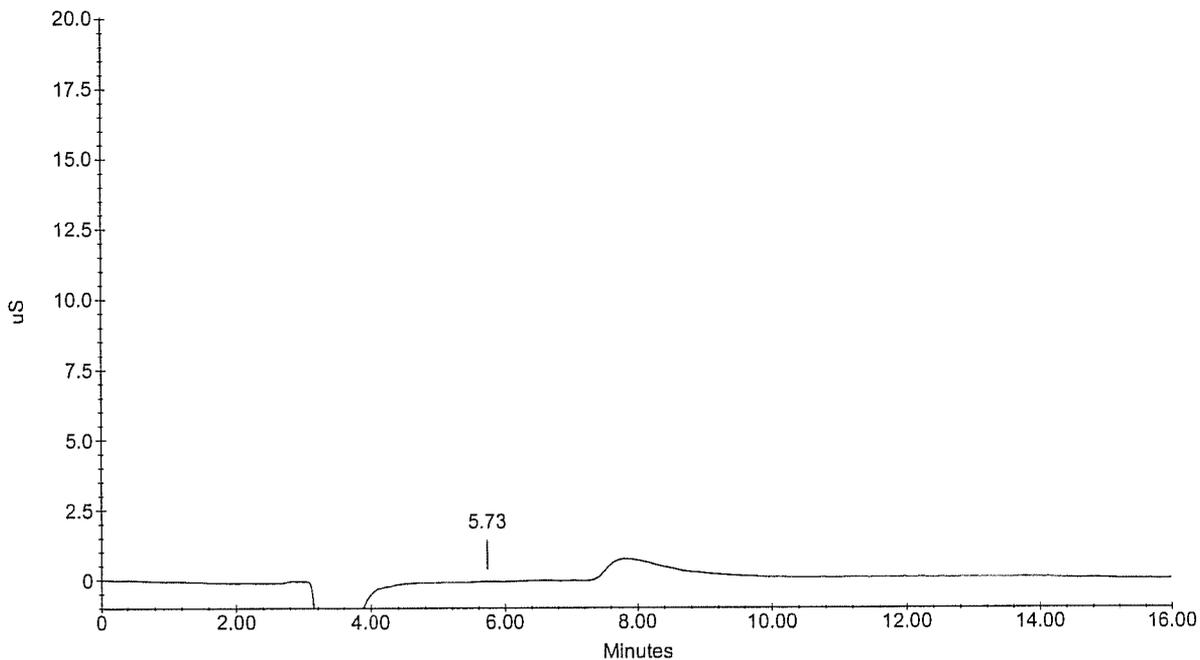
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta
1	5.73	FORMATE	89.280	25442	447996	1	3.30

0.00

---total(s)---  
89.280

447996

9 TE 8/28/15 gcl  
576646

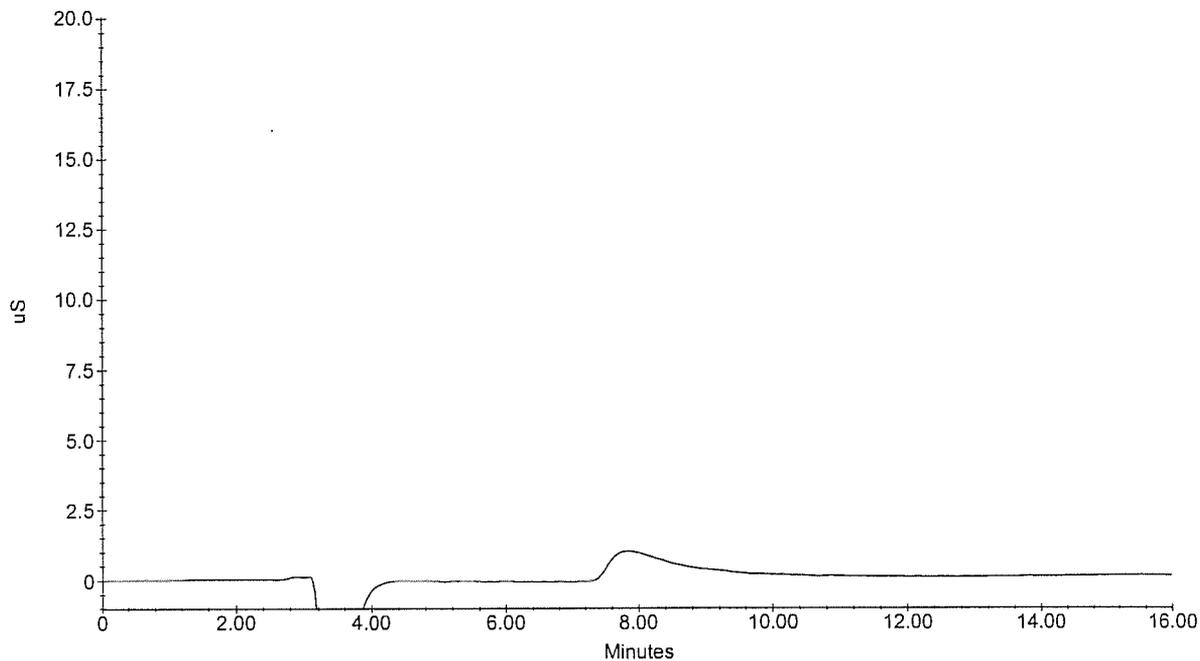


Sample Name : 576647  
 Dilution Factor : 1.00  
 Injection Number : 20  
 Data File Name : ...150825\_020.DXD  
 Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
 Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 10:08:06 PM  
 System Name : White Dionex  
 Detector Name : PED-Cond.  
 Column Type : AS14# 010-04-080  
 System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
			---total(s)---	0.000			0	

9 TE 8/28/15 gcu  
**576647**

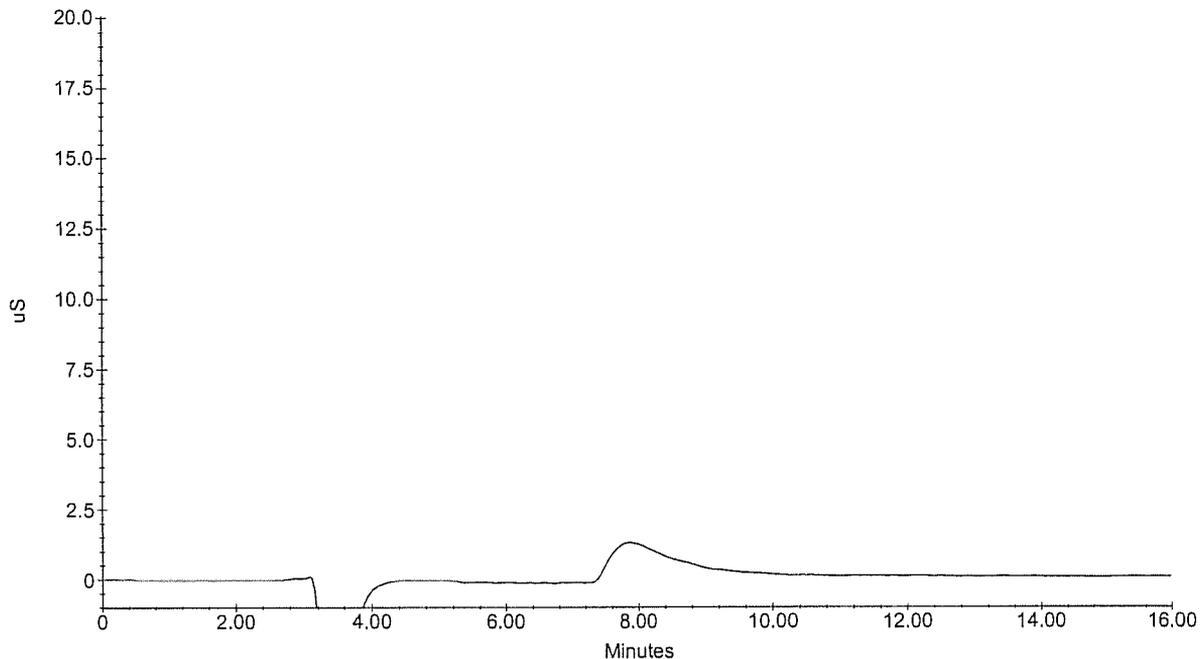


Sample Name : 576648  
Dilution Factor : 1.00  
Injection Number : 21  
Data File Name : ...150825\_021.DXD  
Method File Name : ...NICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 10:26:55 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
0	0.00	(null)	0.000	0	0 0		0.00	
				---total(s)---				
0.00				0.000	0			

9 TE 8/28/15 JCU  
576648

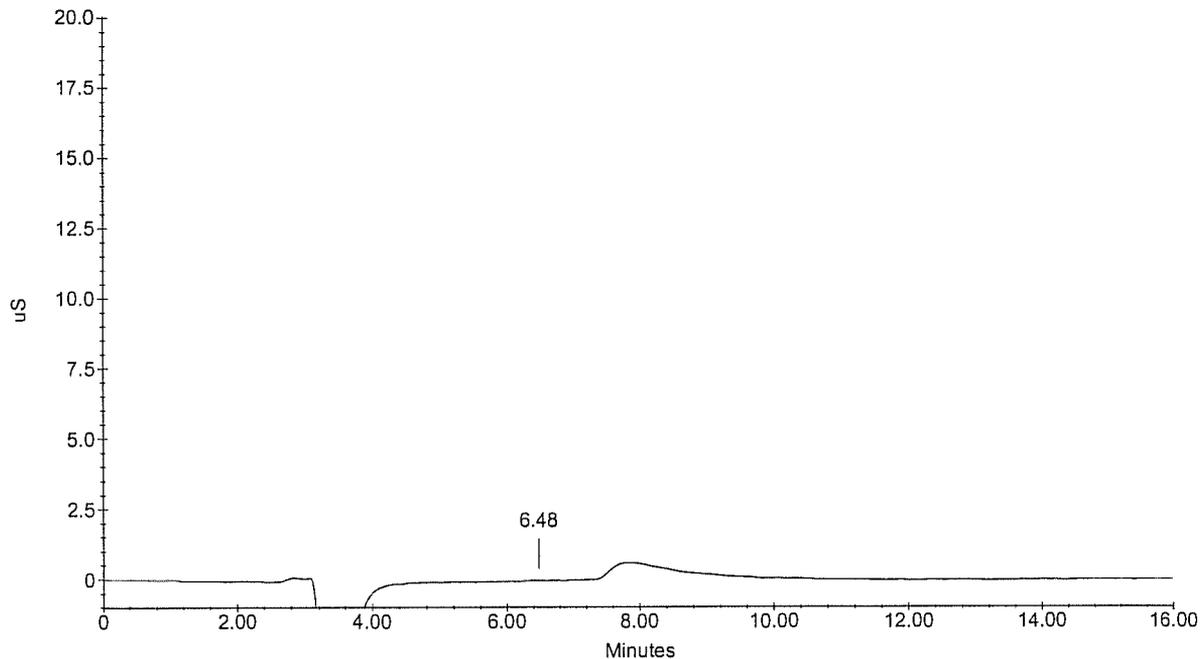


Sample Name : 579640  
Dilution Factor : 1.00  
Injection Number : 22  
Data File Name : ...150825\_022.DXD  
Method File Name : ...ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\PeakNet\schedule\25AUG15.sch

Date Time Collected : 8/25/2015 10:45:44 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	6.48		0.000	20753	512718	1		
			---total(s)---					
0.00			0.000		512718			

## 579640

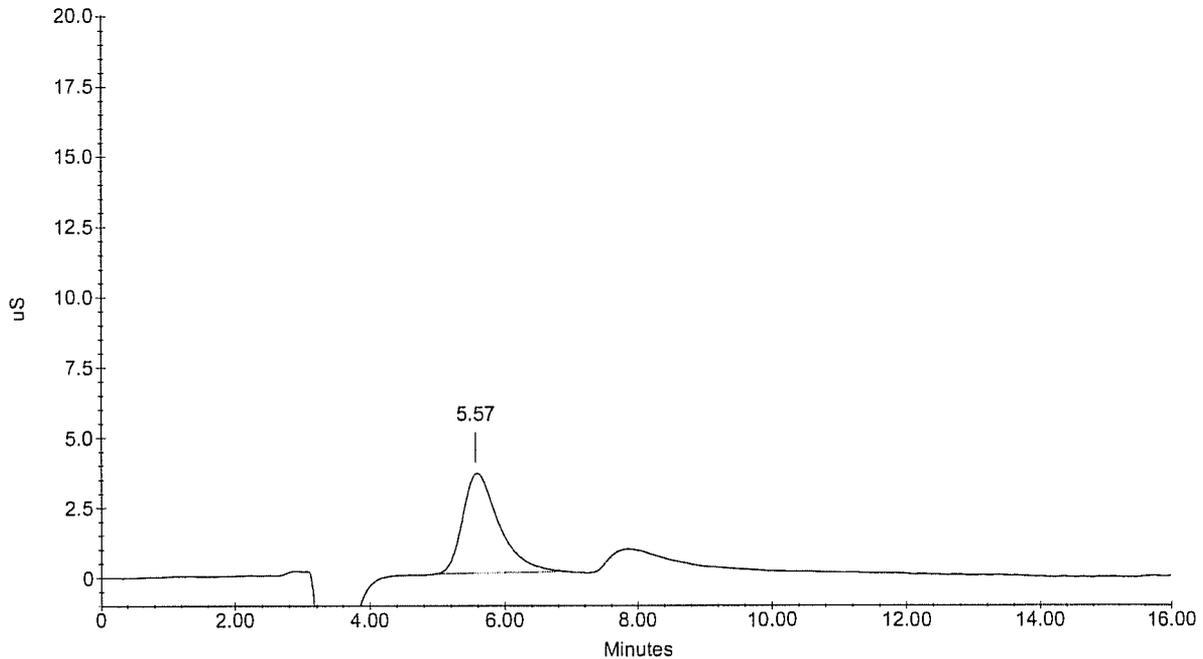


Sample Name : 579621S  
Dilution Factor : 1.00  
Injection Number : 23  
Data File Name : ...\\150825\_023.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 11:04:32 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.57	FORMATE	9228.163	3532202	132206666	1	0.42	
	0.00		---9228.163		132206666			

## 579621S

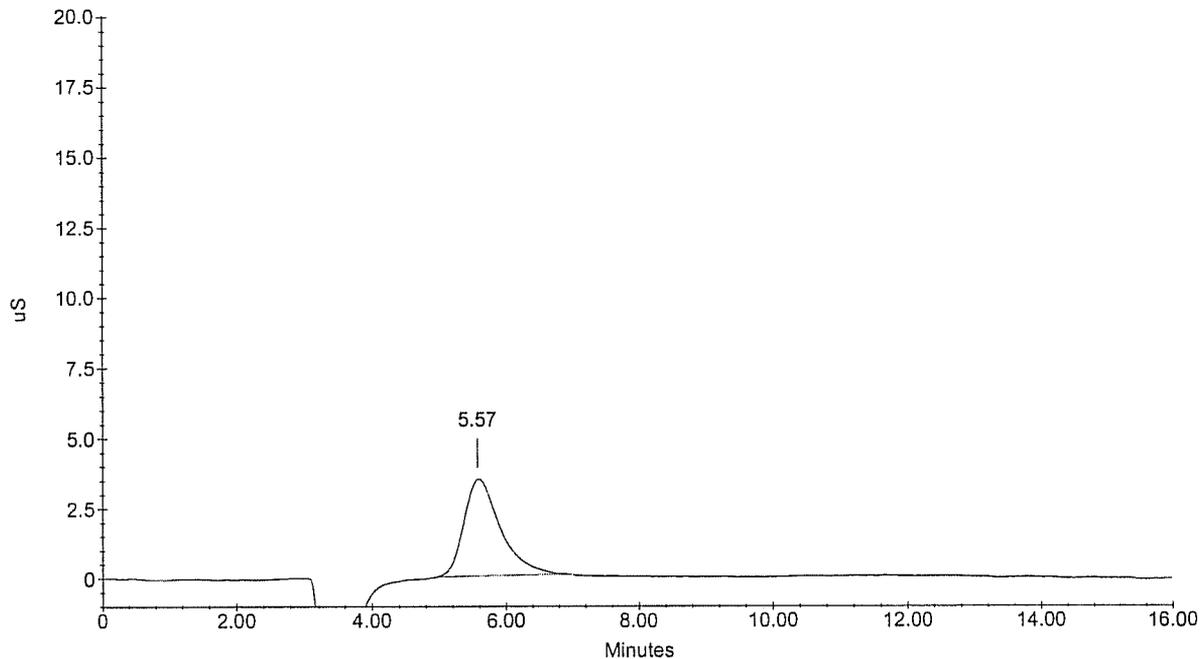


Sample Name : CCV2  
Dilution Factor : 1.00  
Injection Number : 24  
Data File Name : ...\\150825\_024.DXD  
Method File Name : ...\\NICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 11:23:21 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	Bl. Code	%Delta	
1	5.57	FORMATE	9178.375	3442629	131488045	1	0.42	
			---total(s)---					
0.00			9178.375	131488045				

## CCV2

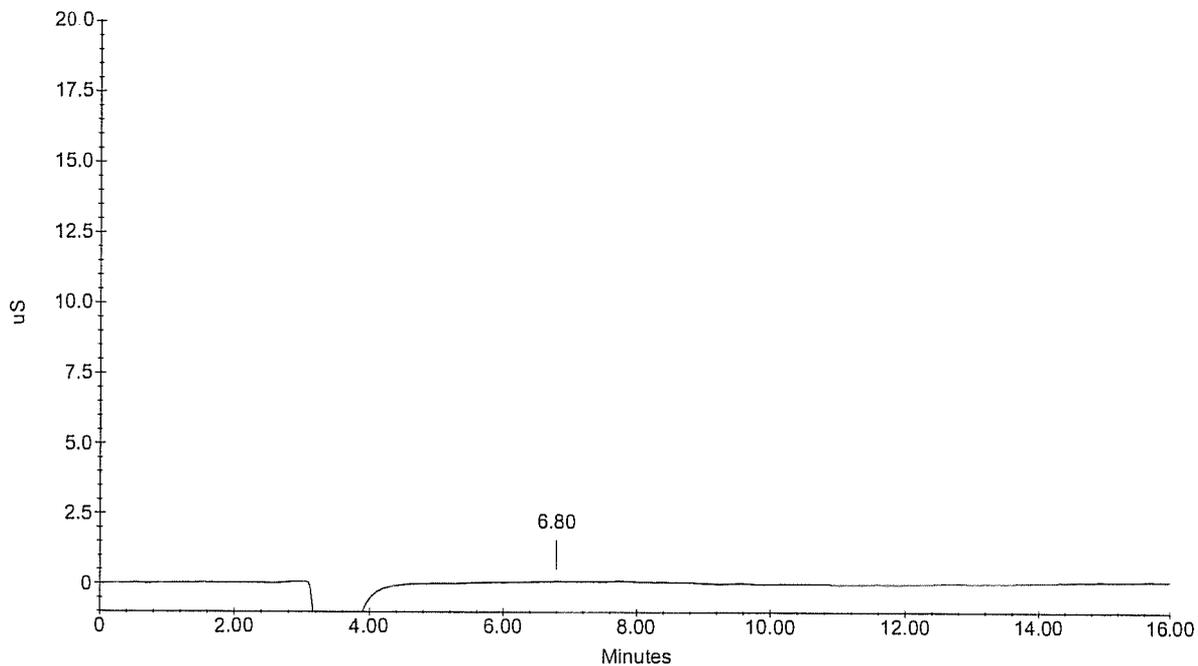


Sample Name : CCB2  
Dilution Factor : 1.00  
Injection Number : 25  
Data File Name : ...\\150825\_025.DXD  
Method File Name : ...\\ICE-AS1\_FORMATE\_150810.MET  
Schedule File Name : C:\\PeakNet\\schedule\\25AUG15.sch

Date Time Collected : 8/25/2015 11:42:10 PM  
System Name : White Dionex  
Detector Name : PED-Cond.  
Column Type : AS14# 010-04-080  
System Operator :

Peak Information : All Components								
Pk. Num	Ret Time	Component Name	Conc., ug/L	Height	Area	BI. Code	%Delta	
1	6.80		0.000	9228	817845	1		
			---total(s)---					
0.00			0.000		817845			

## CCB2



**010113**

**SOUTHWEST RESEARCH INSTITUTE  
CLIENT: CH2M Hill Plateau Remediation  
Company  
TASK ORDER(s): 150807-12  
SRR: 55929  
SDG: 579621  
CASE: F15-048  
VTSR: 08.07.15  
PROJECT#: 20859.01.00X**

**STANDARD LOGS & CERTIFICATES OF  
ANALYSIS**

Work continued from Page

27-01-WCSII: Acetate @ 1000 mg/L trihydrate STD

5 dissolve 0.2301 g of sodium acetate (ID# 35215)

to final volume 100 ml w 1 DI H<sub>2</sub>O.

balance # 88

10 Exp. date 6/1/14

27-02-WCSII: Formate @ 1000 mg/L STD

15 dissolve 0.1512<sup>g</sup>\* of sodium formate (#35301) to

final volume 100 ml w 1 DI H<sub>2</sub>O

20 27-03-WCSII: Acetate @ 1000 mg/L QC

dissolve 0.2302 g of sodium acetate trihydrate (#35215)

to final volume 100 ml w 1 DI H<sub>2</sub>O

\*  
5/20/15  
32732

25 27-04-WCSII: Formate @ 1000 mg/L QC

dissolve 0.1512 g of sodium formate (#26460)

to final volume 100 ml w 1 DI H<sub>2</sub>O.

\* T8 06/11/15 gdl

35 all on page: balance # 88  
Exp date 6/1/14

SIGNATURE

DATE

*Quayle Mera*  
M. Grubaldon

6/1/15

DISCLOSED TO AND UNDERSTOOD BY

DATE

WITNESS

DATE

6/5/15





## Certificate of Analysis

**Product Name:** SODIUM FORMATE  
 puriss. p.a., ACS reagent  
**Product Number:** 71541  
**Batch Number:** 1376451V  
**Brand:** Sigma-Aldrich  
**CAS Number:** 141-53-7  
**Formula:** CHNaO2  
**Formula Weight:** 68.01  
**Quality Release Date:** 24 JAN 2008  
**Date retested:** 31 JAN 2012  
**Recommended Retest Date:** JUL 2016

TEST	SPECIFICATION	RESULT
APPEARANCE (COLOR)	WHITE TO ALMOST WHITE	ALMOST WHITE
APPEARANCE (FORM)	FINE CRYSTALS TO CRYSTALS WITH LUMPS	CRYSTALS WITH LUMPS
TITRATION (NT) HClO4 0.1M	≥ 99.0 %	99.4 %
SOLUBILITY (COLOR)	COLORLESS	COLORLESS
SOLUBILITY (TURBIDITY)	CLEAR (< 3.5 NTU)	CLEAR (<3.5 NTU)
SOLUBILITY (METHOD)	—	1G IN 20 ML H2O
PH	7.0 - 8.5	7.5
LOSS ON DRYING	≤ 0.1 %	0.05 %
ACS SPECIFICATIONS	CORRESPONDS TO REQUIREMENTS	CORRESPONDS TO ACS (10TH ED.)
METAL TRACE ANALYSIS (ICP)	CORRESPONDS TO REQUIREMENTS	PASSED
CALCIUM (ICP)	≤ 10 MG/KG	< 10 MG/KG
CADMIUM (ICP)	≤ 5 MG/KG	< 5 MG/KG
COBALT (ICP)	≤ 5 MG/KG	< 5 MG/KG
CHROMIUM (ICP)	≤ 5 MG/KG	< 5 MG/KG
COPPER (ICP)	≤ 5 MG/KG	< 5 MG/KG
IRON (ICP)	≤ 5 MG/KG	< 5 MG/KG
POTASSIUM (ICP)	≤ 100 MG/KG	< 100 MG/KG
MAGNESIUM (ICP)	≤ 5 MG/KG	< 5 MG/KG
MANGANESE (ICP)	≤ 5 MG/KG	< 5 MG/KG
NICKEL (ICP)	≤ 5 MG/KG	< 5 MG/KG
LEAD (ICP)	≤ 5 MG/KG	< 5 MG/KG
ZINC (ICP)	≤ 5 MG/KG	< 5 MG/KG
TOTAL PHOSPHORUS AS PO4 (ICP)	≤ 10 MG/KG	< 10 MG/KG

SwRI Chem ID: 35301

SwRI Chem ID: 35301

SwRI Chem ID: 35301

## Certificate of Analysis

TOTAL SULFUR AS SO <sub>4</sub> (ICP)	≤ 10 MG/KG	< 10 MG/KG
CHLORIDE (CL)	≤ 10 MG/KG	< 10 MG/KG



Dr. Claudia Geitner  
Manager Quality Control  
Buchs, Switzerland

SwRI Chem ID: 35301

SwRI Chem ID: 35301

Sigma-Aldrich warrants that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current specification sheet may be available at [Sigma-Aldrich.com](http://Sigma-Aldrich.com). For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

SwRI Chem ID: 35301



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Albuquerque, NM 87154  
1-888-678-5447  
[www.aqainc.net](http://www.aqainc.net)

## Data Validation Report for CH2M Hill Plateau Remediation Company

**VSR15-002**

**Project Low-Level Burial Grounds Trenches 31-34-94**

**Chemical & Radiochemical Validation - Level C**

Validation Performed By:

  
Eyda Hergenreder

Date: 10-06-2015

Technical Review By:

  
Ellen McEntee

Date: 10-06-2015

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Date: 05 October 2015  
 To: CH2M Hill (technical representative)  
 From: Analytical Quality Associates, Inc.  
 Project: Low-Level Burial Grounds Trenches 31-34-94  
 Subject: Volatile Organics - Sample Data Group (SDG) GEL378840

## **INTRODUCTION**

This memorandum presents the results of data validation for SDG GEL378840 prepared by GEL Laboratories LLC. A list of samples validated along with the analytical methods is provided in the following table.

<b>Sample ID</b>	<b>Sample Date</b>	<b>Media</b>	<b>Validation Level</b>	<b>Analytical Methods</b>
B32D26	08/05/15	Soil	C	8260C
B32D50	08/05/15	Soil	C	8260C
B32D53	08/05/15	Soil	C	8260C
B32D56	08/05/15	Soil	C	8260C
B32D59	08/05/15	Soil	C	8260C
B32D62	08/05/15	Soil	C	8260C
B32D65	08/05/15	Soil	C	8260C
B32D68	08/05/15	Soil	C	8260C
B32D71	08/05/15	Soil	C	8260C
B32D74	08/05/15	Soil	C	8260C
B32D77	08/05/15	Soil	C	8260C
B32F29	08/05/15	Soil	C	8260C
B32F32	08/05/15	Soil	C	8260C

Data validation was conducted in accordance with the CHPRC validation statement of work and the Low-Level Burial Grounds Trenches 31-34-94, Addendum H, Permit Modification Request, WA7890008967, Part V Closure Unit Group 7 (SAP). Appendices 1 through 4 provide the following information as indicated below:

- Appendix 1. Glossary of Data Reporting Qualifiers
- Appendix 2. Summary of Data Qualification
- Appendix 3. Data Validation Supporting Documentation
- Appendix 4. Additional Documentation Requested by Client

## **DATA QUALITY OBJECTIVES**

- **Holding Times and Sample Preservation**

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The holding time requirements for volatile organics are analysis within 14 days of sample collection. Sample preservation requires chilling to <-7°C and >-20°C.

The samples were analyzed within the prescribed holding time and properly preserved

- **Blanks**

The blank data results are reviewed to assess the extent of contamination introduced through sampling, sample preparation, and analysis.

**Laboratory Blanks**

All laboratory blank results were acceptable with the following exception.

The methylene chloride laboratory blank result associated with batch 1499858 was > the method detection limit (MDL) but <2X the reporting limit (RL). All sample results were non-detects and should not be qualified for the blank infraction.

**Trip Blanks**

No trip blanks were submitted for validation.

**Field Blanks**

No field blanks were submitted for validation.

**Equipment Blanks**

No equipment blanks were submitted for validation.

- **Accuracy**

Accuracy is evaluated by reviewing surrogate results, matrix spike sample results, and laboratory control sample results. According to the SAP, the matrix spike sample accuracy limits are  $\pm 30\%$  and the laboratory control sample accuracy limits are ones specified by the DV procedure. The limits for reported analytes not listed in the SAP are specified by the DV procedure.

**Surrogates**

All surrogate recoveries were acceptable with the following exceptions. The 1,2-dichloroethane-d4 and toluene-d8 surrogate recoveries for samples B32D26 and B32F29 and the bromofluorobenzene surrogate for sample B32F29 were above the upper acceptance limit. The class of reported sample results associated with the surrogates were non-detects and should be not be qualified.

**Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples**

All MS/MSD recoveries were acceptable.

### **Laboratory Control Samples (LCSs)**

All LCS recoveries were acceptable.

- **Precision**

Precision is evaluated by reviewing MS/MSD results, field duplicate sample results, and field split sample results. These QC results provide information on the laboratory reproducibility and whether sampling activities are adequate to acquire consistent sample results. According to the SAP, the relative percent difference (RPD) limits are  $\pm 30\%$ . The limits for reported analytes not listed in the SAP are specified by the DV procedure. When duplicate RPDs exceed the limits and have associated results  $< 5X$  the SAP required detection limits (or  $< 5X$  the laboratory reporting limits for analytes not listed in the SAP) with differences  $< 2X$  the required detection limits no precision infraction occurred.

### **MS/MSD Samples**

All MS/MSD relative percent difference values were acceptable.

### **Field Duplicate Samples**

No field duplicates were submitted for validation.

### **Field Split Samples**

No field splits were submitted for validation.

- **Internal Standards**

Internal standard performance criteria ensure that GC/MS sensitivity and response are stable during each analysis. Internal standards are added to all samples, including QC samples, prior to analysis.

Internal standards data was not included in the data package. Sample results should not be qualified based on this.

- **Detection Limits**

Reported MDLs are compared against the contractually required detection limits (CRDLs) to ensure that laboratory detection limits meet the required criteria.

All reported sample MDLs were below the CRDLs.

- **Completeness**

SDG GEL378840 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

**MAJOR DEFICIENCIES**

None found.

**MINOR DEFICIENCIES**

There were no minor deficiencies leading to qualification of sample results as estimates.

**REFERENCES**

GRP-GD-003, Rev. 1, Change 0, *Data Validation for Chemical Analyses*, July 2012.

HNF-20433, Rev 0, *Data Validation Procedure for Chemical Analyses*, June 2004.

WA7890008967, Part V Closure Unit Group 7, *Low-Level Burial Grounds Trenches 31-34-97 Addendum H Permit Modification Request*, May 14 2015.

**Appendix 1**  
**Glossary of Data Reporting Qualifiers**

Qualifiers that may be applied by data validators in compliance with the CHPRC statement of work are as follows:

- **U** — The constituent was analyzed for, but was not detected. The data should be considered usable for decision-making purposes.
- **UJ** — The constituent was analyzed for and was not detected. Due to a quality control deficiency identified during data validation the value reported may not accurately reflect the RL. The data should be considered usable for decision-making purposes.
- **J** — Indicates the constituent was analyzed for and detected. The associated value is estimated due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **J+** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **J-** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **N** — The analysis indicates the presence of an analyte that has been tentatively identified.
- **NJ** — The analysis indicates the presence of an analyte that has been tentatively identified and the associated numerical value represents its approximate concentration.
- **NJ+** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation.
- **NJ-** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation.
- **UR** — Indicates the constituent was analyzed for and not detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.
- **R** — Indicates the constituent was analyzed for and detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

**Appendix 2**  
**Summary of Data Qualification**

<b>Volatile Organics Data Qualification Summary</b>			
SDG: GEL378840	Reviewer: AQA	Project: Low-Level Burial Grounds Trenches 31-34-94	Page 1 of 1
<b>Analyte(s)</b>	<b>Qualifier</b>	<b>Samples Affected</b>	<b>Reason</b>
8260C	N/A	N/A	N/A

Comments: None

## **Appendix 3**

### **Data Validation Supporting Documentation**

Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

Appendix A - Chemical Data Validation Checklist

VALIDATION LEVEL:	A	B	C	D	E
PROJECT:			DATA PACKAGE:		
VALIDATOR:		LAB:		DATE:	
			SDG:		
ANALYSES PERFORMED					
SW-846 8260		SW-846 8260 (TCLP)	SW-846 8270		SW-846 8270 (TCLP)
SAMPLES/MATRIX					

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? .....Yes No N/A

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

2. INSTRUMENT TUNING AND CALIBRATION (Levels D and E)

GC/MS tuning/performance check acceptable? .....Yes No N/A
Initial calibrations acceptable? .....Yes No N/A
Continuing calibrations acceptable? .....Yes No N/A
Standards traceable? .....Yes No N/A
Standards expired? .....Yes No N/A
Calculation check acceptable? .....Yes No N/A

Comments: \_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

3. BLANKS (Levels B, C, D, and E)

Calibration blanks analyzed? (Levels D, E).....Yes No N/A
Calibration blank results acceptable? (Levels D, E).....Yes No N/A
Laboratory blanks analyzed? .....Yes No N/A
Laboratory blank results acceptable? .....Yes No N/A
Field/trip blanks analyzed? (Levels C, D, E).....Yes No N/A
Field/trip blank results acceptable? (Levels C, D, E).....Yes No N/A
Transcription/calculation errors? (Levels D, E).....Yes No N/A

Comments: \_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
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Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

4. ACCURACY (Levels C, D, and E)

- Surrogates/system monitoring compounds analyzed?.....Yes No N/A
- Surrogate/system monitoring compound recoveries acceptable? .....Yes No N/A
- Surrogates traceable? (Levels D, E).....Yes No N/A
- Surrogates expired? (Levels D, E).....Yes No N/A
- MS/MSD samples analyzed?.....Yes No N/A
- MS/MSD results acceptable? .....Yes No N/A
- MS/MSD standards NIST traceable? (Levels D, E) .....Yes No N/A
- MS/MSD standards? (Levels D, E).....Yes No N/A
- LCS/BSS samples analyzed?.....Yes No N/A
- LCS/BSS results acceptable?.....Yes No N/A
- Standards traceable? (Levels D, E).....Yes No N/A
- Standards expired? (Levels D, E).....Yes No N/A
- Transcription/calculation errors? (Levels D, E).....Yes No N/A
- Performance audit sample(s) analyzed? .....Yes No N/A
- Performance audit sample results acceptable?.....Yes No N/A

Comments: \_\_\_\_\_

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Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

5. PRECISION (Levels C, D, and E)

MS/MSD samples analyzed?.....Yes No N/A
MS/MSD RPD values acceptable? .....Yes No N/A
MS/MSD standards NIST traceable? (Levels D, E) .....Yes No N/A
MS/MSD standards expired? (Levels D, E).....Yes No N/A
LCS/LCSD duplicates run due to insufficient sample material? .....Yes No N/A
Field duplicate RPD values acceptable? .....Yes No N/A
Field split RPD values acceptable? .....Yes No N/A
Transcription/calculation errors? (Levels D, E).....Yes No N/A

Comments:
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

6. SYSTEM PERFORMANCE (Levels D and E)

Internal standards analyzed?.....Yes No N/A
Internal standard areas acceptable? .....Yes No N/A
Internal standard retention times acceptable?.....Yes No N/A
Standards traceable?.....Yes No N/A
Standards expired? .....Yes No N/A
Transcription/calculation errors?.....Yes No N/A

Comments:
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

7. HOLDING TIMES (all levels )

Samples properly preserved? .....Yes No N/A

Sample holding times acceptable? .....Yes No N/A

Comments: \_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
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8. COMPOUND IDENTIFICATION, QUANTITATION, AND DETECTION LIMITS (all levels)

Compound identification acceptable? (Levels D, E).....Yes No N/A

Compound quantitation acceptable? (Levels D, E).....Yes No N/A

Results reported for all requested analyses? .....Yes No N/A

Results supported in the raw data? (Levels D, E).....Yes No N/A

Samples properly prepared? (Levels D, E) .....Yes No N/A

Laboratory properly identified and coded all TIC? (Levels D, E).....Yes No N/A

Detection limits meet RDL? .....Yes No N/A

Transcription/calculation errors? (Levels D, E).....Yes No N/A

Comments: \_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
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Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

9. SAMPLE CLEANUP (Levels D and E)

- GPC cleanup performed? .....Yes No N/A
- GPC check performed? .....Yes No N/A
- GPC check recoveries acceptable? .....Yes No N/A
- GPC calibration performed? .....Yes No N/A
- GPC calibration check performed? .....Yes No N/A
- GPC calibration check retention times acceptable? .....Yes No N/A
- Check/calibration materials traceable? .....Yes No N/A
- Check/calibration materials Expired? .....Yes No N/A
- Analytical batch QC given similar cleanup? .....Yes No N/A
- Transcription/Calculation Errors? .....Yes No N/A

Comments: \_\_\_\_\_

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Comments (attach additional sheets as necessary): \_\_\_\_\_

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## **Appendix 4**

### **Additional Documentation Requested By Client**

**GEL LABORATORIES LLC**

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

**QC Summary**

Report Date: September 1, 2015

Page 1 of 9

CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 378840

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Volatile-GC/MS</b>										
Batch	1499858									
QC1203372763	LCS									
1,1,1-Trichloroethane	50.0		54.1	ug/kg		108	(70%-130%)	CDS1	08/12/15	09:14
1,1,2-Trichloroethane	50.0		50.1	ug/kg		100	(70%-130%)			
2-Butanone	250		219	ug/kg		88	(70%-130%)			
4-Methyl-2-pentanone	250		243	ug/kg		97	(70%-130%)			
Acetone	250		215	ug/kg		86	(70%-130%)			
Benzene	50.0		49.6	ug/kg		99	(70%-130%)			
Carbon disulfide	250		266	ug/kg		106	(70%-130%)			
Carbon tetrachloride	50.0		55.5	ug/kg		111	(70%-130%)			
Chlorobenzene	50.0		50.8	ug/kg		102	(70%-130%)			
Ethyl ether	50.0		54.3	ug/kg		109	(70%-130%)			
Ethylbenzene	50.0		51.9	ug/kg		104	(70%-130%)			
Methylene chloride	50.0	B	48.0	ug/kg		96	(70%-130%)			
Tetrachloroethylene	50.0		52.4	ug/kg		105	(70%-130%)			
Toluene	50.0		50.3	ug/kg		101	(70%-130%)			
Trichloroethylene	50.0		50.5	ug/kg		101	(70%-130%)			
Xylenes (total)	150		155	ug/kg		103	(70%-130%)			
n-Butyl alcohol	5000		4700	ug/kg		94	(70%-130%)			
**1,2-Dichloroethane-d4	50.0		51.7	ug/L		103	(70%-128%)			
**Bromofluorobenzene	50.0		50.2	ug/L		100	(63%-138%)			
**Toluene-d8	50.0		49.7	ug/L		99	(80%-120%)			

**GEL LABORATORIES LLC**

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

**QC Summary**

Workorder: 378840

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Volatile-GC/MS									
Batch	1499858								
QC1203372766 LCS									
1,4-Dioxane	2500		2230	ug/kg		89	(70%-130%)	CDS1	08/12/15 09:44
2-Nitropropane	250		261	ug/kg		104	(70%-130%)		
Cyclohexanone	1250		1280	ug/kg		103	(70%-130%)		
Ethyl acetate	250		235	ug/kg		94	(70%-130%)		
Isobutyl alcohol	2500		2380	ug/kg		95	(70%-130%)		
Methyl methacrylate	250		247	ug/kg		99	(70%-130%)		
Trichlorotrifluoroethane	250		261	ug/kg		104	(70%-130%)		
**1,2-Dichloroethane-d4	50.0		50.1	ug/L		100	(70%-128%)		
**Bromofluorobenzene	50.0		50.7	ug/L		101	(63%-138%)		
**Toluene-d8	50.0		48.6	ug/L		97	(80%-120%)		
QC1203380567 LCS									
1,1,1-Trichloroethane	50.0		55.8	ug/kg		112	(70%-130%)		08/14/15 07:31
1,1,2-Trichloroethane	50.0		51.3	ug/kg		103	(70%-130%)		
2-Butanone	250		232	ug/kg		93	(70%-130%)		
4-Methyl-2-pentanone	250		224	ug/kg		89	(70%-130%)		
Acetone	250		256	ug/kg		102	(70%-130%)		
Benzene	50.0		52.9	ug/kg		106	(70%-130%)		
Carbon disulfide	250		273	ug/kg		109	(70%-130%)		
Carbon tetrachloride	50.0		55.4	ug/kg		111	(70%-130%)		
Chlorobenzene	50.0		52.9	ug/kg		106	(70%-130%)		
Ethyl ether	50.0		56.4	ug/kg		113	(70%-130%)		
Ethylbenzene	50.0		50.8	ug/kg		102	(70%-130%)		

**GEL LABORATORIES LLC**

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

**QC Summary**

Workorder: 378840

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Volatile-GC/MS</b>											
Batch	1499858										
Methylene chloride	50.0			54.3	ug/kg		109	(70%-130%)	CDS1	08/14/15	07:31
Tetrachloroethylene	50.0			56.0	ug/kg		112	(70%-130%)			
Toluene	50.0			52.9	ug/kg		106	(70%-130%)			
Trichloroethylene	50.0			55.0	ug/kg		110	(70%-130%)			
Xylenes (total)	150			151	ug/kg		100	(70%-130%)			
n-Butyl alcohol	5000			4390	ug/kg		88	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			49.0	ug/L		98	(70%-128%)			
**Bromofluorobenzene	50.0			50.6	ug/L		101	(63%-138%)			
**Toluene-d8	50.0			50.5	ug/L		101	(80%-120%)			
QC1203380568	LCS										
1,4-Dioxane	2500			2410	ug/kg		96	(70%-130%)		08/14/15	08:02
2-Nitropropane	250			267	ug/kg		107	(70%-130%)			
Cyclohexanone	1250			1100	ug/kg		88	(70%-130%)			
Ethyl acetate	250			248	ug/kg		99	(70%-130%)			
Isobutyl alcohol	2500			2470	ug/kg		99	(70%-130%)			
Methyl methacrylate	250			234	ug/kg		94	(70%-130%)			
Trichlorotrifluoroethane	250			244	ug/kg		98	(70%-130%)			
**1,2-Dichloroethane-d4	50.0			51.7	ug/L		103	(70%-128%)			
**Bromofluorobenzene	50.0			42.4	ug/L		85	(63%-138%)			
**Toluene-d8	50.0			54.5	ug/L		109	(80%-120%)			
QC1203372762	MB										
1,1,1-Trichloroethane			U	0.300	ug/kg					08/12/15	10:44
1,1,2-Trichloroethane			U	0.300	ug/kg						

**GEL LABORATORIES LLC**

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

**QC Summary**

Workorder: 378840

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1499858										
1,4-Dioxane			U	15.0	ug/kg				CDS1	08/12/15	10:44
2-Butanone			U	3.00	ug/kg						
2-Nitropropane			U	8.30	ug/kg						
4-Methyl-2-pentanone			U	3.00	ug/kg						
Acetone			U	3.00	ug/kg						
Benzene			U	0.300	ug/kg						
Carbon disulfide			U	1.60	ug/kg						
Carbon tetrachloride			U	0.300	ug/kg						
Chlorobenzene			U	0.300	ug/kg						
Cyclohexanone			U	16.7	ug/kg						
Ethyl acetate			U	1.50	ug/kg						
Ethyl ether			U	0.300	ug/kg						
Ethylbenzene			U	0.300	ug/kg						
Isobutyl alcohol			U	33.0	ug/kg						
Methyl methacrylate			U	3.00	ug/kg						
Methylene chloride			J	2.37	ug/kg						
Tetrachloroethylene			U	0.300	ug/kg						
Toluene			U	0.300	ug/kg						
Trichloroethylene			U	0.300	ug/kg						
Trichlorotrifluoroethane			U	1.60	ug/kg						
Xylenes (total)			U	0.300	ug/kg						

**GEL LABORATORIES LLC**

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

**QC Summary**

Workorder: 378840

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Volatile-GC/MS</b>											
Batch	1499858										
n-Butyl alcohol			U	83.3	ug/kg						
**1,2-Dichloroethane-d4	50.0			49.9	ug/L		100	(70%-128%)	CDS1	08/12/15	10:44
**Bromofluorobenzene	50.0			49.1	ug/L		98	(63%-138%)			
**Toluene-d8	50.0			48.9	ug/L		98	(80%-120%)			
QC1203380566	MB										
1,1,1-Trichloroethane			U	0.300	ug/kg					08/14/15	10:35
1,1,2-Trichloroethane			U	0.300	ug/kg						
1,4-Dioxane			U	15.0	ug/kg						
2-Butanone			U	3.00	ug/kg						
2-Nitropropane			U	8.30	ug/kg						
4-Methyl-2-pentanone			U	3.00	ug/kg						
Acetone			U	3.00	ug/kg						
Benzene			U	0.300	ug/kg						
Carbon disulfide			U	1.60	ug/kg						
Carbon tetrachloride			U	0.300	ug/kg						
Chlorobenzene			U	0.300	ug/kg						
Cyclohexanone			U	16.7	ug/kg						
Ethyl acetate			U	1.50	ug/kg						
Ethyl ether			U	0.300	ug/kg						
Ethylbenzene			U	0.300	ug/kg						
Isobutyl alcohol			U	33.0	ug/kg						
Methyl methacrylate			U	3.00	ug/kg						
Methylene chloride			U	1.60	ug/kg						

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**QC Summary**

Workorder: 378840

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1499858										
Tetrachloroethylene			U	0.300	ug/kg				CDS1	08/14/15	10:35
Toluene			U	0.300	ug/kg						
Trichloroethylene			U	0.300	ug/kg						
Trichlorotrifluoroethane			U	1.60	ug/kg						
Xylenes (total)			U	0.300	ug/kg						
n-Butyl alcohol			U	83.3	ug/kg						
**1,2-Dichloroethane-d4	50.0			53.6	ug/L		107	(70%-128%)			
**Bromofluorobenzene	50.0			45.8	ug/L		92	(63%-138%)			
**Toluene-d8	50.0			50.1	ug/L		100	(80%-120%)			
QC1203372764 378840002 PS											
1,1,1-Trichloroethane	50.0	U	0.00	47.7	ug/L		95	(70%-130%)		08/14/15	15:11
1,1,2-Trichloroethane	50.0	U	0.00	50.2	ug/L		100	(70%-130%)			
2-Butanone	250	U	0.00	275	ug/L		110	(70%-130%)			
4-Methyl-2-pentanone	250	U	0.00	238	ug/L		95	(70%-130%)			
Acetone	250	U	0.00	311	ug/L		124	(70%-130%)			
Benzene	50.0	U	0.00	47.9	ug/L		96	(70%-130%)			
Carbon disulfide	250	U	0.00	243	ug/L		97	(70%-130%)			
Carbon tetrachloride	50.0	U	0.00	46.6	ug/L		93	(70%-130%)			
Chlorobenzene	50.0	U	0.00	46.9	ug/L		94	(70%-130%)			
Ethyl ether	50.0	U	0.00	57.8	ug/L		116	(70%-130%)			
Ethylbenzene	50.0	U	0.00	43.4	ug/L		87	(70%-130%)			
Methylene chloride	50.0	U	0.00	51.0	ug/L		102	(70%-130%)			

**GEL LABORATORIES LLC**

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

**QC Summary**

Workorder: 378840

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Volatile-GC/MS											
Batch	1499858										
Tetrachloroethylene	50.0	U	0.00	47.3	ug/L		95	(70%-130%)	CDS1	08/14/15	15:11
Toluene	50.0	J	0.430	45.8	ug/L		91	(70%-130%)			
Trichloroethylene	50.0	U	0.00	47.9	ug/L		96	(70%-130%)			
Xylenes (total)	150	J	0.310	131	ug/L		87	(70%-130%)			
n-Butyl alcohol	5000	U	0.00	4980	ug/L		100	(70%-130%)			
**1,2-Dichloroethane-d4	50.0		57.9	51.7	ug/L		103	(70%-128%)			
**Bromofluorobenzene	50.0		50.5	52.4	ug/L		105	(63%-138%)			
**Toluene-d8	50.0		53.8	50.6	ug/L		101	(80%-120%)			
QC1203372765 378840002 PSD											
1,1,1-Trichloroethane	50.0	U	0.00	49.2	ug/L	3	98	(0%-20%)		08/14/15	15:42
1,1,2-Trichloroethane	50.0	U	0.00	47.5	ug/L	6	95	(0%-20%)			
2-Butanone	250	U	0.00	231	ug/L	18	92	(0%-20%)			
4-Methyl-2-pentanone	250	U	0.00	210	ug/L	13	84	(0%-20%)			
Acetone	250	U	0.00	256	ug/L	20	102	(0%-20%)			
Benzene	50.0	U	0.00	48.2	ug/L	1	96	(0%-20%)			
Carbon disulfide	250	U	0.00	244	ug/L	1	98	(0%-20%)			
Carbon tetrachloride	50.0	U	0.00	47.9	ug/L	3	96	(0%-20%)			
Chlorobenzene	50.0	U	0.00	46.4	ug/L	1	93	(0%-20%)			
Ethyl ether	50.0	U	0.00	53.8	ug/L	7	108	(0%-20%)			
Ethylbenzene	50.0	U	0.00	43.4	ug/L	0	87	(0%-20%)			
Methylene chloride	50.0	U	0.00	51.7	ug/L	1	103	(0%-20%)			
Tetrachloroethylene	50.0	U	0.00	47.4	ug/L	0	95	(0%-20%)			

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**QC Summary**

Workorder: 378840

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Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Volatile-GC/MS</b>											
Batch	1499858										
Toluene	50.0	J	0.430	47.0	ug/L	3	93	(0%-20%)	CDS1	08/14/15	15:42
Trichloroethylene	50.0	U	0.00	49.5	ug/L	3	99	(0%-20%)			
Xylenes (total)	150	J	0.310	130	ug/L	0	86	(0%-20%)			
n-Butyl alcohol	5000	U	0.00	3990	ug/L	22*	80	(0%-20%)			
**1,2-Dichloroethane-d4	50.0		57.9	48.3	ug/L		97	(70%-128%)			
**Bromofluorobenzene	50.0		50.5	52.3	ug/L		105	(63%-138%)			
**Toluene-d8	50.0		53.8	48.8	ug/L		98	(80%-120%)			

**Notes:**

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- N Spike Sample recovery is outside control limits.
- P Aroclor target analyte with greater than 25% difference between column analyses.
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- o Analyte failed to recover within LCS limits (Organics only)

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## QC Summary

Workorder: 378840

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
----------	-----	-------------	----	-------	------	------	-------	-------	------	------

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.  
 ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.  
 \* Indicates that a Quality Control parameter was not within specifications.  
 For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Volatile  
Surrogate Recovery Report

SDG Number: GEL378840

Matrix Type: SOLID

Sample ID	Client ID	DCED4 %REC	TOL %REC	BFB %REC
1203372763	LCS for batch 1499857	103	99	100
1203372766	LCS for batch 1499857	100	97	101
1203372762	MB for batch 1499857	100	98	98
378840003	B32D53	115	104	116
378840005	B32D59	121	111	123
378840007	B32D65	113	104	118
378840008	B32D68	116	106	120
378840009	B32D71	111	102	115
1203380567	LCS for batch 1499857	98	101	101
1203380568	LCS for batch 1499857	103	109	85
1203380566	MB for batch 1499857	107	100	92
378840001	B32D26	134 *	128 *	116
378840002	B32D50	116	108	101
378840004	B32D56	111	108	102
378840006	B32D62	108	105	110
378840010	B32D74	107	100	96
378840011	B32D77	109	102	97
378840012	B32F29	205 *	186 *	182 *
378840013	B32F32	113	109	100
1203372764	B32D50PS	103	101	105
1203372765	B32D50PSD	97	98	105

**Surrogate**

DCED4 = 1,2-Dichloroethane-d4

TOL = Toluene-d8

BFB = Bromofluorobenzene

**Acceptance Limits**

(70%-128%)

(80%-120%)

(63%-138%)

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

Date: 05 October 2015  
 To: CH2M Hill (technical representative)  
 From: Analytical Quality Associates, Inc.  
 Project: Low-Level Burial Grounds Trenches 31-34-94  
 Subject: Semivolatile Organics - Sample Data Group (SDG) GEL378728

## **INTRODUCTION**

This memorandum presents the results of data validation for SDG GEL378728 prepared by GEL Laboratories LLC. A list of samples validated along with the analytical methods is provided in the following table.

<b>Sample ID</b>	<b>Sample Date</b>	<b>Media</b>	<b>Validation Level</b>	<b>Analytical Methods</b>
B32D69	08/05/15	Soil	C	8270_SVOA
B32D72	08/05/15	Soil	C	8270_SVOA
B32D75	08/05/15	Soil	C	8270_SVOA
B32D78	08/05/15	Soil	C	8270_SVOA
B32F33	08/05/15	Soil	C	8270_SVOA
B32D18	08/06/15	Soil	C	8270_SVOA
B32D21	08/06/15	Soil	C	8270_SVOA
B32D24	08/06/15	Soil	C	8270_SVOA
B32D27	08/05/15	Soil	C	8270_SVOA
B32D30	08/06/15	Soil	C	8270_SVOA
B32D33	08/06/15	Soil	C	8270_SVOA
B32D36	08/06/15	Soil	C	8270_SVOA
B32D39	08/06/15	Soil	C	8270_SVOA
B32D42	08/06/15	Soil	C	8270_SVOA
B32D45	08/06/15	Soil	C	8270_SVOA
B32D48	08/06/15	Soil	C	8270_SVOA
B32D51	08/05/15	Soil	C	8270_SVOA
B32D54	08/05/15	Soil	C	8270_SVOA
B32D57	08/05/15	Soil	C	8270_SVOA
B32D60	08/05/15	Soil	C	8270_SVOA
B32D63	08/05/15	Soil	C	8270_SVOA
B32D66	08/05/15	Soil	C	8270_SVOA
B32DL3	08/06/15	Soil	C	8270_SVOA
B32DL4	08/06/15	Soil	C	8270_SVOA
B32F21	08/06/15	Soil	C	8270_SVOA
B32F24	08/06/15	Soil	C	8270_SVOA
B32F27	08/06/15	Soil	C	8270_SVOA
B32F30	08/05/15	Soil	C	8270_SVOA

Data validation was conducted in accordance with the CHPRC validation statement of work and the Low-Level Burial Grounds Trenches 31-34-94, Addendum H, Permit Modification Request,

WA7890008967, Part V Closure Unit Group 7 (SAP). Appendices 1 through 4 provide the following information as indicated below:

- Appendix 1. Glossary of Data Reporting Qualifiers
- Appendix 2. Summary of Data Qualification
- Appendix 3. Data Validation Supporting Documentation
- Appendix 4. Additional Documentation Requested by Client

## **DATA QUALITY OBJECTIVES**

- **Holding Times and Sample Preservation**

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The holding time requirements for semivolatile organics in soil are extraction within 14 days of sample collection and analysis within 40 days of sample extraction. Sample preservation requires chilling to <6 degrees Celsius.

The samples were extracted and analyzed within the prescribed holding times and properly preserved.

- **Blanks**

The blank data results are reviewed to assess the extent of contamination introduced through sampling, sample preparation, and analysis.

### **Laboratory Blanks**

All laboratory blank results were acceptable.

### **Trip Blanks**

No trip blanks were submitted for validation.

### **Field Blanks**

No field blanks were submitted for validation.

### **Equipment Blanks**

No equipment blanks were submitted for validation.

- **Accuracy**

Accuracy is evaluated by reviewing surrogate results, matrix spike sample results, and laboratory control sample results. According to the SAP, the matrix spike accuracy limits are  $\pm 30\%$  and the

laboratory control sample accuracy limits are ones specified by the DV procedure. The limits for reported analytes not listed in the SAP are specified by the DV procedure.

### **Surrogates**

All surrogate recoveries were acceptable.

### **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples**

All MS/MSD recoveries were acceptable with the following exceptions.

For batch 1500561, the MS and MSD recoveries for nitrobenzene and pyridine and the MSD recovery for pentachlorophenol were below the lower acceptance limit. All associated sample results were non-detects and should be qualified as estimates and flagged "UJ." See the table in Appendix 2 for a listing of all affected sample results

For batch 1500929, the MS and MSD recoveries for pentachlorophenol and pyridine and the MS recoveries for nitrobenzene and 1,2-dichlorobenzene were below the lower acceptance limit. All associated sample results were non-detects and should be qualified as estimates and flagged "UJ." See the table in Appendix 2 for a listing of all affected sample results

### **Laboratory Control Samples (LCSs)**

All LCS recoveries were acceptable with the following exceptions.

For batch 1500561, the LCS recovery for pyridine was below the lower acceptance limit. All associated sample results were non-detects and should be qualified as estimates and flagged "UJ." See the table in Appendix 2 for a listing of all affected sample results.

For batch 1500929, the LCS recoveries for 1,2-dichlorobenzene, nitrobenzene, pentachlorophenol and pyridine were below the lower acceptance limit. All associated sample results were non-detects and should be qualified as estimates and flagged "UJ." See the table in Appendix 2 for a listing of all affected sample results.

- **Precision**

Precision is evaluated by reviewing MS/MSD results, field duplicate sample results, and field split sample results. These QC results provide information on the laboratory reproducibility and whether sampling activities are adequate to acquire consistent sample results. According to the SAP, the relative percent difference (RPD) limits are  $\pm 30\%$ . The limits for reported analytes not listed in the SAP are specified by the DV procedure. When duplicate RPDs exceed the limits and have associated results  $< 5X$  the SAP required detection limits (or  $< 5X$  the laboratory reporting limits for analytes not listed in the SAP) with differences  $< 2X$  the required detection limits no precision infraction occurred.

### **MS/MSD Samples**

All MS/MSD relative percent difference values were acceptable.

### **Field Duplicate Samples**

No field duplicates were submitted for validation.

### **Field Split Samples**

No field splits were submitted for validation.

- **Internal Standards**

Internal standard performance criteria ensure that GC/MS sensitivity and response are stable during each analysis. Internal standards are added to all samples, including QC samples, prior to analysis.

Internal standards data was not included in the data package. Sample results should not be qualified based on this.

- **Detection Limits**

Reported MDLs are compared against the contractually required detection limits (CRDLs) to ensure that laboratory detection limits meet the required criteria.

MDL for pyridine was above the required CRDLs.

- **Completeness**

SDG GEL378728 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

### **MAJOR DEFICIENCIES**

None found.

### **MINOR DEFICIENCIES**

Minor deficiencies leading to qualification of sample results as estimates were due to MS/MSD and LCS recovery infractions. See the table in Appendix 2 for a listing of all affected sample results.

**REFERENCES**

GRP-GD-003, Rev. 1, Change 0, *Data Validation for Chemical Analyses*, July 2012.

HNF-20433, Rev. 0, *Data Validation Procedure for Chemical Analysis*, June 2004.

WA7890008967, Part V Closure Unit Group 7, *Low-Level Burial Grounds Trenches 31-34-94, Addendum H, Permit Modification Request*, May 14, 2015.

## **Appendix 1**

### **Glossary of Data Reporting Qualifiers**

Qualifiers that may be applied by data validators in compliance with the CHPRC statement of work are as follows:

- **U** — The constituent was analyzed for, but was not detected. The data should be considered usable for decision-making purposes.
- **UJ** — The constituent was analyzed for and was not detected. Due to a quality control deficiency identified during data validation the value reported may not accurately reflect the RL. The data should be considered usable for decision-making purposes.
- **J** — Indicates the constituent was analyzed for and detected. The associated value is estimated due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **J+** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **J-** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **N** — The analysis indicates the presence of an analyte that has been tentatively identified.
- **NJ** — The analysis indicates the presence of an analyte that has been tentatively identified and the associated numerical value represents its approximate concentration.
- **NJ+** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation.
- **NJ-** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation.
- **UR** — Indicates the constituent was analyzed for and not detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.
- **R** — Indicates the constituent was analyzed for and detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

**Appendix 2**  
**Summary of Data Qualification**

<b>Semivolatile Organics Data Qualification Summary</b>			
SDG: GEL378728	Reviewer: AQA	Project: Low-Level Burial Grounds Trenches 31-34-94	Page 1 of 1
<b>Analyte(s)</b>	<b>Qualifier</b>	<b>Samples Affected</b>	<b>Reason</b>
Pyridine	UJ	All Samples	Low LCS, MS and MSD recoveries
Nitrobenzene Pentachlorophenol	UJ	B32D69, B32D72, B32D75, B32D78, B32F33, B32D18, B32D21, B32D24, B32D27, B32D30, B32D33, B32D36, B32D39, B32D42, B32D45, B32D48, B32D51, B32D54, B32D57, B32D60	Low MS and/or MSD recoveries
1,2-dichlorobenzene Nitrobenzene Pentachlorophenol	UJ	B32D63, B32D66, B32DL3, B32DL4, B32F21, B32F24, B32F27, B32F30	Low LCS, MS and/or MSD recoveries

Comments: None

## **Appendix 3**

### **Data Validation Supporting Documentation**

Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

Appendix A - Chemical Data Validation Checklist

VALIDATION LEVEL:	A	B	C	D	E
PROJECT:			DATA PACKAGE:		
VALIDATOR:		LAB:		DATE:	
			SDG:		
ANALYSES PERFORMED					
SW-846 8260		SW-846 8260 (TCLP)	SW-846 8270		SW-846 8270 (TCLP)
SAMPLES/MATRIX					

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? .....Yes No N/A

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

2. INSTRUMENT TUNING AND CALIBRATION (Levels D and E)

GC/MS tuning/performance check acceptable? .....Yes No N/A
Initial calibrations acceptable? .....Yes No N/A
Continuing calibrations acceptable? .....Yes No N/A
Standards traceable? .....Yes No N/A
Standards expired? .....Yes No N/A
Calculation check acceptable? .....Yes No N/A

Comments: \_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

3. BLANKS (Levels B, C, D, and E)

Calibration blanks analyzed? (Levels D, E).....Yes No N/A
Calibration blank results acceptable? (Levels D, E).....Yes No N/A
Laboratory blanks analyzed? .....Yes No N/A
Laboratory blank results acceptable? .....Yes No N/A
Field/trip blanks analyzed? (Levels C, D, E).....Yes No N/A
Field/trip blank results acceptable? (Levels C, D, E).....Yes No N/A
Transcription/calculation errors? (Levels D, E).....Yes No N/A

Comments: \_\_\_\_\_
\_\_\_\_\_
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Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

4. ACCURACY (Levels C, D, and E)

- Surrogates/system monitoring compounds analyzed?.....Yes No N/A
- Surrogate/system monitoring compound recoveries acceptable? .....Yes No N/A
- Surrogates traceable? (Levels D, E).....Yes No N/A
- Surrogates expired? (Levels D, E).....Yes No N/A
- MS/MSD samples analyzed?.....Yes No N/A
- MS/MSD results acceptable? .....Yes No N/A
- MS/MSD standards NIST traceable? (Levels D, E) .....Yes No N/A
- MS/MSD standards? (Levels D, E).....Yes No N/A
- LCS/BSS samples analyzed?.....Yes No N/A
- LCS/BSS results acceptable?.....Yes No N/A
- Standards traceable? (Levels D, E).....Yes No N/A
- Standards expired? (Levels D, E).....Yes No N/A
- Transcription/calculation errors? (Levels D, E).....Yes No N/A
- Performance audit sample(s) analyzed? .....Yes No N/A
- Performance audit sample results acceptable?.....Yes No N/A

Comments: \_\_\_\_\_

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Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

5. PRECISION (Levels C, D, and E)

MS/MSD samples analyzed?.....Yes No N/A
MS/MSD RPD values acceptable? .....Yes No N/A
MS/MSD standards NIST traceable? (Levels D, E) .....Yes No N/A
MS/MSD standards expired? (Levels D, E).....Yes No N/A
LCS/LCSD duplicates run due to insufficient sample material? .....Yes No N/A
Field duplicate RPD values acceptable? .....Yes No N/A
Field split RPD values acceptable? .....Yes No N/A
Transcription/calculation errors? (Levels D, E).....Yes No N/A

Comments:
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
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6. SYSTEM PERFORMANCE (Levels D and E)

Internal standards analyzed?.....Yes No N/A
Internal standard areas acceptable? .....Yes No N/A
Internal standard retention times acceptable?.....Yes No N/A
Standards traceable?.....Yes No N/A
Standards expired? .....Yes No N/A
Transcription/calculation errors?.....Yes No N/A

Comments:
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

7. HOLDING TIMES (all levels )

Samples properly preserved? .....Yes No N/A

Sample holding times acceptable? .....Yes No N/A

Comments: \_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
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8. COMPOUND IDENTIFICATION, QUANTITATION, AND DETECTION LIMITS (all levels)

Compound identification acceptable? (Levels D, E).....Yes No N/A

Compound quantitation acceptable? (Levels D, E).....Yes No N/A

Results reported for all requested analyses? .....Yes No N/A

Results supported in the raw data? (Levels D, E).....Yes No N/A

Samples properly prepared? (Levels D, E) .....Yes No N/A

Laboratory properly identified and coded all TIC? (Levels D, E).....Yes No N/A

Detection limits meet RDL? .....Yes No N/A

Transcription/calculation errors? (Levels D, E).....Yes No N/A

Comments: \_\_\_\_\_
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\_\_\_\_\_
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Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

9. SAMPLE CLEANUP (Levels D and E)

- GPC cleanup performed? .....Yes No N/A
- GPC check performed? .....Yes No N/A
- GPC check recoveries acceptable? .....Yes No N/A
- GPC calibration performed? .....Yes No N/A
- GPC calibration check performed? .....Yes No N/A
- GPC calibration check retention times acceptable? .....Yes No N/A
- Check/calibration materials traceable? .....Yes No N/A
- Check/calibration materials Expired? .....Yes No N/A
- Analytical batch QC given similar cleanup? .....Yes No N/A
- Transcription/Calculation Errors? .....Yes No N/A

Comments: \_\_\_\_\_

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Comments (attach additional sheets as necessary): \_\_\_\_\_

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## **Appendix 4**

### **Additional Documentation Requested By Client**

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**QC Summary**

Report Date: September 1, 2015

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CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 378728

Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS										
Batch	1500561									
QC1203374692	LCS									
1,2-Dichlorobenzene	1670		1240	ug/kg		74	(39%-93%)	AGS1	08/17/15	23:42
Nitrobenzene	1670		1180	ug/kg		71	(35%-99%)			
Pentachlorophenol	1670		1390	ug/kg		84	(31%-93%)			
Pyridine	1670		726	ug/kg		44	(29%-85%)			
**2,4,6-Tribromophenol	3330		2550	ug/kg		77	(20%-122%)			
**2-Fluorobiphenyl	1670		1060	ug/kg		64	(25%-100%)			
**2-Fluorophenol	3330		2070	ug/kg		62	(23%-107%)			
**Nitrobenzene-d5	1670		1060	ug/kg		64	(21%-103%)			
**Phenol-d5	3330		2120	ug/kg		64	(25%-108%)			
**p-Terphenyl-d14	1670		1340	ug/kg		80	(31%-124%)			
QC1203374691	MB									
1,2-Dichlorobenzene		U	99.8	ug/kg					08/17/15	23:10
Cresols (total)		U	99.8	ug/kg						
Nitrobenzene		U	99.8	ug/kg						
Pentachlorophenol		U	99.8	ug/kg						
Pyridine		U	99.8	ug/kg						
**2,4,6-Tribromophenol	3330		2250	ug/kg		68	(20%-122%)			
**2-Fluorobiphenyl	1660		1130	ug/kg		68	(25%-100%)			
**2-Fluorophenol	3330		1810	ug/kg		54	(23%-107%)			
**Nitrobenzene-d5	1660		1020	ug/kg		61	(21%-103%)			

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**QC Summary**

Workorder: 378728

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1500561											
**Phenol-d5	3330			1950	ug/kg		59	(25%-108%)			
**p-Terphenyl-d14	1660			1200	ug/kg		72	(31%-124%)	AGS1	08/17/15	23:10
QC1203374693 378728001 MS											
1,2-Dichlorobenzene	1720	U	103	1210	ug/kg		71	(25%-99%)		08/18/15	00:45
Nitrobenzene	1720	U	103	1120	ug/kg		65	(25%-104%)			
Pentachlorophenol	1720	U	103	1300	ug/kg		76	(22%-108%)			
Pyridine	1720	U	103	732	ug/kg		43	(24%-87%)			
**2,4,6-Tribromophenol	3430		2130	2540	ug/kg		74	(20%-122%)			
**2-Fluorobiphenyl	1720		1120	1040	ug/kg		60	(25%-100%)			
**2-Fluorophenol	3430		1830	2030	ug/kg		59	(23%-107%)			
**Nitrobenzene-d5	1720		1040	967	ug/kg		56	(21%-103%)			
**Phenol-d5	3430		1950	2070	ug/kg		60	(25%-108%)			
**p-Terphenyl-d14	1720		1230	1440	ug/kg		84	(31%-124%)			
QC1203374694 378728001 MSD											
1,2-Dichlorobenzene	1720	U	103	1200	ug/kg	1	70	(0%-30%)		08/18/15	01:16
Nitrobenzene	1720	U	103	1100	ug/kg	1	64	(0%-30%)			
Pentachlorophenol	1720	U	103	1140	ug/kg	13	66	(0%-30%)			
Pyridine	1720	U	103	709	ug/kg	3	41	(0%-30%)			
**2,4,6-Tribromophenol	3430		2130	2350	ug/kg		68	(20%-122%)			
**2-Fluorobiphenyl	1720		1120	1010	ug/kg		59	(25%-100%)			
**2-Fluorophenol	3430		1830	2020	ug/kg		59	(23%-107%)			
**Nitrobenzene-d5	1720		1040	934	ug/kg		54	(21%-103%)			
**Phenol-d5	3430		1950	2060	ug/kg		60	(25%-108%)			
**p-Terphenyl-d14	1720		1230	1330	ug/kg		78	(31%-124%)			

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**QC Summary**

Workorder: 378728

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Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Semi-Volatile-GC/MS									
Batch	1500561								
Batch	1500929								
QC1203375618	LCS								
1,2-Dichlorobenzene	1670		1070	ug/kg		64	(39%-93%)	AGS1	08/18/15 20:39
Nitrobenzene	1670		1020	ug/kg		61	(35%-99%)		
Pentachlorophenol	1670		1060	ug/kg		64	(31%-93%)		
Pyridine	1670		626	ug/kg		38	(29%-85%)		
**2,4,6-Tribromophenol	3330		2210	ug/kg		66	(20%-122%)		
**2-Fluorobiphenyl	1670		976	ug/kg		59	(25%-100%)		
**2-Fluorophenol	3330		1790	ug/kg		54	(23%-107%)		
**Nitrobenzene-d5	1670		933	ug/kg		56	(21%-103%)		
**Phenol-d5	3330		1790	ug/kg		54	(25%-108%)		
**p-Terphenyl-d14	1670		1350	ug/kg		81	(31%-124%)		
QC1203375617	MB								
1,2-Dichlorobenzene		U	99.9	ug/kg					08/18/15 20:08
Cresols (total)		U	99.9	ug/kg					
Nitrobenzene		U	99.9	ug/kg					
Pentachlorophenol		U	99.9	ug/kg					
Pyridine		U	99.9	ug/kg					
**2,4,6-Tribromophenol	3330		2140	ug/kg		64	(20%-122%)		
**2-Fluorobiphenyl	1660		1160	ug/kg		70	(25%-100%)		
**2-Fluorophenol	3330		1880	ug/kg		57	(23%-107%)		
**Nitrobenzene-d5	1660		1080	ug/kg		65	(21%-103%)		
**Phenol-d5	3330		1990	ug/kg		60	(25%-108%)		

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**QC Summary**

Workorder: 378728

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch 1500929											
**p-Terphenyl-d14	1660			1230	ug/kg		74	(31%-124%)	AGS1	08/18/15	20:08
QC1203375619 378728021 MS											
1,2-Dichlorobenzene	1690	U	101	998	ug/kg		59	(25%-99%)		08/18/15	21:43
Nitrobenzene	1690	U	101	953	ug/kg		57	(25%-104%)			
Pentachlorophenol	1690	U	101	837	ug/kg		50	(22%-108%)			
Pyridine	1690	U	101	539	ug/kg		32	(24%-87%)			
**2,4,6-Tribromophenol	3370		2370	2140	ug/kg		64	(20%-122%)			
**2-Fluorobiphenyl	1690		1220	919	ug/kg		55	(25%-100%)			
**2-Fluorophenol	3370		2000	1650	ug/kg		49	(23%-107%)			
**Nitrobenzene-d5	1690		1160	856	ug/kg		51	(21%-103%)			
**Phenol-d5	3370		2110	1660	ug/kg		49	(25%-108%)			
**p-Terphenyl-d14	1690		1340	1350	ug/kg		80	(31%-124%)			
QC1203375620 378728021 MSD											
1,2-Dichlorobenzene	1690	U	101	1300	ug/kg	26	77	(0%-30%)		08/18/15	22:14
Nitrobenzene	1690	U	101	1230	ug/kg	25	73	(0%-30%)			
Pentachlorophenol	1690	U	101	1120	ug/kg	29	67	(0%-30%)			
Pyridine	1690	U	101	732	ug/kg	30	43	(0%-30%)			
**2,4,6-Tribromophenol	3370		2370	2440	ug/kg		72	(20%-122%)			
**2-Fluorobiphenyl	1690		1220	1130	ug/kg		67	(25%-100%)			
**2-Fluorophenol	3370		2000	2150	ug/kg		64	(23%-107%)			
**Nitrobenzene-d5	1690		1160	1120	ug/kg		66	(21%-103%)			
**Phenol-d5	3370		2110	2160	ug/kg		64	(25%-108%)			
**p-Terphenyl-d14	1690		1340	1410	ug/kg		84	(31%-124%)			

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**QC Summary**

Workorder: 378728

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Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Semi-Volatile-GC/MS											
Batch	1500929										

**Notes:**

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- N Spike Sample recovery is outside control limits.
- P Aroclor target analyte with greater than 25% difference between column analyses.
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- o Analyte failed to recover within LCS limits (Organics only)

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

\* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Semi-Volatile  
Page 33 of 140  
Surrogate Recovery Report

SDG Number: GEL378728

Matrix Type: SOLID

Sample ID	Client ID	2FP %REC	PHL %REC	NBZ %REC	FBP %REC	TBP %REC	TPH %REC
1203374691	MB for batch 1500560	54	59	61	68	68	72
1203374692	LCS for batch 1500560	62	64	64	64	77	80
378728001	B32D69	53	57	61	65	62	72
1203374693	B32D69MS	59	60	56	60	74	84
1203374694	B32D69MSD	59	60	54	59	68	78
378728002	B32D72	43	46	47	52	60	72
378728003	B32D75	52	54	58	64	66	78
378728004	B32D78	46	48	50	53	61	71
378728005	B32F33	58	61	63	69	69	73
378728006	B32D18	51	54	61	64	64	74
378728007	B32D21	60	63	71	73	71	74
378728008	B32D24	52	54	62	66	66	75
378728009	B32D27	55	59	65	69	67	74
378728010	B32D30	48	51	57	61	59	66
378728011	B32D33	53	57	62	68	62	73
378728012	B32D36	59	63	69	72	69	80
378728013	B32D39	58	60	68	70	68	72
378728014	B32D42	49	52	57	62	58	71
378728015	B32D45	50	53	60	64	62	75
378728016	B32D48	52	56	61	64	62	70
378728017	B32D51	57	57	66	70	73	73
378728018	B32D54	51	53	63	64	60	66
378728019	B32D57	53	56	65	68	63	67
378728020	B32D60	53	55	65	70	66	72

2FP = 2-Fluorophenol (23%-107%)

PHL = Phenol-d5 (25%-108%)

NBZ = Nitrobenzene-d5 (21%-103%)

FBP = 2-Fluorobiphenyl (25%-100%)

TBP = 2,4,6-Tribromophenol (20%-122%)

TPH = p-Terphenyl-d14 (31%-124%)

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

Semi-Volatile  
Page 34 of 140  
Surrogate Recovery Report

SDG Number: GEL378728

Matrix Type: SOLID

Sample ID	Client ID	2FP %REC	PHL %REC	NBZ %REC	FBP %REC	TBP %REC	TPH %REC
1203375617	MB for batch 1500928	57	60	65	70	64	74
1203375618	LCS for batch 1500928	54	54	56	59	66	81
378728021	B32D63	59	63	69	73	70	80
1203375619	B32D63MS	49	49	51	55	64	80
1203375620	B32D63MSD	64	64	66	67	72	84
378728022	B32D66	50	52	56	59	57	73
378728023	B32DL3	37	39	43	49	46	62
378728024	B32DL4	45	47	52	55	57	71
378728025	B32F21	55	60	67	67	59	75
378728026	B32F24	51	54	65	67	61	75
378728027	B32F27	54	57	67	70	61	82
378728028	B32F30	51	54	63	66	57	79

**Surrogate**

2FP = 2-Fluorophenol  
 PHL = Phenol-d5  
 NBZ = Nitrobenzene-d5  
 FBP = 2-Fluorobiphenyl  
 TBP = 2,4,6-Tribromophenol  
 TPH = p-Terphenyl-d14

**Acceptance Limits**

(23%-107%)  
 (25%-108%)  
 (21%-103%)  
 (25%-100%)  
 (20%-122%)  
 (31%-124%)

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

Date: 05 October 2015  
 To: CH2M Hill (technical representative)  
 From: Analytical Quality Associates, Inc.  
 Project: Low-Level Burial Grounds Trenches 31-34-94  
 Subject: Alcohols - Sample Data Groups (SDGs) GEL378728

## **INTRODUCTION**

This memorandum presents the results of data validation for SDG GEL378728 prepared by GEL Laboratories LLC. A list of samples validated along with the analytical method is provided in the following table.

<b>Sample ID</b>	<b>Sample Date</b>	<b>Media</b>	<b>Validation Level</b>	<b>Analytical Method</b>
B32D69	08/05/15	Soil	C	8015C
B32D72	08/05/15	Soil	C	8015C
B32D75	08/05/15	Soil	C	8015C
B32D78	08/05/15	Soil	C	8015C
B32F33	08/05/15	Soil	C	8015C
B32D18	08/06/15	Soil	C	8015C
B32D21	08/06/15	Soil	C	8015C
B32D24	08/06/15	Soil	C	8015C
B32D27	08/05/15	Soil	C	8015C
B32D30	08/06/15	Soil	C	8015C
B32D33	08/06/15	Soil	C	8015C
B32D36	08/06/15	Soil	C	8015C
B32D39	08/06/15	Soil	C	8015C
B32D42	08/06/15	Soil	C	8015C
B32D45	08/06/15	Soil	C	8015C
B32D48	08/06/15	Soil	C	8015C
B32D51	08/05/15	Soil	C	8015C
B32D54	08/05/15	Soil	C	8015C
B32D57	08/05/15	Soil	C	8015C
B32D60	08/05/15	Soil	C	8015C
B32D63	08/05/15	Soil	C	8015C
B32D66	08/05/15	Soil	C	8015C
B32DL3	08/06/15	Soil	C	8015C
B32DL4	08/06/15	Soil	C	8015C
B32F21	08/06/15	Soil	C	8015C
B32F24	08/06/15	Soil	C	8015C
B32F27	08/06/15	Soil	C	8015C
B32F30	08/05/15	Soil	C	8015C

Data validation was conducted in accordance with the CHPRC validation statement of work and the Low-Level Burial Grounds Trenches 31-34-94, Addendum H, Permit Modification Request,

WA7890008967, Part V Closure Unit Group 7 (SAP). Appendices 1 through 4 provide the following information as indicated below:

- Appendix 1. Glossary of Data Reporting Qualifiers
- Appendix 2. Summary of Data Qualification
- Appendix 3. Data Validation Supporting Documentation
- Appendix 4. Additional Documentation Requested by Client

## **DATA QUALITY OBJECTIVES**

- **Holding Times and Sample Preservation**

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The holding time requirements for method 8015C Alcohol is extraction and analysis within 14 days of sample collection. Sample preservation requires chilling to <6 degrees Celsius.

The samples were extracted and analyzed within the prescribed holding times and properly preserved.

- **Blanks**

The blank data results are reviewed to assess the extent of contamination introduced through sampling, sample preparation, and analysis.

### **Laboratory Blanks**

All laboratory blank results were acceptable.

### **Trip Blanks**

No trip blanks were submitted for validation.

### **Field Blanks**

No field blanks were submitted for validation.

### **Equipment Blanks**

No equipment blanks were submitted for validation.

- **Accuracy**

Accuracy is evaluated by reviewing surrogate results, matrix spike sample results, and laboratory control sample results. According to the SAP, the matrix spike accuracy limits are  $\pm 30\%$  and the laboratory control sample accuracy limits are ones specified by the DV procedure.

### **Surrogates**

All surrogate recoveries were acceptable.

### **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples**

An MS/MSD pair was not included with the samples. All methanol sample results were non-detects and should be qualified as estimates and flagged “UJ” due to lack of matrix-specific accuracy data.

### **Laboratory Control Samples (LCSs)**

All LCS recoveries were acceptable.

- **Precision**

Precision is evaluated by reviewing laboratory duplicate sample results, field duplicate sample results, and field split sample results. These QC results provide information on the laboratory reproducibility and whether sampling activities are adequate to acquire consistent sample results. According to the SAP, the relative percent difference (RPD) limits are  $\pm 30\%$ .

### **Laboratory Duplicate Samples**

All laboratory duplicate results were acceptable.

### **Field Duplicate Samples**

No field duplicates were submitted for validation.

### **Field Split Samples**

No field splits were submitted for validation.

- **Detection Limits**

Reported MDLs are compared against the contractually required detection limits (CRDLs) to ensure that laboratory detection limits meet the required criteria.

All reported sample MDLs were below the CRDLs.

- **Completeness**

SDGs GEL378728 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

**MAJOR DEFICIENCIES**

None found.

**MINOR DEFICIENCIES**

Minor deficiencies leading to qualification of the methanol result for all samples as an estimate was due to lack of matrix spike accuracy data.

**REFERENCES**

GRP-GD-003, Rev. 1, Change 0, *Data Validation for Chemical Analyses*, July 2012.

WA7890008967, Part V Closure Unit Group 7, *Low-Level Burial Grounds Trenches 31-34-94, Addendum H, Permit Modification Request*, May 14, 2015.

**Appendix 1**  
**Glossary of Data Reporting Qualifiers**

Qualifiers that may be applied by data validators in compliance with the CHPRC statement of work are as follows:

- **U** — The constituent was analyzed for, but was not detected. The data should be considered usable for decision-making purposes.
- **UJ** — The constituent was analyzed for and was not detected. Due to a quality control deficiency identified during data validation the value reported may not accurately reflect the RL. The data should be considered usable for decision-making purposes.
- **J** — Indicates the constituent was analyzed for and detected. The associated value is estimated due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **J+** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **J-** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **N** — The analysis indicates the presence of an analyte that has been tentatively identified.
- **NJ** — The analysis indicates the presence of an analyte that has been tentatively identified and the associated numerical value represents its approximate concentration.
- **NJ+** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation.
- **NJ-** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation.
- **C** — This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by Gas Chromatograph/Mass Spectrometer (GC/MS).
- **X** — This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful. The data should be considered unusable for decision-making purposes.
- **UR** — Indicates the constituent was analyzed for and not detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

- **R** — Indicates the constituent was analyzed for and detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

**Appendix 2**  
**Summary of Data Qualification**

<b>Alcohols Data Qualification Summary</b>			
SDGs: GEL378728	Reviewer: AQA	Project: Low-Level Burial Grounds Trenches 31-34-94	Page 1 of 1
<b>Analyte(s)</b>	<b>Qualifier</b>	<b>Samples Affected</b>	<b>Reason</b>
Methanol	UJ	All samples	Lack of matrix-specific accuracy data

Comments: None

## **Appendix 3**

### **Data Validation Supporting Documentation**

Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

VALIDATION LEVEL:	A	B	C	D	E
PROJECT:			DATA PACKAGE:		
VALIDATOR:		LAB:		DATE:	
			SDG:		
ANALYSES PERFORMED					
8015	8021	8141	8151	8315	
		WTPH-HCID	WTPH-G	WTPH-D	
SAMPLES/MATRIX:					

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? .....Yes No N/A

Comments: \_\_\_\_\_

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Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

2. INSTRUMENT TUNING AND CALIBRATION (Levels D and E)

Initial calibrations acceptable? .....Yes No N/A
Continuing calibrations acceptable? .....Yes No N/A
Standards traceable? .....Yes No N/A
Standards expired? .....Yes No N/A
Calculation check acceptable? .....Yes No N/A

Comments:
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

3. BLANKS (Levels B, C, D, and E)

Calibration blanks analyzed? (Levels D, E).....Yes No N/A
Calibration blank results acceptable? (Levels D, E).....Yes No N/A
Laboratory blanks analyzed? .....Yes No N/A
Laboratory blank results acceptable? .....Yes No N/A
Field/trip blanks analyzed? (Levels C, D, E).....Yes No N/A
Field/trip blank results acceptable? (Levels C, D, E).....Yes No N/A
Transcription/calculation errors? (Levels D, E).....Yes No N/A

Comments:
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

4. ACCURACY (Levels C, D, and E)

- Surrogates/system monitoring compounds analyzed?.....Yes No N/A
- Surrogate/system monitoring compound recoveries acceptable? .....Yes No N/A
- Surrogates traceable? (Levels D, E).....Yes No N/A
- Surrogates expired? (Levels D, E).....Yes No N/A
- MS/MSD samples analyzed?.....Yes No N/A
- MS/MSD results acceptable? .....Yes No N/A
- MS/MSD standards NIST traceable? (Levels D, E) .....Yes No N/A
- MS/MSD standards expired? (Levels D, E).....Yes No N/A
- LCS/BSS samples analyzed?.....Yes No N/A
- LCS/BSS results acceptable?.....Yes No N/A
- Standards traceable? (Levels D, E).....Yes No N/A
- Standards expired? (Levels D, E).....Yes No N/A
- Transcription/calculation errors? (Levels D, E).....Yes No N/A
- Performance audit sample(s) analyzed? .....Yes No N/A
- Performance audit sample results acceptable?.....Yes No N/A

Comments: \_\_\_\_\_

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Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

5. PRECISION (Levels C, D, and E)

- Duplicate RPD values acceptable? .....Yes No N/A
- Duplicate results acceptable? .....Yes No N/A
- MS/MSD standards NIST traceable? (Levels D, E) .....Yes No N/A
- MS/MSD standards expired? (Levels D, E).....Yes No N/A
- LCS/LCSD duplicates run due to insufficient sample material? .....Yes No N/A
- Field duplicate RPD values acceptable? .....Yes No N/A
- Field split RPD values acceptable? .....Yes No N/A
- Transcription/calculation errors? (Levels D, E).....Yes No N/A

Comments: \_\_\_\_\_

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6. HOLDING TIMES (all levels)

- Samples properly preserved? .....Yes No N/A
- Sample holding times acceptable? .....Yes No N/A

Comments: \_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

7. COMPOUND IDENTIFICATION, QUANTITATION, AND DETECTION LIMITS (all levels)

Results reported for all requested analyses? .....Yes No N/A
Results supported in the raw data? (Levels D, E) .....Yes No N/A
Samples properly prepared? (Levels D, E) .....Yes No N/A
Detection limits meet RDL? .....Yes No N/A
Transcription/calculation errors? (Levels D, E).....Yes No N/A

Comments:
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

8. SAMPLE CLEANUP (Levels D and E)

Fluorisil ® (or other absorbent) cleanup performed?.....Yes No N/A
Lot check performed? .....Yes No N/A
Check recoveries acceptable?.....Yes No N/A
Check materials traceable? .....Yes No N/A
Check materials Expired? .....Yes No N/A
Analytical batch QC given similar cleanup? .....Yes No N/A
Transcription/Calculation Errors? .....Yes No N/A

Comments:
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_



## **Appendix 4**

### **Additional Documentation Requested By Client**

**GEL LABORATORIES LLC**

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

**QC Summary**

Report Date: August 25, 2015

Page 1 of 2

CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Mr. Scot Fitzgerald

Contact:

Workorder: 378728

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Alcohols</b>											
Batch	1499164										
QC1203371005	378728001	DUP									
Methanol		U	1.26	U	1.25	mg/kg	N/A		LXA1	08/11/15	13:46
**1,4-Dioxane-d8	250		229		225	mg/kg	90	(33%-122%)			
QC1203371004	LCS										
Methanol	50.0				50.5	mg/kg	101	(65%-112%)		08/11/15	13:18
**1,4-Dioxane-d8	50.0				48.7	mg/kg	97	(33%-122%)			
QC1203371003	MB										
Methanol			U		0.250	mg/kg				08/11/15	13:04
**1,4-Dioxane-d8	50.0				49.5	mg/kg	99	(33%-122%)			
Batch	1499167										
QC1203371008	378728021	DUP									
Methanol		U	1.18	U	1.18	mg/kg	N/A		LXA1	08/11/15	20:07
**1,4-Dioxane-d8	236		219		223	mg/kg	94	(33%-122%)			
QC1203371007	LCS										
Methanol	50.0				47.6	mg/kg	95	(65%-112%)		08/11/15	19:39
**1,4-Dioxane-d8	50.0				47.0	mg/kg	94	(33%-122%)			
QC1203371006	MB										
Methanol			U		0.250	mg/kg				08/11/15	19:25
**1,4-Dioxane-d8	50.0				48.3	mg/kg	97	(33%-122%)			

**Notes:**

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument

FID Alcohols  
 Page 73 of 140  
 Surrogate Recovery Report

SDG Number: GEL378728

Matrix Type: SOLID

Sample ID	Client ID	1,4-Dio %REC
1203371003	MB for batch 1499162	99
1203371004	LCS for batch 1499162	97
378728001	B32D69	91
1203371005	B32D69DUP	90
378728002	B32D72	91
378728003	B32D75	92
378728004	B32D78	93
378728005	B32F33	91
378728006	B32D18	98
378728007	B32D21	98
378728008	B32D24	99
378728009	B32D27	97
378728010	B32D30	96
378728011	B32D33	98
378728012	B32D36	99
378728013	B32D39	98
378728014	B32D42	97
378728015	B32D45	94
378728016	B32D48	94
378728017	B32D51	90
378728018	B32D54	99
378728019	B32D57	93
378728020	B32D60	97
1203371006	MB for batch 1499166	97

1,4-Diox = 1,4-Dioxane-d8 (33%-122%)

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

## Surrogate Recovery Report

SDG Number: GEL378728

Matrix Type: SOLID

Sample ID	Client ID	1,4-Dio %REC
1203371007	LCS for batch 1499166	94
378728021	B32D63	93
1203371008	B32D63DUP	94
378728022	B32D66	98
378728023	B32DL3	98
378728024	B32DL4	96
378728025	B32F21	97
378728026	B32F24	97
378728027	B32F27	117
378728028	B32F30	97

**Surrogate**

1,4-Diox = 1,4-Dioxane-d8

**Acceptance Limits**

(33%-122%)

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

Date: 05 October 2015  
 To: CH2M Hill (technical representative)  
 From: Analytical Quality Associates, Inc.  
 Project: Low-Level Burial Grounds Trenches 31-34-94  
 Subject: PCBs - Sample Data Group (SDG) GEL378728

## **INTRODUCTION**

This memorandum presents the results of data validation for SDG GEL378728 prepared by GEL Laboratories LLC. A list of samples validated along with the analytical methods is provided in the following table.

<b>Sample ID</b>	<b>Sample Date</b>	<b>Media</b>	<b>Validation Level</b>	<b>Analytical Method</b>
B32D69	08/05/15	Soil	C	8082A
B32D72	08/05/15	Soil	C	8082A
B32D75	08/05/15	Soil	C	8082A
B32D78	08/05/15	Soil	C	8082A
B32F33	08/05/15	Soil	C	8082A
B32D18	08/06/15	Soil	C	8082A
B32D21	08/06/15	Soil	C	8082A
B32D24	08/06/15	Soil	C	8082A
B32D27	08/05/15	Soil	C	8082A
B32D30	08/06/15	Soil	C	8082A
B32D33	08/06/15	Soil	C	8082A
B32D36	08/06/15	Soil	C	8082A
B32D39	08/06/15	Soil	C	8082A
B32D42	08/06/15	Soil	C	8082A
B32D45	08/06/15	Soil	C	8082A
B32D48	08/06/15	Soil	C	8082A
B32D51	08/05/15	Soil	C	8082A
B32D54	08/05/15	Soil	C	8082A
B32D57	08/05/15	Soil	C	8082A
B32D60	08/05/15	Soil	C	8082A
B32D63	08/05/15	Soil	C	8082A
B32D66	08/05/15	Soil	C	8082A
B32DL3	08/06/15	Soil	C	8082A
B32DL4	08/06/15	Soil	C	8082A
B32F21	08/06/15	Soil	C	8082A
B32F24	08/06/15	Soil	C	8082A
B32F27	08/06/15	Soil	C	8082A
B32F30	08/05/15	Soil	C	8082A

Data validation was conducted in accordance with the CHPRC validation statement of work and the Low-Level Burial Grounds Trenches 31-34-94, Addendum H, Permit Modification Request,

WA7890008967, Part V Closure Unit Group 7 (SAP). Appendices 1 through 4 provide the following information as indicated below:

- Appendix 1. Glossary of Data Reporting Qualifiers
- Appendix 2. Summary of Data Qualification
- Appendix 3. Data Validation Supporting Documentation
- Appendix 4. Additional Documentation Requested by Client

## **DATA QUALITY OBJECTIVES**

- **Holding Times and Sample Preservation**

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The holding time requirements for PCBs are extraction within one year of sample collection and analysis within one year of sample extraction. Sample preservation requires chilling to <6 degrees Celsius.

The samples were extracted and analyzed within the prescribed holding times and properly preserved.

- **Blanks**

The blank data results are reviewed to assess the extent of contamination introduced through sampling, sample preparation, and analysis.

### **Laboratory Blanks**

All laboratory blank results were acceptable.

### **Trip Blanks**

No trip blanks were submitted for validation.

### **Field Blanks**

No field blanks were submitted for validation.

### **Equipment Blanks**

No equipment blanks were submitted for validation.

- **Accuracy**

Accuracy is evaluated by reviewing surrogate results, matrix spike sample results, and laboratory control sample results. According to the SAP, the matrix spike sample accuracy limits are  $\pm 30\%$ . The laboratory control sample accuracy limits are ones specified by the DV procedure.

### **Surrogates**

All surrogate recoveries were acceptable.

### **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples**

All MS/MSD recoveries were acceptable with the following exception.

The aroclor-1016 MS and MSD recoveries associated with batch 1500586 were below the lower acceptance limit. All associated aroclor-1016 sample results were non-detects and should be qualified as estimates and flagged "UJ." See the table in Appendix 2 for a listing of all affected sample results.

### **Laboratory Control Samples (LCSs)**

All LCS recoveries were acceptable with the following exception.

The LCS recovery for aroclor-1016 associated with batch 1500586 was below the lower acceptance limit. All associated aroclor-1016 sample results were non-detects and should be qualified as estimates and flagged "UJ." See the table in Appendix 2 for a listing of all affected sample results.

- **Precision**

Precision is evaluated by reviewing MS/MSD results, field duplicate sample results, and field split sample results. These QC results provide information on the laboratory reproducibility and whether sampling activities are adequate to acquire consistent sample results. According to the SAP, the relative percent difference (RPD) limits are  $\pm 30\%$ .

### **MS/MSD Samples**

All MS/MSD RPD values were acceptable.

### **Field Duplicate Samples**

No field duplicates were submitted for validation.

### **Field Split Samples**

No field splits were submitted for validation.

- **Detection Limits**

Reported MDLs are compared against the contractually required detection limits (CRDLs) to ensure that laboratory detection limits meet the required criteria.

All reported sample MDLs were below the CRDLs.

- **Completeness**

SDG GEL378728 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

### **MAJOR DEFICIENCIES**

None found.

### **MINOR DEFICIENCIES**

Minor deficiencies leading to qualification of sample results as estimates were due to MS/MSD and LCS infraction. See the table in Appendix 2 for a listing of all affected sample results.

### **REFERENCES**

GRP-GD-003, Rev. 1, Change 0, *Data Validation for Chemical Analyses*, July 2012.

WA7890008967, Part V Closure Unit Group 7, *Low-Level Burial Grounds Trenches 31-34-94, Addendum H, Permit Modification Request*, Mar 14, 2015.

**Appendix 1**  
**Glossary of Data Reporting Qualifiers**

Qualifiers that may be applied by data validators in compliance with the CHPRC statement of work are as follows:

- **U** — The constituent was analyzed for, but was not detected. The data should be considered usable for decision-making purposes.
- **UJ** — The constituent was analyzed for and was not detected. Due to a quality control deficiency identified during data validation the value reported may not accurately reflect the RL. The data should be considered usable for decision-making purposes.
- **J** — Indicates the constituent was analyzed for and detected. The associated value is estimated due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **J+** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **J-** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **N** — The analysis indicates the presence of an analyte that has been tentatively identified.
- **NJ** — The analysis indicates the presence of an analyte that has been tentatively identified and the associated numerical value represents its approximate concentration.
- **NJ+** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation.
- **NJ-** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation.
- **C** — This qualifier applies to pesticide and Aroclor results when the identification has been confirmed by Gas Chromatograph/Mass Spectrometer (GC/MS).
- **X** — This qualifier applies to pesticide and Aroclor results when GC/MS analysis was attempted but was unsuccessful. The data should be considered unusable for decision-making purposes.
- **UR** — Indicates the constituent was analyzed for and not detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

- **R** — Indicates the constituent was analyzed for and detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

**Appendix 2**  
**Summary of Data Qualification**

<b>PCB Data Qualification Summary</b>			
SDG: GEL378728	Reviewer: AQA	Project: Low-Level Burial Grounds Trenches 31-34-94	Page 1 of 1
<b>Analyte(s)</b>	<b>Qualifier</b>	<b>Samples Affected</b>	<b>Reason</b>
Aroclor-1016	UJ	B32D63, B32D66, B32DL3, B32DL4, B32F21, B32F24, B32F27, B32F30	Low LCS, MS and MSD recoveries

Comments: None

## **Appendix 3**

### **Data Validation Supporting Documentation**

**Data Validation for Chemical Analyses**

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

VALIDATION LEVEL:	A	B	C	D	E
PROJECT:			DATA PACKAGE:		
VALIDATOR:		LAB:		DATE:	
			SDG:		
ANALYSES PERFORMED					
SW-846 8081	SW-846 8081 (TCLP)	SW-846 8082	SW-846 8082 (TCLP)		
SAMPLES/MATRIX					

**1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE**

Technical verification documentation present? .....Yes No N/A

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

2. INSTRUMENT PERFORMANCE AND CALIBRATIONS (Levels D and E)

Initial calibrations acceptable? .....Yes No N/A
Continuing calibrations acceptable? .....Yes No N/A
Standards traceable? .....Yes No N/A
Standards expired? .....Yes No N/A
Calculation check acceptable? .....Yes No N/A
DDT and endrin breakdowns acceptable? .....Yes No N/A

Comments: \_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

3. BLANKS (Levels B, C, D, and E)

Calibration blanks analyzed? (Levels D, E).....Yes No N/A
Calibration blank results acceptable? (Levels D, E).....Yes No N/A
Laboratory blanks analyzed? .....Yes No N/A
Laboratory blank results acceptable? .....Yes No N/A
Field/trip blanks analyzed? (Levels C, D, E).....Yes No N/A
Field/trip blank results acceptable? (Levels C, D, E).....Yes No N/A
Transcription/calculation errors? (Levels D, E).....Yes No N/A

Comments: \_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

4. ACCURACY (Levels C, D, and E)

- Surrogates analyzed? .....Yes No N/A
- Surrogate recoveries acceptable? .....Yes No N/A
- Surrogates traceable? (Levels D, E).....Yes No N/A
- Surrogates expired? (Levels D, E).....Yes No N/A
- MS/MSD samples analyzed?.....Yes No N/A
- MS/MSD results acceptable? .....Yes No N/A
- MS/MSD standards NIST traceable? (Levels D, E) .....Yes No N/A
- MS/MSD standards expired? (Levels D, E).....Yes No N/A
- LCS/BSS samples analyzed?.....Yes No N/A
- LCS/BSS results acceptable?.....Yes No N/A
- Standards traceable? (Levels D, E).....Yes No N/A
- Standards expired? (Levels D, E).....Yes No N/A
- Transcription/calculation errors? (Levels D, E).....Yes No N/A
- Performance audit sample(s) analyzed? .....Yes No N/A
- Performance audit sample results acceptable?.....Yes No N/A

Comments: \_\_\_\_\_

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Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

5. PRECISION (Levels C, D, and E)

- Duplicate RPD values acceptable? .....Yes No N/A
- Duplicate results acceptable? .....Yes No N/A
- MS/MSD standards NIST traceable? (Levels D, E) .....Yes No N/A
- MS/MSD standards expired? (Levels D, E) .....Yes No N/A
- LCS/LCSD duplicates run due to insufficient sample material? .....Yes No N/A
- Field duplicate RPD values acceptable? .....Yes No N/A
- Field split RPD values acceptable? .....Yes No N/A
- Transcription/calculation errors? (Levels D, E) .....Yes No N/A

Comments: \_\_\_\_\_

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6. SYSTEM PERFORMANCE (Levels D and E)

- Chromatographic performance acceptable? .....Yes No N/A
- Positive results resolved acceptably? .....Yes No N/A

Comments: \_\_\_\_\_

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Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

7. HOLDING TIMES (all levels)

Samples properly preserved? ..... Yes No N/A

Sample holding times acceptable? ..... Yes No N/A

Comments: \_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

8. COMPOUND IDENTIFICATION, QUANTITATION, AND DETECTION LIMITS (all levels)

Compound identification acceptable? (Levels D, E)..... Yes No N/A

Compound quantitation acceptable? (Levels D, E)..... Yes No N/A

Results reported for all requested analyses? ..... Yes No N/A

Results supported in the raw data? (Levels D, E)..... Yes No N/A

Samples properly prepared? (Levels D, E) ..... Yes No N/A

Detection limits meet RDL? ..... Yes No N/A

Transcription/calculation errors? (Levels D, E)..... Yes No N/A

Comments: \_\_\_\_\_
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Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

9. SAMPLE CLEANUP (Levels D and E)

- Fluorisil ® (or other absorbent) cleanup performed?.....Yes No N/A
- Lot check performed? .....Yes No N/A
- Check recoveries acceptable?.....Yes No N/A
- GPC cleanup performed? .....Yes No N/A
- GPC check performed? .....Yes No N/A
- GPC check recoveries acceptable? .....Yes No N/A
- GPC calibration performed? .....Yes No N/A
- GPC calibration check performed?.....Yes No N/A
- GPC calibration check retention times acceptable? .....Yes No N/A
- Check/calibration materials traceable?.....Yes No N/A
- Check/calibration materials Expired? .....Yes No N/A
- Analytical batch QC given similar cleanup? .....Yes No N/A
- Transcription/Calculation Errors? .....Yes No N/A

Comments: \_\_\_\_\_

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## **Appendix 4**

### **Additional Documentation Requested By Client**

**PCB**  
**Surrogate Recovery Report**

SDG Number: GEL378728

Matrix Type: SOLID

Sample ID	Client ID	4CMX 1 %REC #	4CMX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #
1203374755	MB for batch 1500576	72	75	90	98
1203374756	LCS for batch 1500576	79	83	95	100
1203374757	B32D63MS	83	86	112	121
1203374758	B32D63MSD	73	76	98	104
378728021	B32D63	81	85	105	110
378728022	B32D66	67	69	94	98
378728023	B32DL3	50	52	78	81
378728024	B32DL4	78	84	94	100
378728025	B32F21	83	86	105	113
378728026	B32F24	78	81	100	104
378728027	B32F27	83	88	105	112
378728028	B32F30	74	77	99	106
1203376571	MB for batch 1501284	67	71	79	81
1203376572	LCS for batch 1501284	70	74	81	86
378728001	B32D69	71	76	85	92
1203376573	B32D69MS	73	78	87	94
1203376574	B32D69MSD	76	81	86	93
378728002	B32D72	74	77	83	89
378728003	B32D75	81	85	86	98
378728004	B32D78	76	81	80	86
378728005	B32F33	64	67	76	84
378728006	B32D18	64	66	73	84
378728007	B32D21	78	83	83	93
378728008	B32D24	70	74	83	91

4CMX = 4cmx (29%-106%)

DCB = Decachlorobiphenyl (25%-131%)

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

**PCB**  
**Surrogate Recovery Report**

SDG Number: GEL378728

Matrix Type: SOLID

Sample ID	Client ID	4CMX 1 %REC #	4CMX 2 %REC #	DCB 1 %REC #	DCB 2 %REC #
378728009	B32D27	70	73	76	82
378728010	B32D30	43	43	64	68
378728011	B32D33	72	75	77	89
378728012	B32D36	68	71	71	75
378728013	B32D39	73	77	82	87
378728014	B32D42	69	72	75	83
378728015	B32D45	74	78	77	84
378728016	B32D48	76	78	76	88
378728017	B32D51	81	82	86	92
378728018	B32D54	73	72	79	85
378728019	B32D57	76	74	80	90
378728020	B32D60	77	75	83	89

**Surrogate**

4CMX = 4cmx

DCB = Decachlorobiphenyl

\* Recovery outside Acceptance Limits

# Column to be used to flag recovery values

D Sample Diluted

**Acceptance Limits**

(29%-106%)

(25%-131%)

**GEL LABORATORIES LLC**

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

**QC Summary**

Report Date: August 28, 2015

Page 1 of 3

CH2M Hill Plateau Remediation Company

MSIN R3-50 CHPRC

PO Box 1600

Richland, Washington

Mr. Scot Fitzgerald

Contact:

Workorder: 378728

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Semi-Volatiles-PCB</b>											
Batch	1500586										
QC1203374756	LCS										
Aroclor-1016	33.3			21.9	ug/kg		65.8	(44%-97%)	YS1	08/18/15	09:40
Aroclor-1260	33.3			27.6	ug/kg		82.9	(49%-109%)			
**4cmx	6.66			5.50	ug/kg		82.6	(29%-106%)			
**Decachlorobiphenyl	6.66			6.68	ug/kg		100	(25%-131%)			
QC1203374755	MB										
Aroclor-1016			U	1.11	ug/kg					08/18/15	09:29
Aroclor-1221			U	1.11	ug/kg						
Aroclor-1232			U	1.11	ug/kg						
Aroclor-1242			U	1.11	ug/kg						
Aroclor-1248			U	1.11	ug/kg						
Aroclor-1254			U	1.11	ug/kg						
Aroclor-1260			U	1.11	ug/kg						
**4cmx	6.67			5.00	ug/kg		75	(29%-106%)			
**Decachlorobiphenyl	6.67			6.56	ug/kg		98.4	(25%-131%)			
QC1203374757	378728021 MS										
Aroclor-1016	33.7	U	1.12	22.6	ug/kg		67.2	(22%-127%)		08/18/15	10:05
Aroclor-1260	33.7	J	2.30	31.4	ug/kg		86.5	(18%-130%)			
**4cmx	6.74		5.71	5.82	ug/kg		86.3	(29%-106%)			
**Decachlorobiphenyl	6.74		7.44	8.17	ug/kg		121	(25%-131%)			
QC1203374758	378728021 MSD										
Aroclor-1016	33.7	U	1.12	19.5	ug/kg	15.1	57.7	(0%-30%)		08/18/15	10:18

**GEL LABORATORIES LLC**

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

**QC Summary**

Workorder: 378728

Page 2 of 3

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Semi-Volatiles-PCB</b>											
Batch	1500586										
Aroclor-1260	33.7	J	2.30	27.4	ug/kg	13.6	74.5	(0%-30%)			
**4cmx	6.74		5.71	5.11	ug/kg		75.7	(29%-106%)	YS1	08/18/15	10:18
**Decachlorobiphenyl	6.74		7.44	7.00	ug/kg		104	(25%-131%)			
Batch	1501285										
QC1203376572	LCS										
Aroclor-1016	33.3			25.1	ug/kg		75.4	(44%-97%)	JXM	08/22/15	13:33
Aroclor-1260	33.3			27.8	ug/kg		83.5	(49%-109%)			
**4cmx	6.66			4.92	ug/kg		73.9	(29%-106%)			
**Decachlorobiphenyl	6.66			5.76	ug/kg		86.4	(25%-131%)			
QC1203376571	MB										
Aroclor-1016			U	1.11	ug/kg					08/22/15	13:20
Aroclor-1221			U	1.11	ug/kg						
Aroclor-1232			U	1.11	ug/kg						
Aroclor-1242			U	1.11	ug/kg						
Aroclor-1248			U	1.11	ug/kg						
Aroclor-1254			U	1.11	ug/kg						
Aroclor-1260			U	1.11	ug/kg						
**4cmx	6.67			4.71	ug/kg		70.6	(29%-106%)			
**Decachlorobiphenyl	6.67			5.42	ug/kg		81.3	(25%-131%)			
QC1203376573	378728001 MS										
Aroclor-1016	34.3	U	1.14	23.9	ug/kg		69.5	(22%-127%)		08/22/15	13:57
Aroclor-1260	34.3	U	1.14	27.9	ug/kg		81.2	(18%-130%)			
**4cmx	6.87		5.24	5.33	ug/kg		77.6	(29%-106%)			
**Decachlorobiphenyl	6.87		6.35	6.47	ug/kg		94.2	(25%-131%)			
QC1203376574	378728001 MSD										

## QC Summary

Workorder: 378728

Page 3 of 3

Parname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Semi-Volatiles-PCB</b>											
Batch	1501285										
Aroclor-1016	34.4	U	1.14	25.7	ug/kg	7.49	74.9	(0%-30%)		08/22/15	14:10
Aroclor-1260	34.4	U	1.14	28.6	ug/kg	2.67	83.4	(0%-30%)	JXM		
**4cmx	6.87		5.24	5.54	ug/kg		80.6	(29%-106%)			
**Decachlorobiphenyl	6.87		6.35	6.39	ug/kg		92.9	(25%-131%)			

**Notes:**

The Qualifiers in this report are defined as follows:

- A The TIC is a suspected aldol-condensation product
- B The analyte was detected in both the associated QC blank and in the sample.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of sample.
- E Concentration exceeds the calibration range of the instrument
- J The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate). Value is estimated
- N Spike Sample recovery is outside control limits.
- P Aroclor target analyte with greater than 25% difference between column analyses.
- T Spike and/or spike duplicate sample recovery is outside control limits.
- U Analyzed for but not detected above limiting criteria. Includes MDL, MDA, PQL, zero, counting error, and total analytical error.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Z Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- o Analyte failed to recover within LCS limits (Organics only)

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.  
 ^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.  
 \* Indicates that a Quality Control parameter was not within specifications.  
 For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Date: 05 October 2015  
 To: CH2M Hill (technical representative)  
 From: Analytical Quality Associates, Inc.  
 Project: Low-Level Burial Grounds Trenches 31-34-94  
 Subject: Inorganics - Sample Data Groups (SDGs) GEL378728

## **INTRODUCTION**

This memorandum presents the results of data validation for SDG GEL378728 prepared by GEL Laboratories LLC. A list of samples validated along with the analytical methods is provided in the following table.

<b>Sample ID</b>	<b>Sample Date</b>	<b>Media</b>	<b>Validation Level</b>	<b>Analytical Methods</b>
B32D69	08/05/15	Soil	C	6010C & 7471B
B32D72	08/05/15	Soil	C	6010C & 7471B
B32D75	08/05/15	Soil	C	6010C & 7471B
B32D78	08/05/15	Soil	C	6010C & 7471B
B32F33	08/05/15	Soil	C	6010C & 7471B
B32D18	08/06/15	Soil	C	6010C & 7471B
B32D21	08/06/15	Soil	C	6010C & 7471B
B32D24	08/06/15	Soil	C	6010C & 7471B
B32D27	08/05/15	Soil	C	6010C & 7471B
B32D30	08/06/15	Soil	C	6010C & 7471B
B32D33	08/06/15	Soil	C	6010C & 7471B
B32D36	08/06/15	Soil	C	6010C & 7471B
B32D39	08/06/15	Soil	C	6010C & 7471B
B32D42	08/06/15	Soil	C	6010C & 7471B
B32D45	08/06/15	Soil	C	6010C & 7471B
B32D48	08/06/15	Soil	C	6010C & 7471B
B32D51	08/05/15	Soil	C	6010C & 7471B
B32D54	08/05/15	Soil	C	6010C & 7471B
B32D57	08/05/15	Soil	C	6010C & 7471B
B32D60	08/05/15	Soil	C	6010C & 7471B
B32D63	08/05/15	Soil	C	6010C & 7471B
B32D66	08/05/15	Soil	C	6010C & 7471B
B32DL3	08/06/15	Soil	C	6010C & 7471B
B32DL4	08/06/15	Soil	C	6010C & 7471B
B32F21	08/06/15	Soil	C	6010C & 7471B
B32F24	08/06/15	Soil	C	6010C & 7471B
B32F27	08/06/15	Soil	C	6010C & 7471B
B32F30	08/05/15	Soil	C	6010C & 7471B

Data validation was conducted in accordance with the CHPRC validation statement of work and the Low-Level Burial Grounds Trenches, Addendum H, Permit Modification Request,

WA7890008967, Part V Closure Unit Group 7 (SAP). Appendices 1 through 4 provide the following information as indicated below:

- Appendix 1. Glossary of Data Reporting Qualifiers
- Appendix 2. Summary of Data Qualification
- Appendix 3. Data Validation Supporting Documentation
- Appendix 4. Additional Documentation Requested by Client

## **DATA QUALITY OBJECTIVES**

- **Holding Times and Sample Preservation**

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The holding time requirement for ICP metals are analysis within 180 days of sample collection, and the holding time requirement for mercury is analysis within 28 days of sample collection. Sample preservation for all analytes requires chilling to <6 degrees Celsius.

The samples were analyzed within the prescribed holding times and properly preserved.

- **Blanks**

The blank data results are reviewed to assess the extent of contamination introduced through sampling, sample preparation, and analysis.

### **Laboratory Blanks**

All laboratory blank results were acceptable.

### **Trip Blanks**

No trip blanks were submitted for validation.

### **Field Blanks**

No field blanks were submitted for validation.

### **Equipment Blanks**

No equipment blanks were submitted for validation.

- **Accuracy**

Accuracy is evaluated by reviewing matrix spike sample results, laboratory control sample results, and ICP-AES interference check sample results. According to the SAP, the matrix spike sample accuracy limits are  $\pm 30\%$  and the laboratory control sample accuracy limits are ones specified by the DV procedure. The limits for reported analytes not listed in the SAP are

specified by the DV procedure. The interference check sample limits are ones specified by the DV procedure.

### **Matrix Spike (MS) Samples**

All MS recoveries were acceptable with the following exception.

The MS recovery for Ba associated with batch 1499072 (parent sample B26D63) was below the lower acceptance limit but  $\geq 30\%$  and the post digestion spike recovery was within the acceptance limit. The MS recovery for Ba associates with batch 1499070 (parent sample B32D69) was within the acceptance limit. The samples associated with each batch could not be determined from the data package. All sample results were detects and except for parent sample B32D69 should be qualified as estimates and flagged “J-.”

### **Laboratory Control Samples (LCSs)**

All LCS recoveries were acceptable.

### **ICP-AES Interference Check Samples (ICSs)**

ICS data was not included in the data package. Sample results should not be qualified based on this.

- **Precision**

Precision is evaluated by reviewing laboratory duplicate sample results, field duplicate sample results, field split sample results, and ICP serial dilution results. These QC results provide information on the laboratory reproducibility and whether sampling activities are adequate to acquire consistent sample results. According to the SAP, the relative percent difference (RPD) limits are  $\pm 30\%$ . When duplicate RPDs exceed the limits and have associated results  $< 5X$  the SAP required detection limits (or  $< 5X$  the laboratory reporting limits for analytes not listed in the SAP) with differences  $< 1X$  the required detection limits no precision infraction occurred. The serial dilution limits are ones specified by the DV procedure.

### **Laboratory Duplicate Samples**

All laboratory duplicate results were acceptable.

### **Field Duplicate Samples**

No field duplicates were submitted for validation.

### **Field Split Samples**

No field splits were submitted for validation.

### **ICP Serial Dilution Samples**

ICS serial dilution data was not included in the data package. Sample results should not be qualified based on this.

- **Detection Limits**

Reported MDLs are compared against the contractually required detection limits (CRDLs) to ensure that laboratory detection limits meet the required criteria.

All reported sample MDLs were below the CRDLs.

- **Completeness**

SDG GEL378728 was submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

### **MAJOR DEFICIENCIES**

None found.

### **MINOR DEFICIENCIES**

A minor deficiency leading to qualification of Ba sample results as estimates was due to low matrix spike recovery. See the table in Appendix 2 for a listing of all affected sample results.

### **REFERENCES**

GRP-GD-003, Rev. 1, Change 0, *Data Validation for Chemical Analyses*, July 2012.

WA7890008967, Part V Closure Unit Group 7, *Low-Level Burial Grounds Trenches 31-34-94, Addendum H, Permit Modification Request*, May 14, 2015.

## **Appendix 1**

### **Glossary of Data Reporting Qualifiers**

Qualifiers that may be applied by data validators in compliance with the CHPRC statement of work are as follows:

- **U** — The constituent was analyzed for, but was not detected. The data should be considered usable for decision-making purposes.
- **UJ** — The constituent was analyzed for and was not detected. Due to a quality control deficiency identified during data validation the value reported may not accurately reflect the RL. The data should be considered usable for decision-making purposes.
- **J** — Indicates the constituent was analyzed for and detected. The associated value is estimated due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **J+** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **J-** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **N** — The analysis indicates the presence of an analyte that has been tentatively identified.
- **NJ** — The analysis indicates the presence of an analyte that has been tentatively identified and the associated numerical value represents its approximate concentration.
- **NJ+** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation.
- **NJ-** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation.
- **UR** — Indicates the constituent was analyzed for and not detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.
- **R** — Indicates the constituent was analyzed for and detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

**Appendix 2**  
**Summary of Data Qualification**

<b>Inorganic Data Qualification Summary</b>			
SDG: GEL378728	Reviewer: AQA	Project: Low-Level Burial Grounds Trenches 31-34-94	Page 1 of 1
<b>Analyte(s)</b>	<b>Qualifier</b>	<b>Samples Affected</b>	<b>Reason</b>
Ba	J-	All samples <u>except</u> sample B32D69	Low MS recovery

Comments: None

## **Appendix 3**

### **Data Validation Supporting Documentation**

Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

VALIDATION LEVEL:	A	B	C	D	E
PROJECT:			DATA PACKAGE:		
VALIDATOR:		LAB:		DATE:	
			SDG:		
ANALYSES PERFORMED					
SW-846/ICP	SW-846/GFAA	SW-846/Hg			
SAMPLES/MATRIX					

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? .....Yes No N/A

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

2. INSTRUMENT PERFORMANCE AND CALIBRATIONS (Levels D and E)

Initial calibrations performed on all instruments? .....Yes No N/A
Initial calibrations acceptable? .....Yes No N/A
ICP interference checks acceptable? .....Yes No N/A
ICV and CCV checks performed on all instruments? .....Yes No N/A
ICV and CCV checks acceptable?.....Yes No N/A
Standards traceable? .....Yes No N/A
Standards expired? .....Yes No N/A
Calculation check acceptable? .....Yes No N/A

Comments: \_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

3. BLANKS (Levels B, C, D, and E)

ICB and CCB checks performed for all applicable analyses? (Levels D, E) .....Yes No N/A
ICB and CCB results acceptable? (Levels D, E) .....Yes No N/A
Laboratory blanks analyzed? .....Yes No N/A
Laboratory blank results acceptable? .....Yes No N/A
Field blanks analyzed? (Levels C, D, E) .....Yes No N/A
Field blank results acceptable? (Levels C, D, E) .....Yes No N/A
Transcription/calculation errors? (Levels D, E) .....Yes No N/A

Comments: \_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_



Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

5. PRECISION (Levels C, D, and E)

- Duplicate RPD values acceptable? .....Yes No N/A
- Duplicate results acceptable? .....Yes No N/A
- MS/MSD standards NIST traceable? (Levels D, E) .....Yes No N/A
- MS/MSD standards expired? (Levels D, E).....Yes No N/A
- LCS/LCSD duplicates run due to insufficient sample material? .....Yes No N/A
- Field duplicate RPD values acceptable? .....Yes No N/A
- Field split RPD values acceptable? .....Yes No N/A
- Transcription/calculation errors? (Levels D, E).....Yes No N/A

Comments: \_\_\_\_\_

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Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

6. ICP QUALITY CONTROL (Levels D and E)

- ICP serial dilution samples analyzed? .....Yes No N/A
- ICP serial dilution %D values acceptable? .....Yes No N/A
- ICP post digestion spike required? .....Yes No N/A
- ICP post digestion spike values acceptable? .....Yes No N/A
- Standards traceable? .....Yes No N/A
- Standards expired? .....Yes No N/A
- Transcription/calculation errors? .....Yes No N/A

Comments: \_\_\_\_\_

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7. HOLDING TIMES (all levels)

- Samples properly preserved? .....Yes No N/A
- Sample holding times acceptable? .....Yes No N/A

Comments: \_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_





## **Appendix 4**

### **Additional Documentation Requested By Client**

# GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

## QC Summary

Report Date: September 3, 2015

Page 1 of 5

CH2M Hill Plateau Remediation Company  
 MSIN R3-50 CHPRC  
 PO Box 1600  
 Richland, Washington

Contact: Mr. Scot Fitzgerald

Workorder: 378728

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis-ICP</b>											
Batch	1499070										
QC1203370674 378728001 DUP											
Barium		78800		82700	ug/kg	4.79		(0%-20%)	HSC	08/11/15	18:52
Cadmium	B	357	B	408	ug/kg	13.3 ^		(+/-496)			
Chromium		9170		9170	ug/kg	0.0545		(0%-20%)			
Lead		4800		5460	ug/kg	12.9 ^		(+/-991)			
Silver	U	ND	U	ND	ug/kg	N/A					
Vanadium		55100		57000	ug/kg	3.39		(0%-20%)			
QC1203370673 LCS											
Barium		48000		48200	ug/kg		100	(80%-120%)		08/11/15	18:45
Cadmium		48000		48200	ug/kg		101	(80%-120%)			
Chromium		48000		48000	ug/kg		100	(80%-120%)			
Lead		48000		48400	ug/kg		101	(80%-120%)			
Silver		48000		47600	ug/kg		99.1	(80%-120%)			
Vanadium		48000		47700	ug/kg		99.4	(80%-120%)			
QC1203370672 MB											
Barium			U	ND	ug/kg					08/11/15	18:42
Cadmium			U	ND	ug/kg						
Chromium			U	ND	ug/kg						
Lead			U	ND	ug/kg						
Silver			U	ND	ug/kg						
Vanadium			U	ND	ug/kg						
QC1203370675 378728001 MS											

## QC Summary

Workorder: 378728

Page 2 of 5

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis-ICP</b>											
Batch	1499070										
Barium	49400	78800		125000	ug/kg		93	(75%-125%)		08/11/15	18:55
Cadmium	49400	B 357		47100	ug/kg		94.6	(75%-125%)	HSC		
Chromium	49400	9170		56000	ug/kg		94.9	(75%-125%)			
Lead	49400	4800		51900	ug/kg		95.3	(75%-125%)			
Silver	49400	U ND		47800	ug/kg		96.9	(75%-125%)			
Vanadium	49400	55100		107000	ug/kg		105	(75%-125%)			
QC1203370676 378728001 SDILT											
Barium		772	D	156	ug/L	.9		(0%-10%)		08/11/15	18:58
Cadmium		B 3.50	DU	ND	ug/L	N/A		(0%-10%)			
Chromium		89.9	D	19.1	ug/L	6.33		(0%-10%)			
Lead		47.0	D	9.62	ug/L	2.26		(0%-10%)			
Silver		U ND	DU	ND	ug/L	N/A		(0%-10%)			
Vanadium		540	D	106	ug/L	1.75		(0%-10%)			
Batch	1499072										
QC1203370685 378728021 DUP											
Barium		N 80600		74200	ug/kg	8.3		(0%-20%)	HSC	08/12/15	15:28
Cadmium		B 261	B	307	ug/kg	16	^	(+/-504)			
Chromium		7750		7790	ug/kg	0.498		(0%-20%)			
Lead		4490		4650	ug/kg	3.54	^	(+/-1010)			
Silver		U ND	U	ND	ug/kg	N/A					
Vanadium		70300		72100	ug/kg	2.6		(0%-20%)			
QC1203370684 LCS											
Barium	49900			52300	ug/kg		105	(80%-120%)		08/12/15	15:21
Cadmium	49900			52400	ug/kg		105	(80%-120%)			
Chromium	49900			52300	ug/kg		105	(80%-120%)			

### QC Summary

Workorder: 378728

Page 3 of 5

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis-ICP</b>											
Batch	1499072										
Lead	49900			52300	ug/kg		105	(80%-120%)	HSC	08/12/15	15:21
Silver	49900			50900	ug/kg		102	(80%-120%)			
Vanadium	49900			51500	ug/kg		103	(80%-120%)			
QC1203370683 MB											
Barium			U	ND	ug/kg					08/12/15	15:18
Cadmium			U	ND	ug/kg						
Chromium			U	ND	ug/kg						
Lead			U	ND	ug/kg						
Silver			U	ND	ug/kg						
Vanadium			U	ND	ug/kg						
QC1203370686 378728021 MS											
Barium	50000	N	80600	N	113000	ug/kg	64.3*	(75%-125%)		08/12/15	15:32
Cadmium	50000	B	261		49900	ug/kg	99.4	(75%-125%)			
Chromium	50000		7750		57700	ug/kg	99.8	(75%-125%)			
Lead	50000		4490		55100	ug/kg	101	(75%-125%)			
Silver	50000	U	ND		50100	ug/kg	100	(75%-125%)			
Vanadium	50000		70300		120000	ug/kg	99.4	(75%-125%)			
QC1203377583 378728021 PS											
Barium	500	N	829		1330	ug/L	99.9	(80%-120%)		08/20/15	09:28
QC1203370687 378728021 SDILT											
Barium		N	829	D	167	ug/L	.895	(0%-10%)		08/12/15	15:34
Cadmium		B	2.69	DU	ND	ug/L	N/A	(0%-10%)			
Chromium			79.7	D	17.4	ug/L	9.33	(0%-10%)			
Lead			46.2	D	11.2	ug/L	21.2	(0%-10%)			

## QC Summary

Workorder: 378728

Page 4 of 5

Parname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
<b>Metals Analysis-ICP</b>											
Batch	1499072										
Silver	U	ND	DU	ND	ug/L	N/A		(0%-10%)	HSC	08/12/15	15:34
Vanadium		722	D	148	ug/L	2.23		(0%-10%)			
<b>Metals Analysis-Mercury</b>											
Batch	1502626										
QC1203380236	378728021	DUP									
Mercury	B	4.89	U	ND	ug/kg	29.6 ^		(+/-11.9)	MTM1	08/26/15	12:23
QC1203380235	LCS										
Mercury		118		130	ug/kg		110	(80%-120%)		08/26/15	12:20
QC1203380234	MB										
Mercury			U	ND	ug/kg					08/26/15	12:18
QC1203380237	378728021	MS									
Mercury		117	B	4.89	ug/kg		110	(80%-120%)		08/26/15	12:25
QC1203380238	378728021	SDILT									
Mercury	B	0.087	DU	ND	ug/L	N/A		(0%-10%)		08/26/15	12:30
Batch	1502628										
QC1203380246	378728001	DUP									
Mercury	B	6.27	B	4.37	ug/kg	35.7 ^		(+/-12.0)	MTM1	08/26/15	11:33
QC1203380245	LCS										
Mercury		120		122	ug/kg		101	(80%-120%)		08/26/15	11:29
QC1203380244	MB										
Mercury			U	ND	ug/kg					08/26/15	11:24
QC1203380247	378728001	MS									
Mercury		121	B	6.27	ug/kg		99.2	(80%-120%)		08/26/15	11:34
QC1203380248	378728001	SDILT									
Mercury	B	0.107	DU	ND	ug/L	N/A		(0%-10%)		08/26/15	11:36

**Notes:**

The Qualifiers in this report are defined as follows:

- \* Duplicate analysis not within control limits
- + Correlation coefficient for Method of Standard Additions (MSA) is < 0.995
- B The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).

Date: 05 October 2015  
 To: CH2M Hill (technical representative)  
 From: Analytical Quality Associates, Inc.  
 Project: Low-Level Burial Grounds Trenches 31-34-94  
 Subject: General Chemistry - Sample Data Groups (SDGs) GEL378728 and 579671

## **INTRODUCTION**

This memorandum presents the results of data validation for SDG GEL378728 prepared by GEL Laboratories LLC and SDG 579671 prepared by Southwest Research Institute. A list of samples validated along with the analytical methods is provided in the following table.

<b>Sample ID</b>	<b>Sample Date</b>	<b>Media</b>	<b>Validation Level</b>	<b>Analytical Methods</b>
B32D69	08/05/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D72	08/05/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D75	08/05/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D78	08/05/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32F33	08/05/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D18	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D21	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D24	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D27	08/05/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D30	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D33	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D36	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D39	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D42	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D45	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D48	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D51	08/05/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D54	08/05/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D57	08/05/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D60	08/05/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D63	08/05/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D66	08/05/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32DL3	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32DL4	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32F21	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32F24	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32F27	08/06/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32F30	08/05/15	Soil	C	9012 (CN) & 7196 (Cr6)
B32D76	08/05/15	Soil	C	9056 (Formate)
B32DK9	08/06/15	Soil	C	9056 (Formate)
B32DL0	08/06/15	Soil	C	9056 (Formate)

B32F19	08/06/15	Soil	C	9056 (Formate)
B32F22	08/06/15	Soil	C	9056 (Formate)
B32F25	08/06/15	Soil	C	9056 (Formate)
B32F28	08/05/15	Soil	C	9056 (Formate)
B32F31	08/05/15	Soil	C	9056 (Formate)

Data validation was conducted in accordance with the CHPRC validation statement of work and the Low-Level Burial Grounds Trenches 31-34-94, Addendum H, Permit Modification Request, WA7890008967, Part V Closure Unit Group 7 (SAP). Appendices 1 through 4 provide the following information as indicated below:

- Appendix 1. Glossary of Data Reporting Qualifiers
- Appendix 2. Summary of Data Qualification
- Appendix 3. Data Validation Supporting Documentation
- Appendix 4. Additional Documentation Requested by Client

### **DATA QUALITY OBJECTIVES**

- **Holding Times and Sample Preservation**

Holding times are calculated from Chain-of-Custody forms to determine the validity of the results. The holding time requirements are as follows:

- Hexavalent chromium – extraction of soils within 30 days of sample collection and analysis within 24 hours of extraction
- Total cyanide – analysis within 14 days of sample collection
- Formate – extraction of soils within 28 days of sample collection and analysis within 48 hours of extraction.

Sample preservation requires chilling to <6 degrees Celsius.

The samples were extracted and analyzed within the prescribed holding times and properly preserved.

- **Blanks**

The blank data results are reviewed to assess the extent of contamination introduced through sampling, sample preparation, and analysis.

#### **Laboratory Blanks**

The laboratory blank result was acceptable.

#### **Trip Blanks**

No trip blanks were submitted for validation.

### **Field Blanks**

No field blanks were submitted for validation.

### **Equipment Blanks**

No equipment blanks were submitted for validation.

- **Accuracy**

Accuracy is evaluated by reviewing matrix spike sample results and laboratory control sample results. According to the SAP, the matrix spike sample accuracy limits are  $\pm 30\%$  and the laboratory control sample accuracy limits are ones specified by the DV procedure. The limits for reported analytes not listed in the SAP are specified by the DV procedure.

### **Matrix Spike/Matrix Spike Duplicate (MS/MSD) Samples**

All MS/MSD recoveries were acceptable.

### **Laboratory Control Samples (LCSs)**

All LCS recoveries were acceptable with the following exception.

For SDG GEL378728, the cyanide recovery associated with batch 1499108 was above the upper acceptance limit. All sample results were non-detects and should not be qualified

- **Precision**

Precision is evaluated by reviewing MS/MSD results, laboratory duplicate sample results, field duplicate sample results, and field split sample results. These QC results provide information on the laboratory reproducibility and whether sampling activities are adequate to acquire consistent sample results. According to the SAP, the relative percent difference (RPD) limits are  $\pm 30\%$ . When duplicate RPDs exceed the limits and have associated results  $< 5X$  the reporting limits with difference  $< 2X$  the required detection limits no precision infraction occurred

### **MS/MSD Samples**

All MS/MSD RPD values were acceptable.

### **Laboratory Duplicate Samples**

All laboratory duplicate results were acceptable.

### **Field Duplicate Samples**

No field duplicates were submitted for validation.

### **Field Split Samples**

No field splits were submitted for validation.

- **Detection Limits**

Reported MDLs are compared against the contractually required detection limits (CRDLs) to ensure that laboratory detection limits meet the required criteria.

All reported sample MDLs were below the CRDLs.

- **Completeness**

SDGs GEL378728 and 579641 were submitted for validation and verified for completeness. Completeness is based on the percentage of data determined to be valid (i.e., not rejected). The completion percentage was 100%.

### **MAJOR DEFICIENCIES**

None found.

### **MINOR DEFICIENCIES**

There were no minor deficiencies leading to qualification of sample results as estimates.

### **REFERENCES**

GRP-GD-003, Rev. 1, Change 0, *Data Validation for Chemical Analyses*, July 2012.

WA7890008967, Part V Closure Unit Group 7, *Low-Level Burial Grounds Trenches 31-34-94, Addendum H, Permit Modification Request*, May 14 2015.

## **Appendix 1**

### **Glossary of Data Reporting Qualifiers**

Qualifiers that may be applied by data validators in compliance with the CHPRC statement of work are as follows:

- **U** — The constituent was analyzed for, but was not detected. The data should be considered usable for decision-making purposes.
- **UJ** — The constituent was analyzed for and was not detected. Due to a quality control deficiency identified during data validation the value reported may not accurately reflect the RL. The data should be considered usable for decision-making purposes.
- **J** — Indicates the constituent was analyzed for and detected. The associated value is estimated due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **J+** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **J-** — Indicates the constituent was analyzed for and detected. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation. The data should be considered usable for decision-making purposes.
- **N** — The analysis indicates the presence of an analyte that has been tentatively identified.
- **NJ** — The analysis indicates the presence of an analyte that has been tentatively identified and the associated numerical value represents its approximate concentration.
- **NJ+** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected positive bias due to a quality control deficiency identified during data validation.
- **NJ-** — The analysis indicates the presence of an analyte that has been tentatively identified. The associated value is estimated with a suspected negative bias due to a quality control deficiency identified during data validation.
- **UR** — Indicates the constituent was analyzed for and not detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.
- **R** — Indicates the constituent was analyzed for and detected; however, due to an identified quality control deficiency the data should be considered unusable for decision-making purposes.

**Appendix 2**  
**Summary of Data Qualification**

<b>General Chemistry Data Qualification Summary</b>			
SDG: GEL378728 and 579641	Reviewer: AQA	Project: Low-Level Burial Grounds Trenches 31-34-94	Page 1 of 1
<b>Analyte(s)</b>	<b>Qualifier</b>	<b>Samples Affected</b>	<b>Reason</b>
Cr(VI), CN, Formate	None	N/A	N/A

Comments: None

## **Appendix 3**

### **Data Validation Supporting Documentation**

Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

VALIDATION LEVEL:	A	B	C	D	E
PROJECT:			DATA PACKAGE:		
VALIDATOR:		LAB:		DATE:	
			SDG:		
ANALYSES PERFORMED					
Anions/IC	TOC	TOX	TPH-418.1	Oil and Grease	Alkalinity
Ammonia	BOD/COD	Chloride	Chromium-VI	pH	NO <sub>3</sub> /NO <sub>2</sub>
Sulfate	TDS	TKN	Phosphate		
SAMPLES/MATRIX					

1. DATA PACKAGE COMPLETENESS AND CASE NARRATIVE

Technical verification documentation present? .....Yes No N/A

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

2. INSTRUMENT PERFORMANCE AND CALIBRATIONS (Levels D and E)

Initial calibrations performed on all instruments? .....Yes No N/A
Initial calibrations acceptable? .....Yes No N/A
ICV and CCV checks performed on all instruments? .....Yes No N/A
ICV and CCV checks acceptable?.....Yes No N/A
Standards traceable? .....Yes No N/A
Standards expired? .....Yes No N/A
Calculation check acceptable? .....Yes No N/A

Comments: \_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

3. BLANKS (Levels B, C, D, and E)

ICB and CCB checks performed for all applicable analyses? (Levels D, E).....Yes No N/A
ICB and CCB results acceptable? (Levels D, E) .....Yes No N/A
Laboratory blanks analyzed? .....Yes No N/A
Laboratory blank results acceptable? .....Yes No N/A
Field blanks analyzed? (Levels C, D, E).....Yes No N/A
Field blank results acceptable? (Levels C, D, E).....Yes No N/A
Transcription/calculation errors? (Levels D, E).....Yes No N/A

Comments: \_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_



Data Validation for Chemical Analyses

Published Date: 07/31/12

SGRP-GD-SMP-50117

Effective Date: 07/31/12

5. PRECISION (Levels C, D, and E)

- Duplicate RPD values acceptable? .....Yes No N/A
- Duplicate results acceptable? .....Yes No N/A
- MS/MSD standards NIST traceable? (Levels D, E) .....Yes No N/A
- MS/MSD standards expired? (Levels D, E).....Yes No N/A
- LCS/LCSD duplicates run due to insufficient sample material? .....Yes No N/A
- Field duplicate RPD values acceptable? .....Yes No N/A
- Field split RPD values acceptable? .....Yes No N/A
- Transcription/calculation errors? (Levels D, E).....Yes No N/A

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6. HOLDING TIMES (all levels)

- Samples properly preserved? .....Yes No N/A
- Sample holding times acceptable? .....Yes No N/A

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





## **Appendix 4**

### **Additional Documentation Requested By Client**

## QC Summary

Report Date: September 3, 2015

Page 1 of 3

**CH2M Hill Plateau Remediation Company**  
**MSIN R3-50 CHPRC**  
**PO Box 1600**  
**Richland, Washington**  
**Contact: Mr. Scot Fitzgerald**

**Workorder: 378728**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Flow Injection Analysis</b>											
Batch	1497878										
QC1203369227	378726002	DUP									
Cyanide, Total	B	186	U	75.9	ug/kg	85.3 ^		(+/-227)	AXH3	08/12/15	10:54
QC1203367685	LCS										
Cyanide, Total	90600		D	86100	ug/kg		95	(59%-139%)		08/12/15	10:43
QC1203367684	MB										
Cyanide, Total			U	83.5	ug/kg					08/12/15	10:42
QC1203369228	378726002	MS									
Cyanide, Total	5180	B	186	6110	ug/kg		114	(47%-133%)		08/12/15	10:55
Batch	1499108										
QC1203370799	378728001	DUP									
Cyanide, Total		U	73.0	U	70.6	ug/kg	N/A		AXH3	08/17/15	13:59
QC1203370800	378728002	DUP									
Cyanide, Total		U	77.0	U	78.2	ug/kg	N/A			08/17/15	14:02
QC1203370798	LCS										
Cyanide, Total	90600		D	121000	ug/kg		134	(59%-139%)		08/17/15	13:54
QC1203370797	MB										
Cyanide, Total			U	83.5	ug/kg					08/17/15	13:53
QC1203370801	378728001	MS									
Cyanide, Total	4230	U	73.0	4480	ug/kg		106	(47%-133%)		08/17/15	14:00
QC1203370802	378728002	MS									
Cyanide, Total	4680	U	77.0	4820	ug/kg		103	(47%-133%)		08/17/15	14:03
<b>Spectrometric Analysis</b>											
Batch	1499152										
QC1203370980	378728001	DUP									
Hexavalent Chromium			586		497	ug/Kg	16.4 ^		(+/-411)	SXC5	08/12/15 14:58
QC1203370981	378728019	DUP									
Hexavalent Chromium		U	125	U	125	ug/Kg	N/A			08/12/15	15:44
QC1203370979	ILCS										
Hexavalent Chromium	7950			6520	ug/Kg		82.1	(80%-120%)		08/12/15	14:56
QC1203370978	LCS										

## QC Summary

Workorder: 378728

Page 2 of 3

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
<b>Spectrometric Analysis</b>											
Batch	1499152										
Hexavalent Chromium	3970			3500	ug/Kg		88.1	(80%-120%)		08/12/15	14:56
QC1203370977 MB											
Hexavalent Chromium			U	119	ug/Kg				SXC5	08/12/15	14:56
QC1203370983 378728001 MS											
Hexavalent Chromium	4120	586		3850	ug/Kg		79.3	(75%-125%)		08/12/15	14:59
QC1203370985 378728019 MS											
Hexavalent Chromium	4180	U	125	3820	ug/Kg		90	(75%-125%)		08/12/15	15:44
QC1203370987 378728001 MSD											
Hexavalent Chromium	4110		586	3800	ug/Kg	1.23	78.2	(0%-30%)		08/12/15	15:03
QC1203370989 378728019 MSD											
Hexavalent Chromium	4160	U	125	3800	ug/Kg	0.378	90	(0%-30%)		08/12/15	15:45
Batch	1500995										
QC1203375813 378728021 DUP											
Hexavalent Chromium		458		411	ug/Kg	10.8 ^		(+/-404)	SXC5	08/19/15	11:25
QC1203375812 ILCS											
Hexavalent Chromium	8000			8630	ug/Kg		108	(80%-120%)		08/19/15	11:24
QC1203375811 LCS											
Hexavalent Chromium	4000			3960	ug/Kg		99	(80%-120%)		08/19/15	11:23
QC1203375810 MB											
Hexavalent Chromium			U	120	ug/Kg					08/19/15	11:23
QC1203375815 378728021 MS											
Hexavalent Chromium	4040	458		3710	ug/Kg		80.6	(75%-125%)		08/19/15	11:26
QC1203375817 378728021 MSD											
Hexavalent Chromium	4010	458		3690	ug/Kg	0.656	80.6	(0%-30%)		08/19/15	11:26

**Notes:**

The Qualifiers in this report are defined as follows:

- < Sample is below the EPA guidance level for Reactive Releasable Cyanide and/or Reactive Releasable Sulfide
- > Result greater than quantifiable range or greater than upper limit of the analysis range
- B The analyte was detected at a value less than the contract required detection limit (RDL), but greater than or equal to the IDL/MDL (as appropriate).
- C Target analyte was detected in the sample and the associated blank. The associated blank concentration is >= EQL or is > 5% of the measured concentration and/or decision level for associated samples.
- D Results are reported from a diluted aliquot of sample.

Blanks

Client: CH2M Hill Plateau Remediation Company  
 Task Order: 150807-13  
 Preparation Blank Result Units: mg/Kg  
 Initial/Continuing Blank Result Units: mg/L

SDG: 579641  
 SRR: 55929  
 Preparation Blank Matrix: Soil  
 Associated Prep Batches: 20150903-A019

Case: 303757  
 Project: 20933.01.006  
 Associated Analytical Batches: 20150903-A006  
 20150904-A004

Analyte	Preparation Blank		Initial Calibration Blank		Continuing Calibration Blank				M
	Result	Qual	Found	Qual	Found1	Qual	Found2	Qual	
Formate	0.852	U	0.100	U	0.100	U	0.100	U	IC1

<b>Data Reporting Qualifiers (Qual)</b>	<b>Instruments/Methods (M)</b>
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	
X - Analytical spike criteria was not met	
E - Result is estimated due to interferences	
D - Result is reported from a dilution	
* - Duplicate criteria was not met	

Matrix Spike/Matrix Spike Duplicate Sample Recovery

Client: CH2M Hill Plateau Remediation Company  
 Task Order: 150807-13  
 Lab ID: 579641S  
 Result Units: mg/Kg

SDG: 579641  
 SRR: 55929  
 Matrix: Soil  
 % Solids: 91.01

Case: 303757  
 Project: 20933.01.006

Analyte	Parent Sample Result	Qual	MS Result	MS Spike Added	MS %Rec	MSD Result	MSD Spike Added	MSD %Rec	%RPD	Control Limit %Rec	Control Limit %RPD	M	Note
Formic acid	0.977	U	88.1	94.4	93.3%	-	-	-	-	75%-125%	-	IC1	

Data Reporting Qualifiers (Qual)	Columns	Instruments/Methods (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL)	M - Instrument	IC1 - Ion Chromatography DX 500/IC by 9056
U - Result is less than the SwRI Reporting Limit (RL)	MS - Matrix Spike	NA - Not Applicable
N - Matrix spike and/or matrix spike duplicate criteria was not met	MSD - Matrix Spike Duplicate	
X - Analytical spike criteria was not met	Q - Qualifier	
E - Result is estimated due to interferences	RPD - Relative Percent Difference	
D - Result is reported from a dilution		
* - Duplicate criteria was not met		

Duplicates

Client: CH2M Hill Plateau Remediation Company  
 Task Order: 150807-13  
 Lab ID: 579641D  
 Result Units: mg/Kg

SDG: 579641  
 SRR: 55929  
 Matrix: Soil  
 % Solids: 91.01

Case: 303757  
 Project: 20933.01.006

Analyte	Parent Sample Result	Qual	Duplicate Result	Qual	RPD	RPD Limit	Control Limit	M	Note
Formic acid	0.977	U	1.09	U	0.00%	20%	-	IC1	

Data Reporting Qualifiers (Qual)	Columns	Instruments/Method (M)
J - Result is greater than or equal to the SwRI Reporting Limit (RL) and less than the Contract Required Detection Limit (CRDL) U - Result is less than the SwRI Reporting Limit (RL) N - Matrix spike and/or matrix spike duplicate criteria was not met X - Analytical spike criteria was not met E - Result is estimated due to interferences D - Result is reported from a dilution * - Duplicate criteria was not met	M - Instrument RPD - Relative Percent Difference	IC1 - Ion Chromatography DX 500/IC by 9056 NA - Not Applicable

SOUTHWEST RESEARCH INSTITUTE  
 WetChem Report Form VII  
 Laboratory Control Sample

010017

SwRI ID

LCS15J03JH2

Client: CH2M Hill Plateau Remediation Company  
 Task Order: 150807-13  
 Lab ID: LCS15J03JH2  
 Result Units: mg/Kg

SDG: 579641  
 SRR: 55929  
 Matrix: Soil  
 Associated Prep Batches: 20150903-A019

Case: 303757  
 Project: 20933.01.006  
 LCS Source:

Analyte	True	Found	Qual	%Rec.	Limit	M	Analysis Date/Time
Formic acid	1020	946		92.7%	90%-110%	IC1	08/25/2015 18:41

<b>Instruments/Methods (M)</b>
IC1 - Ion Chromatography DX 500/IC by 9056
NA - Not Applicable

**INTEROFFICE MEMORANDUM**

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CHPRC-1505000, Revision 0

**Date:** October 20, 2015  
**To:** S. K. Johansen, Environmental Director  
**From:** V. L. Harter, Environmental Project Manager  
**Subject:** SUMMARY OF FS-1 OUTDOOR CONTAINER STORAGE AREA SOIL SAMPLE ANALYTICAL RESULTS TO SUPPORT RCRA CLEAN CLOSURE



**1. Sampling of the FS-1 Outdoor Container Storage Area:**

Soil samples were collected from the low-level burial ground trenches 31-34-94 Operating Unit Group FS-1 Outdoor Container Storage Area dangerous waste management unit (DWMU) (hereinafter FS-1) on August 5<sup>th</sup> and 6<sup>th</sup>, 2015. Twenty-eight soil samples were collected (20 random samples plus seven focused samples), along with three soil samples collected by the Washington Department of Ecology (hereinafter Ecology) for independent analysis.

**2. Summary of Laboratory Results:**

Review of all CHPRC sample results, including partial results from the Ecology analyses, are provided in the table summaries in Attachment 1. All analytical results are listed in descending value in each summary table, and the top of each table lists the associated FS-1 Closure Plan cleanup standards. Some tables also include action levels listed in the current Cleanup Level and Risk Calculation (CLARC) tables (dated May 2014) based on the Model Toxics Control Act (MTCA) Regulations [Chapter 173-340 of the Washington Administrative Code (WAC)] Method B closure performance standard for unrestricted land use of soil. Even though these are not regulatory levels that apply to FS-1, these additional CLARC table values (i.e., unrestricted land use) are provided to show the recent changes to the cleanup standards which may be more conservative than those listed in the FS-1 Closure Plan.

This review of the laboratory results found that metals [i.e., barium, cadmium, chromium (hexavalent), lead, mercury, silver, and vanadium] in the soil samples from FS-1 were detected below clean closure standards. Methylene chloride was estimated in three samples below clean closure standards. Total xylenes were estimated in approximately half the samples below clean closure standards listed for m-, o- or p-xylenes. Toluene was estimated in all samples below clean closure standards.

Regulatory action levels (clean closure standards) listed in the CLARC tables and the FS-1 Closure Plan are listed in units of milligrams per kilograms (mg/kg). Analytical results listed in the laboratory sample delivery groups were in units of micrograms per kilograms (ug/kg). All action levels have been converted to ug/kg to be consistent with analytical results. The standard deviation was calculated using the standard error multiplied by the square root of the number of observations (20 samples). The calculated standard deviation was compared to the allowed standard deviation in our VSP model of 45% of the mean. For example, the standard error for barium is 3208.56 ug/kg. To calculate the standard deviation, this value is multiplied by the

square root of 20 (4.472). The result is the standard deviation of the barium population, 14,349.12 ug/kg. To compare this to the visual sample plan model of 45% standard deviation, we normalize by dividing by the mean of the barium population, 85070 ug/kg. The result of this calculation is 16.87% standard deviation. This is below the assumed 45% ( $s = \text{std. dev.} = 0.45$ ) in the FS-1 Closure Plan Attachment H-A.b.

### **3. Evaluation of Model Toxics Control Act – Cleanup Method B (MTCA-B) Cleanup Standards:**

According to the FS-1 Closure Plan, clean-closure evaluations must comply with MTCA Method B cleanup standards. The decision rule for demonstrating compliance has three parts (see Section H-A3.9.5 of the Closure Plan):

- The 95 percent (%) upper confidence limit (UCL) on the true data mean must be less than the MTCA (WAC 173-340) Method B clean closure level.
- No sample concentration can be more than twice the cleanup level
- Less than 10% of the samples can exceed the cleanup level.

At the end of each analyte summary section in Attachment 1, there is a discussion of how these criteria were met for that specific analyte.

### **4. Visual Sample Plan (VSP) Evaluation of Data:**

Laboratory results underwent data validation at level C for all sample delivery groups. Results of validated data were uploaded into the VSP software to complete the statistical evaluations and to assist in drawing conclusions from the data. Non-detect analytical results were marked during data entry. The methods used for other data analysis functions may have changed due to the presence of non-detects.

When both carcinogenic and non-carcinogenic action levels were listed in the FS-1 Closure Plan, the more conservative of the two action levels was selected as the closure standard. When laboratory results provided a sum for various congeners listed in the FS-1 Closure Plan [i.e., polychlorinated biphenyls (PCBs), cresols, xylenes) the most conservative number for the individual congener was used as the action level. For example, analytes of interest in the FS-1 Closure Plan were m-, o- and p-cresols. The U.S. Environmental Protection Agency (EPA) method utilized supplied the results in total cresols, not individual cresol congeners. The lowest action level in the FS-1 Closure Plan listed for the individual congener p-cresol was 400 mg/kg. So the analytical result for total cresols was compared to the individual action level for p-cresol. Incidentally, the current CLARC table (May 2014) shows an action level for m- and o-cresol at 4,000 mg/kg, and the action level for p-cresol is 8,000 mg/kg.

### **5. Result of Clean Closure Action Level Comparison to MTCA-B Criteria:**

Many of the analytes of interest were not detected in FS-1 soil samples. If the analyte was not detected at the method or instrument detection limits, the true value would be assumed to lie somewhere between the detection limit and zero. For this list of non-detects, the population mean is assumed to be below the detection limit (and also below the action level).

Of those analytes of interest that were detected, several had very few detects and statistical analyses were limited (see Item 5). Aside from the analytes listed below, all other FS-1 analytes of concern subjected to VSP statistical evaluations for normal and non-normal populations (within the 95% UCL, alpha 0.01), had a mean value below the action level. Thus, the first MTCA-B criteria was met for all analytes.

No values were detected above the action limits, so the second and third criteria for MTCA-B were met.

#### **6. Data Sets Not Conforming to VSP Model:**

Mercury results were evaluated for outliers. Three different tests are suggested within the VSP software: Rosner's Outlier Test; Dixon's Outlier Test; and Walsh's Outlier Test. Rosner's approach is appropriate for sample sizes of 25 observations or more, and Walsh's approach is appropriate for 60 observations or more. Dixon's Outlier Test was chosen based on the appropriate sample size of 25 observations or less. Utilizing the appropriate modified Thompson Tau value for the 16 detected mercury results, ( $\tau = 1.8647$ ), the sample result for Site FS-1-6 was determined to be an outlier. Details of this analysis are provided in Attachment 1 under the Mercury summary. After removing this outlier, although not normally distributed, the standard deviation was 16.28%, within the assumptions of the VSP model.

Chromium results also fell within the MTCA-B criteria, but the standard deviation was outside of VSP model assumptions at 45.36%. The large number of non-detected results (60%) likely contributed to this divergence from normally-distributed population characteristics. There were no outliers detected with Dixon's Outlier Test. Even with the loose distribution of results and small number of detected samples, there is sufficient evidence that the population mean is well below the action level.

There was one detected result for silver, so reliable statistics (standard deviation and 95% UCL) could not be performed. The three Ecology check samples collected and analyzed for silver were all non-detects. The null hypothesis cannot be rejected based on the single data point (662 ug/kg), so this data set needs to be uniquely considered. This data point was assigned two qualifiers by the laboratory, "B" and "D." The "B" qualifier indicates a detected value less than the contract-required detection limit, but greater than or equal to the instrument detection limit/method detection limit (as appropriate). The "D" qualifier indicates results are reported from a diluted aliquot of sample. Non-detect values for silver ranged from 90 ug/kg to 9809 ug/kg; thus, the assumption that the true sample result lies somewhere between that non-detect value and zero was made. If non-detect values were considered in the VSP calculations, the 95% UCL (alpha 0.01) would confirm the population mean was below the action level. In all likelihood, the sample population for silver is well below the action level of 400,000 ug/kg.

Further details are provided in the laboratory and VSP summaries shown in Attachment 1.

#### **7. Conclusion of FS-1 Outdoor Storage Area Clean Closure Evaluations:**

None of the analytes of concern listed in the FS-1 Closure Plan were found in any soil sample above the clean closure standards. This includes focused samples that were not part of the statistical analyses but were instead used for comparison to the respective action levels.

Given the values of detects (and non-detects) in our sample sets and utilizing the VSP software to evaluate the 95% UCL for each analyte (alpha 0.01), the null hypothesis that the populations mean was above the clean closure level was rejected. There was sufficient evidence that the population mean for silver was also below the associated action levels, although it could not be declared statistically.

**8. Documentation of FS-1 Outdoor Storage Area Clean Closure Activities:**

The laboratory sample delivery group packages, data validation report, deviations, and other field-related documents relating to FS-1 closure sampling are provided in Attachment 2 to complete the operating record for these activities.

vlh/kag

Attachments 2

cc: CHPRC Correspondence Control  
WSS Records (LLBG Trenches 31-34-94 Operating Record)  
T. J. Oliver, AKANA  
S. R. Horn, CHPRC  
D. Todak, CHPRC

ATTACHMENT 1

CHPRC-1505000, Rev. 0  
CONTRACT NUMBER DE-AC06-08RL14788

**SUMMARY OF FS-1 OUTDOOR CONTAINER STORAGE AREA SOIL SAMPLE  
ANALYTICAL RESULTS TO SUPPORT RCRA CLEAN CLOSURE**

Consisting of 23 pages,  
including this cover page

## **SUMMARY OF FS-1 OUTDOOR CONTAINER STORAGE AREA SOIL SAMPLE ANALYTICAL RESULTS TO SUPPORT RCRA CLEAN CLOSURE**

### **EVALUATION OF MODEL TOXICS CONTROL ACT—CLEANUP (WAC 173-340) METHOD B CRITERIA**

The summary tables below provide the raw laboratory data relating to FS-1 soil sample analysis. The raw data summary tables include all samples with detected results (including random samples, duplicates, and Ecology check samples). Not all analyses were received for the FS-1 check samples analyzed by Ecology.

The tables show all detected analytical results in descending value, and the top of each table lists the associated FS-1 Closure Plan cleanup standards. Also included are action levels listed in the CLARC tables (dated May 2014) based on the MTCA (WAC 173-340) Method B closure performance standard for unrestricted land use of soil. Even though these additional CLARC table values are not regulatory levels, they are provided for information relating to more recent standards.

According to the FS-1 Closure Plan, clean closure evaluations must comply with MTCA Method B cleanup standards. The decision rule for demonstrating has three parts (see Section H-A3.9.5 of the Closure Plan):

- The 95% UCL on the true data mean must be less than the MTCA (WAC 173-340) Method B clean closure level.
- No sample concentration can be more than twice the cleanup level.
- Less than 10% of the samples can exceed the cleanup level.

At the end of each analyte summary section, there is a discussion of how these criteria were met.

In the VSP software, nondetect analytical results were marked during data entry. The methods used for other data analysis functions may have changes due to the presence of non-detects.

When both carcinogenic and non-carcinogenic action levels were listed in the FS-1 Closure Plan, the more conservative of the two action levels was selected as the clean closure standard. When laboratory results provided a sum for various congeners listed in the Closure Plan (i.e., PCBs, cresols, xylenes) the most conservative number for the individual congener was used as the action level. For example, total cresols in the Closure Plan listed m-, o- and p-cresols. The lowest action level in the FS-1 Closure Plan listed was p-cresol with an action level of 400 mg/kg. So the analytical result for total cresols was compared to the individual action level for p-cresol. Incidentally, the current CLARC table (May 2014) shows an action level for m- and o-cresol at 4,000 mg/kg, and the action level for p-cresol is 8,000 mg/kg.

Regulatory action levels listed in the CLARC tables and the FS-1 Closure Plan are listed in units of mg/kg. Analytical results listed in the laboratory sample delivery groups were in units of ug/kg. All action levels have been converted to ug/kg to be consistent with analytical results. The standard deviation was calculated using the standard error multiplied by the square root of the number of observations (20 samples). The calculated standard deviation was compared to the allowed standard deviation in our VSP model of 45% of the mean.

Barium Laboratory Results

FS-1 Closure Plan closure performance standard for non-carcinogen – 1.60E+04 mg/kg (1.60E+07 ug/kg).

Current CLARC tables MTCA Method B for non-carcinogen –1.60E+04 mg/kg (1.60E+07 ug/kg).

Location	Result	Units	Qualifier
FS-1 Closure Plan Action Level	1.60E+07	ug/kg	
1-12	1.32E+05	ug/kg	J-
1-4	1.07E+05	ug/kg	J-
Opt2	9.91E+04	ug/kg	J-
ECY Opt7 Ctrl	9.60E+04	ug/kg	
Opt6	9.46E+04	ug/kg	J-
1-16	9.44E+04	ug/kg	J-
ECY 1-4 Ctrl	9.40E+04	ug/kg	
1-18	9.30E+04	ug/kg	J-
1-3	9.10E+04	ug/kg	J-
1-8	9.08E+04	ug/kg	J-
Opt5	9.08E+04	ug/kg	J-
1-1	8.84E+04	ug/kg	J-
Opt7	8.84E+04	ug/kg	J-
1-20	8.59E+04	ug/kg	J-
1-13 Dup	8.31E+04	ug/kg	J-
Opt1	8.22E+04	ug/kg	J-
1-13	8.18E+04	ug/kg	J-
Opt3	8.13E+04	ug/kg	J-
1-14	8.11E+04	ug/kg	J-
Opt4	8.09E+04	ug/kg	J-
1-15	8.06E+04	ug/kg	J-
1-10	7.99E+04	ug/kg	J-
1-9	7.98E+04	ug/kg	J-
1-17	7.88E+04	ug/kg	N
1-11	7.72E+04	ug/kg	J-
1-6	7.62E+04	ug/kg	J-
1-5	7.51E+04	ug/kg	J-
1-7	7.44E+04	ug/kg	J-
1-2	7.25E+04	ug/kg	J-
ECY 1-19 Ctrl	6.90E+04	ug/kg	
1-19	6.62E+04	ug/kg	J-

Qualifier assigned during data validation ("J-") indicates an estimated detected value is based on low matrix spike sample recovery. Data is usable for decision making purposes.

Qualifier assigned during laboratory analysis ("N") indicates that the spike sample recovery is outside control limits.

### Barium Visual Sample Plan (VSP) Analysis

Barium

n = 20

# Detects = 20                      # Non-Detects = 0

Min Detect = 66200                  Min Non-Detect = N/A

Max Detect = 1.32e+005              Max Non-Detect = N/A

Statistics based on Product Limit Estimator (Kaplan-Meier) method:

Mean = 85070	Percentiles:
Std Error of Mean = 3208.6	25% : 77200
Median = 81100	50% : 81100
Inter-Quartile Range = 13800	75% : 91000

Barium

Normal Distribution Test

Shapiro-Wilk Test Statistic: 0.81552                  Significance Level: 5%

Shapiro-Wilk 5% Critical Value: 0.905              Data are sufficient to conclude with 95% confidence that the data are not normally distributed

Barium

Upper Confidence Limit on Mean

UCL Confidence: 95 %

95% UCL on the Mean based on the t-distribution: 90618

95% UCL on the Mean based on the Chebyshev inequality: 99055.8

One Sample Approximate t-Test

Mean: 85070

Standard error of the mean: 3208.56

Action Level: 1.6e+007

t-Statistic: -4960.15

p-Value: 0

Very strong evidence that the true mean is less than the action level (alpha=0.01).

VSP output shows barium is not normally distributed, so it is appropriate to use non-parametric test measures to evaluate MTCA Method B criteria and whether the true mean is equal to or greater than the action level. The non-parametric UCL is 90,618 ug/kg. This value is below the action level (16,000,000 ug/kg), so there is very strong evidence that the true mean is less than the action level (alpha 0.01). Thus, the first of three MTCA Method B closure criteria was met.

There are no laboratory results from the VSP-generated random samples (nor focused samples nor Ecology check samples) that are above the closure performance standard. Thus, the remaining two MTCA Method B closure criteria were met.

The standard deviation for barium is 16.867% of the mean, within the allowable deviation of 45% in our model.

Barium results support clean closure of FS-1 Outdoor Container Storage Area.

Cadmium Laboratory Results

FS-1 Closure Plan closure performance standard for non-carcinogen – 8.00E+01 mg/kg (8.00E+04 ug/kg).

Current CLARC tables MTCA Method B non-carcinogen – 8.00E+01 mg/kg (8.00E+04 ug/kg); Method A unrestricted land use – 2.00E+00 mg/kg (2.00+03 ug/kg) (not an FS-1 regulatory limit).

Location	Result	Units	Qualifier
FS-1 Closure Plan non-cancer	8.00E+04	ug/kg	
CLARC Unrestricted Land Use	2.00E+03	ug/kg	
1-12	7.47E+02	ug/kg	
1-13 Dup	6.24E+02	ug/kg	
1-8	6.22E+02	ug/kg	
1-14	5.84E+02	ug/kg	
1-13	5.80E+02	ug/kg	
1-6	5.73E+02	ug/kg	
1-11	5.71E+02	ug/kg	
1-9	5.25E+02	ug/kg	
ECY Opt7 Ctrl	5.20E+02	ug/kg	
1-4	5.19E+02	ug/kg	
1-5	5.12E+02	ug/kg	
1-10	5.09E+02	ug/kg	
1-7	4.94E+02	ug/kg	
ECY 1-4 Ctrl	4.90E+02	ug/kg	
1-1	4.77E+02	ug/kg	B
ECY 1-19 Ctrl	4.70E+02	ug/kg	
1-3	4.51E+02	ug/kg	B
1-19	4.35E+02	ug/kg	B
1-2	4.32E+02	ug/kg	B
Opt7	4.20E+02	ug/kg	B
1-18	3.75E+02	ug/kg	B
1-20	3.66E+02	ug/kg	B
1-17	3.57E+02	ug/kg	B
Opt4	3.17E+02	ug/kg	B
Opt2	3.09E+02	ug/kg	B
Opt6	2.99E+02	ug/kg	B
Opt5	2.86E+02	ug/kg	B
Opt1	2.85E+02	ug/kg	B
1-16	2.67E+02	ug/kg	B
1-15	2.61E+02	ug/kg	B
Opt3	2.30E+02	ug/kg	B

Qualifier assigned during laboratory analysis ("B") indicated a detected value less than the contract-required detection limit (RDL), but greater than or equal to the instrument detection limit (IDL)/method detection limit (MDL) (as appropriate).

Cadmium VSP Analysis

Cadmium	
n = 20	
# Detects = 20	# Non-Detects = 0
Min Detect = 261	Min Non-Detect = N/A
Max Detect = 747	Max Non-Detect = N/A
Statistics based on Product Limit Estimator (Kaplan-Meier) method:	
Mean = 482.85	Percentiles:
Std Error of Mean = 26.769	25% : 432
Median = 509	50% : 509
Inter-Quartile Range = 141	75% : 573

Cadmium	
Normal Distribution Test	
Shapiro-Wilk Test Statistic: 0.97201	Significance Level: 5%
Shapiro-Wilk 5% Critical Value: 0.905	The test suggests that the data may be normally distributed with 95% confidence

Cadmium	
Upper Confidence Limit on Mean	
UCL Confidence: 95%	
95% UCL on the Mean based on the t-distribution: 529.137	
95% UCL on the Mean based on the Chebyshev inequality: 599.534	
One Sample Approximate t-Test	
Mean: 482.85	
Standard error of the mean: 26.7691	
Action Level: 80000	
t-Statistic: -2970.48	
p-Value: 0	
Very strong evidence that the true mean is less than the action level (alpha=0.01).	

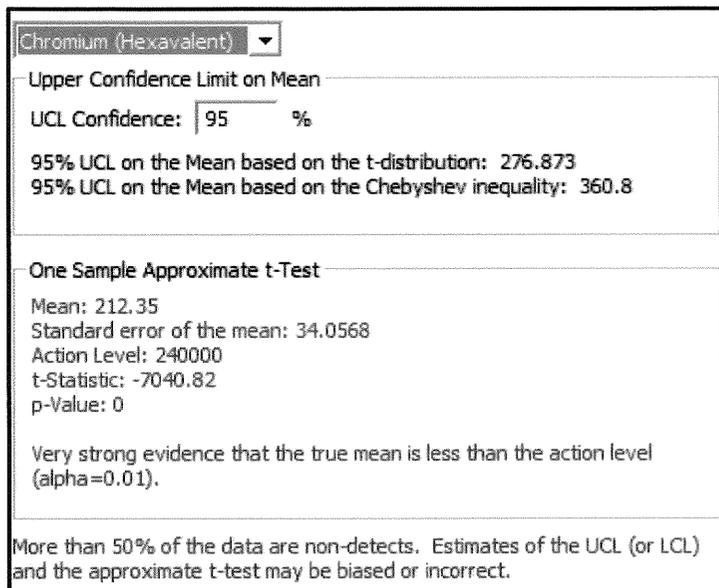
VSP output shows cadmium may be normally distributed. The mean for cadmium is 482.85 ug/kg and the UCL is 529.14 ug/kg. These value are well below the action level (80,000 ug/kg), so there is very strong evidence that the true mean is less than the action level (alpha 0.01). Thus, the first of three MTCA Method B closure criteria was met.

There are no laboratory results from the VSP-generated random samples (nor focused samples nor Ecology check samples) that are above the closure performance standard. Thus, the remaining two MTCA Method B closure criteria were met.

The standard deviation for cadmium is 24.79% of the mean, within the allowable deviation of 45% in our model.

Cadmium results support clean closure of FS-1 Outdoor Container Storage Area.





VSP output shows the large number of non-detects (60%) which clouds the analysis of results. Chromium (hexavalent) cannot be deemed normally distributed, so we turn to non-parametric tests to evaluate MTCA Method B criteria and whether the true mean is equal to or greater than the action level. The UCL is 276.873 ug/kg, so there is evidence the mean is below the action level (24,000 ug/kg), but estimates of the UCL may be biased or incorrect based on sample size. Even though the UCL may be approximate, there is “strong evidence that the true mean is less than the action level (alpha 0.01).” Thus, based on current analyses, the first of three MTCA Method B closure criteria was met.

There are no laboratory results from the VSP-generated random samples (nor focused samples nor Ecology check samples) that are above the closure performance standard. Thus, the remaining two MTCA Method B closure criteria were met.

The standard deviation for chromium (hexavalent) (based on 8 observations) is 45.36% of the mean, above the allowed 45% assumed in our model. This deviation from the model is likely due to the small number of detected results. There were no outliers detected with Dixon's Outlier Test. Even with the loose distribution of results and small number of detected samples, there is sufficient evidence that the population mean is well below the action level.

Chromium (hexavalent) results support clean closure of FS-1 Outdoor Container Storage Area.

Lead Laboratory Results

FS-1 Closure Plan performance standard for non-carcinogen – 2.50E+02 mg/kg (2.50E+05 ug/kg).

Current CLARC tables MTCA Method A for unrestricted land use – 2.50E+02 mg/kg (2.50+05 ug/kg)  
(no non-cancer number listed).

<b>Location</b>	<b>Result</b>	<b>Units</b>	<b>Qualifier</b>
FS-1 Closure Plan non-cancer	2.50E+05	ug/kg	
ECY Opt-7	9.70E+03	ug/kg	
ECY 1-19 Ctrl	7.10E+03	ug/kg	
1-18	6.54E+03	ug/kg	
1-16	6.32E+03	ug/kg	
Opt6	6.00E+03	ug/kg	
1-12	5.60E+03	ug/kg	
Opt7	5.60E+03	ug/kg	
1-20	5.55E+03	ug/kg	
1-6	5.50E+03	ug/kg	
Opt5	5.12E+03	ug/kg	
1-9	5.10E+03	ug/kg	
1-11	5.01E+03	ug/kg	
1-5	4.95E+03	ug/kg	
1-17	4.80E+03	ug/kg	
1-3	4.76E+03	ug/kg	
Opt1	4.76E+03	ug/kg	
1-7	4.73E+03	ug/kg	
1-13 Dup	4.70E+03	ug/kg	
ECY-1-4 Ctrl	4.70E+03	ug/kg	
1-14	4.63E+03	ug/kg	
1-15	4.49E+03	ug/kg	
1-13	4.47E+03	ug/kg	
1-1	4.28E+03	ug/kg	
Opt4	4.24E+03	ug/kg	
1-19	4.16E+03	ug/kg	
Opt2	4.02E+03	ug/kg	
1-4	3.84E+03	ug/kg	
1-2	3.73E+03	ug/kg	
Opt3	3.63E+03	ug/kg	
1-10	3.50E+03	ug/kg	
1-8	3.45E+03	ug/kg	

Ecology samples were analyzed with method 6010B, CHPRC samples were analyzed with method 6010C.

## Lead VSP Analysis

Lead

n = 20

# Detects = 20                      # Non-Detects = 0

Min Detect = 3450                  Min Non-Detect = N/A

Max Detect = 6540                  Max Non-Detect = N/A

Statistics based on Product Limit Estimator (Kaplan-Meier) method:

Mean = 4770.5	Percentiles:
Std Error of Mean = 189.66	25% : 4280
Median = 4760	50% : 4760
Inter-Quartile Range = 1220	75% : 5500

Lead

Normal Distribution Test

Shapiro-Wilk Test Statistic: 0.96655                  Significance Level: 5%

Shapiro-Wilk 5% Critical Value: 0.905                  The test suggests that the data may be normally distributed with 95% confidence

Lead

Upper Confidence Limit on Mean

UCL Confidence: 95 %

95% UCL on the Mean based on the t-distribution: 5098.45

95% UCL on the Mean based on the Chebyshev inequality: 5597.21

One Sample Approximate t-Test

Mean: 4770.5

Standard error of the mean: 189.661

Action Level: 250000

t-Statistic: -1292.99

p-Value: 0

Very strong evidence that the true mean is less than the action level (alpha=0.01).

VSP output shows Lead may be normally distributed. The mean for lead is 4770.5 ug/kg and the UCL is 5098.45 ug/kg. These value are well below the action level (250,000 ug/kg), so there is very strong evidence that the true mean is less than the action level (alpha 0.01). Thus, the first of three MTCA Method B closure criteria was met.

There are no laboratory results from the VSP-generated random samples (nor focused samples nor Ecology check samples) that are above the closure performance standard. Thus, the remaining two MTCA Method B closure criteria were met.

The standard deviation for lead is 17.78% of the mean, within the allowable deviation of 45% in our model.

Lead results support clean closure of FS-1 Outdoor Container Storage Area.

Mercury Laboratory Results

FS-1 Closure Plan performance standard for non-carcinogen) – 2.40E+01 mg/kg (2.40E+04 ug/kg).

Current CLARC table MTCA Method A unrestricted land use – 2.00E+00 mg/kg (2.00E+03 ug/kg).

<b>Location</b>	<b>Result</b>	<b>Units</b>	<b>Qualifier</b>
FS-1 Closure Plan non-cancer	2.40E+04	ug/kg	
CLARC Unrestricted Land Use	2.00E+03	ug/kg	
1-6 ** evaluated as outlier	5.57E+01	ug/kg	B
Opt2	1.34E+01	ug/kg	
Opt3	7.56E+00	ug/kg	B
Opt5	6.75E+00	ug/kg	B
1-18	6.50E+00	ug/kg	B
1-16	6.34E+00	ug/kg	B
1-17	6.27E+00	ug/kg	B
1-4	6.15E+00	ug/kg	B
1-11	6.03E+00	ug/kg	B
Opt4	5.74E+00	ug/kg	B
1-8	5.58E+00	ug/kg	B
1-13 Dup	5.51E+00	ug/kg	B
1-13	5.09E+00	ug/kg	B
Opt1	4.99E+00	ug/kg	B
1-10	4.97E+00	ug/kg	B
1-15	4.89E+00	ug/kg	B
1-5	4.56E+00	ug/kg	B
1-2	4.29E+00	ug/kg	B
1-14	4.29E+00	ug/kg	B
Opt6	4.22E+00	ug/kg	B
1-1	4.21E+00	ug/kg	B
1-7	4.16E+00	ug/kg	B
1-9	4.12E+00	ug/kg	B

Qualifier assigned during laboratory analysis ("B") indicated a detected value less than the contract- RDL, but greater than or equal to the IDL MDL (as appropriate).

Mercury Outlier Test

The soil sample result for Site FS-1-6 appeared to be far above the other samples. This sample was evaluated against the other detected values to determine if it was statistically outside of the remaining population. The Dixon's Outlier Test was appropriate for sample sizes less than 25 observations. Based on the mean, range, and standard deviation calculations (shown on the following page), the laboratory result for FS-1-6 was determined to be an outlier.

<b>Dixon's Test for Outliers</b>					
<u>Mercury</u>			<u>Data</u>		
<u>Label</u>	<u>Value</u>	<u>Units</u>	<u>Qualifiers</u>	<u>Delta*</u>	<u>for 16 detected data points</u>
FS-1-9	4.12	ug/kg	B	4.201875	mean = 8.321875
FS-1-7	4.16	ug/kg	B	4.161875	StDev = 12.66396
FS-1-1	4.21	ug/kg	B	4.111875	tau (16) = 1.8649 †
FS-1-2	4.29	ug/kg	B	4.031875	
FS-1-14	4.29	ug/kg	B	4.031875	tau*StDev = <b>23.61702</b>
FS-1-5	4.56	ug/kg	B	3.761875	(16 observations)
FS-1-15	4.89	ug/kg	B	3.431875	
FS-1-10	4.97	ug/kg	B	3.351875	
FS-1-13	5.09	ug/kg	B	3.231875	
FS-1-8	5.58	ug/kg	B	2.741875	
FS-1-11	6.03	ug/kg	B	2.291875	
FS-1-4	6.15	ug/kg	B	2.171875	
FS-1-17	6.27	ug/kg	B	2.051875	
FS-1-16	6.34	ug/kg	B	1.981875	
FS-1-18	6.5	ug/kg	B	1.821875	
FS-1-6	55.7	ug/kg	B	<b>47.37813</b>	
FS-1-12	4.9	ug/kg	U		
FS-1-3	4.06	ug/kg	U		
FS-1-19	3.59	ug/kg	U		
FS-1-20	4.04	ug/kg	U		

\* The "Delta" column represents the difference between the sample result and the population mean.

† The modified Thompson Tau value was found at: [https://www.mne.psu.edu/me345/Exams/Modified\\_Thompson\\_tau\\_table.pdf](https://www.mne.psu.edu/me345/Exams/Modified_Thompson_tau_table.pdf)

The difference between the sample result and the population mean (shown in the "Delta" column) is compared to the standard deviation multiplied by the Thompson's Tau value. A value above this number is considered an outlier.

Further VSP analyses were performed based on the remaining 15 observations after the outlier from Site 1-6 was removed.

## Mercury VSP Analysis

Mercury	
n = 20	
# Detects = 15	# Non-Detects = 5
Min Detect = 4.12	Min Non-Detect = 3.59
Max Detect = 6.5	Max Non-Detect = 55.7
Statistics based on Product Limit Estimator (Kaplan-Meier) method:	
Mean = 4.9525	Percentiles:
Std Error of Mean = 0.20825	25% : 4.16
Median = 4.56	50% : 4.56
Inter-Quartile Range = 1.87	75% : 6.03

Mercury	
Normal Distribution Test	
Shapiro-Wilk Test Statistic: 0.30213	Significance Level: 5%
Shapiro-Wilk 5% Critical Value: 0.905	Data are sufficient to conclude with 95% confidence that the data are not normally distributed

Mercury	
Upper Confidence Limit on Mean	
UCL Confidence: 95 %	
95% UCL on the Mean based on the t-distribution: 5.31933	
95% UCL on the Mean based on the Chebyshev inequality: 5.86028	
One Sample Approximate t-Test	
Mean: 4.95253	
Standard error of the mean: 0.208254	
Action Level: 2000	
t-Statistic: -9579.88	
p-Value: 0	
Very strong evidence that the true mean is less than the action level (alpha=0.01).	

VSP output (minus the outlier) shows mercury is not normally distributed, so it is appropriate to use non-parametric test measure to evaluate MTCA Method B criteria and whether the true mean is equal to or greater than the action level. The non-parametric UCL is 11.981 ug/kg. This value is below the CLARC Table action level for unrestricted land use (2,000 ug/kg), so there is very strong evidence that the true mean is less than the action level (alpha 0.01). This unrestricted land use action limit is more conservative than exceeds the regulatory limit in the FS-1 Closure Plan of 24,000 ug/kg. Thus, the first of three MTCA Method B closure criteria was met.

There are no laboratory results from the VSP-generated random samples (nor focused samples nor Ecology check samples) that are above the closure performance standard. Thus, the remaining two MTCA Method B closure criteria were met.

After removing the outlier, the mean for mercury is 4.952, and the standard deviation is 0.806, which is 16.28% of the mean. This standard deviation is within the allowable deviation of 45% in our model.

Mercury results support clean closure of FS-1 Outdoor Container Storage Area.

Methylene Chloride Laboratory Results

FS-1 Closure Plan performance standard for non-carcinogen – 4.80E+03 mg/kg (4.80E+06 ug/kg);  
carcinogen – 1.33E+02 mg/kg (1.33E+05 ug/kg).

Current CLARC tables for MTCA Method B non-carcinogen – 4.80E+02 mg/kg (4.80E+05 ug/kg); MTCA  
Method B carcinogen – 5.00E+02 mg/kg (5.00E+05 ug/kg); MTCA Method A unrestricted land use – 2.00E-  
02 mg/kg (2.00E+01 ug/kg).

Location	Result	Units	Qualifier
FS-1 Closure Plan – non-cancer	4.80E+06	ug/kg	
FS-1 Closure Plan – cancer	1.33E+05	ug/kg	
CLARC Unrestricted Land Use	2.00E+01	ug/kg	
1-7	2.88E+00	ug/kg	J
1-3	1.52E+00	ug/kg	BJ
1-11	1.25E+00	ug/kg	J

Qualifier assigned during laboratory analysis (“J”) indicates an estimated detected value less than the contract RDL, but greater than or equal to the IDL/MDL (as appropriate).

Qualifier assigned during laboratory analysis (“BJ”) indicates an estimated detected value less than the contract RDL, but greater than or equal to the IDL/MDL (as appropriate). The analyte was detected in both the associated QC blank and in the sample.

Methylene Chloride VSP Analysis

Methylene Chloride

n = 20

# Detects = 3                      # Non-Detects = 17

Min Detect = 1.25                Min Non-Detect = 1.23

Max Detect = 2.88                Max Non-Detect = 1.64

Statistics based on Product Limit Estimator (Kaplan-Meier) method:

Mean = 1.3512                      Percentiles:

Std Error of Mean = 0.098816      25% : N/A

Median = 1.25                      50% : 1.25

Inter-Quartile Range = N/A        75% : 1.25

More than 50% of the data are non-detects. Kaplan-Meier estimates of the mean, standard error of the mean, and percentiles may be biased or incorrect.

Methylene Chloride

Normal Distribution Test

Shapiro-Wilk                      Significance Level: 5%

Test Statistic: 0.57186            Data are sufficient to conclude with 95% confidence that the data are not normally distributed

Shapiro-Wilk 5%                      Critical Value: 0.905

Methylene Chloride
Upper Confidence Limit on Mean
UCL Confidence: 95 %
95% UCL on the Mean based on the t-distribution: 1.63977
95% UCL on the Mean based on the Chebyshev inequality: 1.78196
One Sample Approximate t-Test
Mean: 1.35123
Standard error of the mean: 0.0988158
Action Level: 133000
t-Statistic: -1.34592e+006
p-Value: 0
Very strong evidence that the true mean is less than the action level (alpha=0.01).
More than 50% of the data are non-detects. Estimates of the UCL (or LCL) and the approximate t-test may be biased or incorrect.

VSP output shows the large number of non-detects (85%) which clouds the analysis of results. Methylene chloride cannot be deemed normally distributed, so we turn to non-parametric tests measures to evaluate MTCA Method B criteria and whether the true mean is equal to or greater than the action level. The estimate of the UCL (1.63977 ug/kg) may be biased or incorrect based on sample size, but there is "very strong evidence that the true mean is less than the action level of 133,000 ug/kg (alpha 0.01)." Thus, based on current analyses and assumptions, the first of three MTCA Method B closure criteria was met.

There are no laboratory results from the VSP-generated random samples (nor focused samples nor Ecology check samples) that are above the closure performance standard. Thus, the remaining two MTCA Method B closure criteria were met.

The standard deviation for methylene chloride (calculated based on 3 observations) is 13.69% of the mean, within the allowable deviation of 45% in our model.

Methylene chloride results support clean closure of FS-1 Outdoor Container Storage Area. .

Silver Laboratory Results

FS-1 Closure Plan performance standard for non-carcinogen – 4.00E+02 mg/kg (4.00E+05 ug/kg).

Current CLARC tables MTCA Method B for non-cancer – 4.00E+02 mg/kg (4.00E+05 ug/kg).

Location	Result	Units	Qualifier
FS-1 Closure Plan – non-cancer	4.00E+05	ug/kg	
1-12	6.62E+00	ug/kg	BD

Qualifier assigned during laboratory analysis (“BD”) indicates a detected value less than the contract RDL, but greater than or equal to the IDL/MDL (as appropriate). Results are reported from a diluted aliquot of sample.

Silver VSP Analysis

Silver

n = 20

# Detects = 1                      # Non-Detects = 19

Min Detect = 662                  Min Non-Detect = 90

Max Detect = 662                  Max Non-Detect = 9809

Statistics based on Product Limit Estimator (Kaplan-Meier) method:

Mean = 662                      Percentiles:

Std Error of Mean = N/A              25% : N/A

Median = N/A                      50% : N/A

Inter-Quartile Range = N/A            75% : N/A

More than 50% of the data are non-detects. Kaplan-Meier estimates of the mean, standard error of the mean, and percentiles may be biased or incorrect.

Silver

Normal Distribution Test

Shapiro-Wilk                      Significance Level: 5%

Test Statistic: 0.38234

Shapiro-Wilk 5%                  Data are sufficient to conclude with 95% confidence that the data are not normally distributed

Critical Value: 0.905

Silver

Upper Confidence Limit on Mean

UCL Confidence: 95 %

95% UCL on the Mean based on the t-distribution: N/A

95% UCL on the Mean based on the Chebyshev inequality: N/A

One Sample Approximate t-Test

Mean: 662

Standard error of the mean: N/A

Action Level: 400000

t-Statistic: N/A

p-Value: N/A

Insufficient evidence to conclude the true mean is less than the action level.

More than 50% of the data are non-detects. Estimates of the UCL (or LCL) and the approximate t-test may be biased or incorrect.

There is insufficient data to perform proper analysis on the single data point. The qualifiers assigned by the laboratory should also be considered (see table footnote above). If non-detect values were considered in the VSP calculations, the 95% UCL (alpha 0.01) would confirm the population mean was below the action level. If using the assumption that the true sample value lies somewhere between the non-detect result (ranging from 90 to 9,800 ug/kg) and zero, then the mean is likely below the action level of 400,000 ug/kg. Thus, based on available analyses and assumptions, the first of three MTCA Method B closure criteria was met.

There are no laboratory results from the VSP-generated random samples (nor focused samples nor Ecology check samples) that are above the closure performance standard. Thus, the remaining two MTCA Method B closure criteria were met.

The standard deviation for silver cannot be accurately calculated with one sample. Given the single data point at 662 ug/kg and assuming the non-detect values had a true result between the non-detect value and zero, there is sufficient evidence that the population mean is well below the action level of 400,000 ug/kg.

Silver results support clean closure of FS-1 Outdoor Container Storage Area.

Total Xylenes Laboratory Results

FS-1 Closure Plan performance standard for non-carcinogen for m-, o-, p-xylenes – 1.60E+04 mg/kg (1.60E+07 ug/kg).

Current CLARC tables MTCA Method B non-cancer standards at 1.60E+04 mg/kg (1.60E+07 ug/kg) for individual xylenes **and** total xylenes. Additionally, there is a MTCA Method A unrestricted land use value of 9.00E+00 mg/kg (9.00E+03 ug/kg) for total xylenes, which is not a regulatory level for FS-1.

Location	Result	Units	Qualifier
FS-1 Closure Plan non-cancer	1.60E+07	ug/kg	
CLARC Unrestricted Land Use	9.00E+04	ug/kg	
Opt3	3.77E-01	ug/kg	J
1-2	3.46E-01	ug/kg	J
1-17	3.37E-01	ug/kg	J
Opt7	3.22E-01	ug/kg	J
1-16	3.13E-01	ug/kg	J
Opt6	3.03E-01	ug/kg	J
1-4	2.94E-01	ug/kg	J
1-8	2.85E-01	ug/kg	J
1-13 Dup	2.84E-01	ug/kg	J
1-12	2.76E-01	ug/kg	J
Opt2	2.74E-01	ug/kg	J
1-6	2.70E-01	ug/kg	J
1-5	2.61E-01	ug/kg	J

Qualifier assigned during laboratory analysis ("J") indicated an estimated detected value less than the contra0ct RDL, but greater than or equal to the IDL/MDL (as appropriate).

Total Xylenes VSP Analysis

Total Xylenes ▾

n = 20

# Detects = 8                      # Non-Detects = 12

Min Detect = 0.261                Min Non-Detect = 0.218

Max Detect = 0.346                Max Non-Detect = 0.537

Statistics based on Product Limit Estimator (Kaplan-Meier) method:

Mean = 0.27818	Percentiles:
Std Error of Mean = 0.0065068	25% : N/A
Median = 0.261	50% : 0.261
Inter-Quartile Range = N/A	75% : 0.285

More than 50% of the data are non-detects. Kaplan-Meier estimates of the mean, standard error of the mean, and percentiles may be biased or incorrect.

Total Xylenes	
Normal Distribution Test	
Shapiro-Wilk Test Statistic: 0.69381	Significance Level: 5%
Shapiro-Wilk 5% Critical Value: 0.905	Data are sufficient to conclude with 95% confidence that the data are not normally distributed

Total Xylenes	
Upper Confidence Limit on Mean	
UCL Confidence: 95 %	
95% UCL on the Mean based on the t-distribution: 0.290511	
95% UCL on the Mean based on the Chebyshev inequality: 0.306546	
One Sample Approximate t-Test	
Mean: 0.278183	
Standard error of the mean: 0.0065068	
Action Level: 1.6e+007	
t-Statistic: -2.45896e+009	
p-Value: 0	
Very strong evidence that the true mean is less than the action level (alpha=0.01).	
More than 50% of the data are non-detects. Estimates of the UCL (or LCL) and the approximate t-test may be biased or incorrect.	

VSP output shows total xylenes is not normally distributed, so it is appropriate to use non-parametric test measures to evaluate MTCA Method B criteria and whether the true mean is equal to or greater than the action level. The non-parametric UCL is 0.290511 ug/kg. This value is below the action level (16,000,000 ug/kg), so there is very strong evidence that the true mean is less than the action level (alpha 0.01). Thus, the first of three MTCA Method B closure criteria was met.

There are no laboratory results from the VSP-generated random samples (nor focused samples) that are above the closure performance standard. Thus, the remaining two MTCA Method B closure criteria were met.

The standard deviation for total xylenes (based on 8 observations) is 6.61% of the mean, within the allowable deviation of 45% in our model.

Total xylenes results support clean closure of FS-1 Outdoor Container Storage Area.

Toluene Laboratory Analysis

FS-1 Closure Plan performance standard for non-carcinogen – 6.40E+03 mg/kg (6.40E+06 ug/kg).

Current CLARC tables MTCA Method B non-carcinogen – 6.40E+03 mg/kg (6.40E+06 ug/kg); MTCA Method A unrestricted land use – 7.00E+00 mg/kg (7.00E+03 ug/kg).

Location	Result	Units	Qualifier
FS-1 Closure Plan non-cancer	6.40E+06	ug/kg	
CLARC Unrestricted Land Use	7.00E+03	ug/kg	
1-7	8.60E-01	ug/kg	J
1-17	6.85 E-01	ug/kg	J
Opt3	6.59 E-01	ug/kg	J
Opt4	6.59 E-01	ug/kg	J
1-16	6.16 E-01	ug/kg	J
1-18	6.00 E-01	ug/kg	J
Opt6	5.88 E-01	ug/kg	J
1-2	5.86 E-01	ug/kg	J
Opt2	5.65 E-01	ug/kg	J
1-9	5.37 E-01	ug/kg	J
1-5	5.23 E-01	ug/kg	J
Opt7	5.10 E-01	ug/kg	J
1-4	5.06 E-01	ug/kg	J
1-6	4.90 E-01	ug/kg	J
1-14	4.87 E-01	ug/kg	J
1-13 Dup	4.58 E-01	ug/kg	J
1-13	4.38 E-01	ug/kg	J
1-8	4.27 E-01	ug/kg	J
1-19	4.09 E-01	ug/kg	J
Opt5	4.04 E-01	ug/kg	J
1-12	3.82 E-01	ug/kg	J
1-10	3.38 E-01	ug/kg	J
1-20	3.10 E-01	ug/kg	J

Qualifier assigned during laboratory analysis ("J") indicates an estimated detected value less than the contract RDL, but greater than or equal to the IDL/MDL (as appropriate).

### Toluene VSP Analysis

Toluene

n = 20

# Detects = 16                      # Non-Detects = 4  
Min Detect = 0.31                      Min Non-Detect = 0.218  
Max Detect = 0.86                      Max Non-Detect = 0.464

Statistics based on Product Limit Estimator (Kaplan-Meier) method:

Mean = 0.47417	Percentiles:
Std Error of Mean = 0.033104	25% : 0.338
Median = 0.487	50% : 0.487
Inter-Quartile Range = 0.248	75% : 0.586

Toluene

Normal Distribution Test

Shapiro-Wilk                      Significance Level: 5%

Test Statistic: 0.97285                      The test suggests that the data may  
Shapiro-Wilk 5%                      be normally distributed with 95%  
Critical Value: 0.905                      confidence

Toluene

Upper Confidence Limit on Mean

UCL Confidence: 95 %

95% UCL on the Mean based on the t-distribution: 0.5322  
95% UCL on the Mean based on the Chebyshev inequality: 0.618464

One Sample Approximate t-Test

Mean: 0.474167  
Standard error of the mean: 0.0331042  
Action Level: 6.4e+006  
t-Statistic: -1.93329e+008  
p-Value: 0

Very strong evidence that the true mean is less than the action level  
(alpha=0.01).

VSP output shows toluene may be normally distributed. The mean for Toluene is 0.47417 ug/kg and the UCL is 0.5322 ug/kg. These value are well below the action level (6,400,000 ug/kg), so there is very strong evidence that the true mean is less than the action level (alpha 0.01). Thus the first of three MTCA Method B closure criteria was met.

There are no laboratory results from the VSP-generated random samples (nor focused samples) that are above the closure performance standard. Thus, the remaining two MTCA Method B closure criteria were met.

The standard deviation for toluene (based on 16 observations) is 27.93% of the mean, within the allowable deviation of 45% in our model.

Toluene results support clean closure of FS-1 Outdoor Container Storage Area.

Vanadium oxide (CAS 1314-62-1)

FS-1 Closure Plan Performance Standard for non-carcinogen – 7.20E+02 mg/kg (7.20E+05 ug/kg).  
 Current CLARC tables for MTCA Method B non-carcinogen – 7.2E+02 mg/kg (7.20E+05 ug/kg).

Results were reported for vanadium, CAS 7440-62-2, both for CHPRC and Ecology.  
 CLARC tables list MTCA Method B non-carcinogen for this analyte at 4.00E+02 mg/kg (4.00E+05 ug/kg).

Location	Result	Units	Qualifier
Vanadium oxide	7.20E+05	ug/kg	
Vanadium	4.00E+05	ug/kg	
Opt2	7.75E+04	ug/kg	
1-8	7.27E+04	ug/kg	
Opt3	7.13E+04	ug/kg	
1-12	7.12E+04	ug/kg	
1-15	7.03E+04	ug/kg	
Opt1	6.89E+04	ug/kg	
1-6	6.70E+04	ug/kg	
1-4	6.66E+04	ug/kg	
Opt5	6.64E+04	ug/kg	
Opt4	6.61E+04	ug/kg	
1-19	6.50E+04	ug/kg	
1-1	6.38E+04	ug/kg	
ECY-1-4 Ctrl	6.30E+04	ug/kg	
1-9	6.28E+04	ug/kg	
1-7	6.23E+04	ug/kg	
ECY-1-19 Ctrl	6.20E+04	ug/kg	
1-11	6.19E+04	ug/kg	
1-5	6.13E+04	ug/kg	
Opt6	5.95E+04	ug/kg	
1-10	5.95E+04	ug/kg	
1-3	5.75E+04	ug/kg	
1-2	5.70E+04	ug/kg	
1-13 Dup	5.66E+04	ug/kg	
1-13	5.53E+04	ug/kg	
1-17	5.51E+04	ug/kg	
1-18	5.26E+04	ug/kg	
Opt7	5.18E+04	ug/kg	
1-14	5.10E+04	ug/kg	
ECY-Opt-7 Ctrl	5.00E+04	ug/kg	
1-16	4.99E+04	ug/kg	
1-20	4.93E+04	ug/kg	

Vanadium VSP Results

Vanadium

n = 20

# Detects = 20                      # Non-Detects = 0

Min Detect = 49300                  Min Non-Detect = N/A

Max Detect = 72700                  Max Non-Detect = N/A

Statistics based on Product Limit Estimator (Kaplan-Meier) method:

Mean = 60605	Percentiles:
Std Error of Mean = 1581	25% : 55300
Median = 61900	50% : 61900
Inter-Quartile Range = 11300	75% : 66600

Vanadium

Normal Distribution Test

Shapiro-Wilk                      Significance Level: 5%

Test Statistic: 0.9663

Shapiro-Wilk 5%                  The test suggests that the data may  
Critical Value: 0.905              be normally distributed with 95%  
confidence

Vanadium

Upper Confidence Limit on Mean

UCL Confidence: 95 %

95% UCL on the Mean based on the t-distribution: 63338.7

95% UCL on the Mean based on the Chebyshev inequality: 67496.3

One Sample Approximate t-Test

Mean: 60605

Standard error of the mean: 1580.96

Action Level: 400000

t-Statistic: -214.676

p-Value: 0

Very strong evidence that the true mean is less than the action level  
(alpha=0.01).

VSP output shows vanadium may be normally distributed. The mean for vanadium is 60,605 ug/kg and the UCL is 63,338.7 ug/kg. These value are well below the action level (400,000 ug/kg), so there is very strong evidence that the true mean is less than the action level (alpha 0.01). Thus the first of three MTCA Method B closure criteria was met.

There are no laboratory results from the VSP-generated random samples (nor focused samples nor Ecology check samples) that are above the closure performance standard. Thus, the remaining two MTCA Method B closure criteria were met.

The standard deviation for vanadium is 11.67% of the mean, within the allowable deviation of 45% in our model.

Vanadium results support clean closure of FS-1 Outdoor Container Storage Area.

ATTACHMENT 2

CHPRC-1505000, Rev. 0  
CONTRACT NUMBER DE-AC06-08RL14788

**SUMMARY OF FS-1 OUTDOOR CONTAINER STORAGE AREA SOIL SAMPLE  
ANALYTICAL RESULTS TO SUPPORT RCRA CLEAN CLOSURE**

Consisting of 2 pages,  
including this cover page

## SUMMARY OF FS-1 OUTDOOR CONTAINER STORAGE AREA SOIL SAMPLE ANALYTICAL RESULTS TO SUPPORT RCRA CLEAN CLOSURE

Consisting of a DVD containing the following deliverables:

### Field Documents

- FS-1\_Sample\_Location\_Survey\_Report\_SR-15-156
- Field Log Book HNF-N-31\_(Day\_1\_Logbook\_-\_)[1508110052]
- Field Log Book HNF-N-31\_(Day\_2\_Logbook\_-\_)[1508110053]
- FS-1\_Sampling\_Traveler-15-136
- Rad\_Survey\_Rpt\_2012-03-28

### Laboratory results [listed by sample delivery group (SDG)]

- CHPRC\_GEL\_REST\_SDG378728
  - Semivolatile Analysis (1,2-dichlorobenzene, total cresols, nitrobenzene, pentachlorophenol, pyridine)
  - FID Alcohols Analysis (methanol)
  - PCB Analysis (aroclors)
  - Metals Analysis (barium, cadmium, lead, mercury silver, vanadium)
  - Cyanide
  - Chromium (hexavalent)
- CHPRC\_GEL\_VOC\_SDG378840\_Rev1-mini.pdf and SDG3789560
  - Volatile Organics (1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,4-dioxane, 2-butanone, 2-nitropropane, 4-methyl-2-pentanone, acetone, benzene, carbon disulfide, carbon tetrachloride, chlorobenzene, cyclohexanone, ethyl acetate, ethyl ether, ethylbenzene, isobutyl alcohol, methyl methacrylate, methylene chloride, tetrachloroethylene, toluene, trichloroethylene, trichlorotrifluoroethane, xylenes (total), n-butyl alcohol)
- CHPRC\_SWRI\_Formic\_Acid\_SDG579671 and SDG579621
  - Formic Acid (analyzed as formate, converted to formic Acid)
- Data Validation Report
- Results\_Summary\_ECY\_combined (Excel spreadsheet)

### Deviations:

- CHPRC-1503561\_Memo\_FS-1\_Deviation\_Field\_Sample\_Location
- CHPRC-1504284\_Memo\_FS-1\_Deviation\_Analyte\_Eliminated
- CHPRC-1504953\_Memo\_FS-1\_Deviation\_Vanadium\_Oxide

### Photos

- 37 photos of field sampling

Ecology Replicate Sample for FS-1 Sample FS-1-4

Analyte	CAS Number	Analytical Method (SW-846)	Actual Method (SW-846)	Closure Performance Standard <sup>a</sup> (mg/kg)		Actual Result (mg/kg)	Qualifier <sup>e</sup>	Practical Quantitation Limit <sup>d</sup> (mg/kg)	Actual PQL (mg/kg)	Accuracy Req't (% Recovery <sup>b</sup> )	Actual Accuracy (% recovery)	Precision Req't (Relative Percent Difference) <sup>b</sup>	Actual Precision (RPD)
				Carcinogen	Non-carcinogen								
Barium	7440-39-3	6010	6010B	N/A	16,000	94	-	2		±30	99	≤30	
Cadmium	7440-43-9	6010	6010B	N/A	80	0.49	-	0.5		±30	100	≤30	
Chromium (Hexavalent)	18540-29-9	7196	7196A	N/A	240	2.0	U	1		±30		≤30	
Lead	7439-92-1	6010	6010B	N/A	250	4.7	-	5		±30	100	≤30	
Mercury	7439-97-6	7471 or 200.8	7471A/ SOP 812	N/A	24	0.031	U	0.2		±30		≤30	
Silver	7440-22-4	6010	6010B	N/A	400	0.99	U	1		±30	102	≤30	
Benzene	71-43-2	8260		18.2	320			0.005		±30		≤30	
Carbon Tetrachloride	56-23-5	8260		14.3	320			0.005		±30		≤30	
<i>m</i> -cresol	108-39-4	8270	3540C/ 8270	N/A	4,000	340	U	0.66		±30		≤30	
<i>o</i> -cresol	95-48-7	8270	3540C/ 8270	N/A	4,000	340	U	0.33		±30		≤30	
<i>p</i> -cresol	106-44-5	8270		N/A	400			0.33		±30		≤30	
Methyl Ethyl Ketone (2- Butanone)	78-93-3	8260		N/A	48,000			0.01		±30		≤30	
Benzene, Nitro	98-95-3	SW-846 Method 8270	3540C/ 8270	N/A	160	340	U	0.33		±30		≤30	
Pentachlorophenol	87-86-5	8260	3540C/ 8270	8.33	2,400	680	U	0.33		±30		≤30	
Pyridine	110-86-1	8260	3540C/ 8270	N/A	80	340	U	0.005		±30		≤30	
Trichloroethylene	79-01-6	8260		21.7	40			0.005		±30		≤30	
1,1,1-Trichloroethane	71-55-6	8260		N/A	165,000			0.005		±30		≤30	
Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane)	76-13-1	8260		N/A	2,400,000			0.01		±30		≤30	
Methylene Chloride	75-09-2	8260		133	4,800			0.005		±30		≤30	
Tetrachloroethylene	127-18-4	8260		1.85	800			0.005		±30		≤30	
Chlorobenzene	108-90-7	8260		N/A	1,600			0.005		±30		≤30	
Ortho-dichlorobenzene	95-50-1	8270	3540C/ 8270	N/A	7,200	340	U	0.33		±30		≤30	
1,1,2-trichloroethane	79-00-5	8260		17.5	320			0.005		±30		≤30	
Acetone	67-64-1	8260		N/A	72,000			0.02		±30		≤30	
N-butyl alcohol (1-Butanol)	71-36-3	8260		N/A	8,000			0.1		±30		≤30	
Cyclohexanone	108-94-1	8270		N/A	400,000			200		±30		≤30	
Ethyl Acetate	141-78-6	8015		N/A	72,000			5		±30		≤30	
Ethyl Benzene	100-41-4	8260		N/A	8,000			0.005		±30		≤30	
Ethyl Ether	60-29-7	8260		N/A	16,000			0.005		±30		≤30	
Methanol	67-56-1	8260		N/A	40,000			1		±30		≤30	
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	8260		N/A	6,400			0.01		±30		≤30	
<i>m</i> -Xylene	108-38-3	8260		N/A	16,000			0.005		±30		≤30	
<i>o</i> -Xylene	95-47-6	8260		N/A	16,000			0.005		±30		≤30	
<i>p</i> -Xylene	106-42-3	8260		N/A	16,000			0.005		±30		≤30	
2-Nitropropane	79-46-9	8260		0.105	N/A			1		±30		≤30	
Carbon Disulfide	75-15-0	8260		N/A	8,000			0.005		±30		≤30	
Isobutanol	78-83-1	8260		N/A	24,000			0.5		±30		≤30	
2-Ethoxyethanol	110-80-5	8270		N/A	32,000			200		±30		≤30	
Toluene	108-88-3	8260		N/A	6,400			0.005		±30		≤30	
1,4-Diethyleneoxide (1,4-Dioxane)	123-91-1	8260		10	2,400			0.5		±30		≤30	

Formic Acid (U123)	64-18-6	Modified 9056A or Modified 300.0		N/A	160,000			NA		±20		≤35	
Hydrazine (U133)*	302-01-2	8260	-	0.333	N/A	-	-	NA	-	±30	-	≤30	-
Methyl Methacrylate (I,T) (U162)	80-62-6	8260		N/A	112,000			0.01		±30		≤30	
Cyanide	57-12-5	9010/9012 / 9013/9014	9014	N/A	48	0.49	U	0.5		±30	99-100	≤30	1
Vanadium	1314-62-1	6010/200.8	6010B	N/A	720	63	-	NA		±30	97	≤30	
Polychlorinated Biphenyl	1336-36-3	8082	3540C/ 8082	0.5	1.6	275	U	0.16		±30	102-105	≤30	

Source: SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*.

a. Closure performance standards are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to WAC 173-340, "Model Toxics Control Act—Cleanup," regulations (WAC 173-340-740, "Unrestricted Land Use Soil Cleanup Standards," WAC 173-340-747, "Deriving Soil Concentrations for Groundwater Protection," and WAC 173-340-7490, "Terrestrial Ecological Evaluation Procedures," through WAC 173-340-7494, "Priority Contaminants of Ecological Concern"). These numeric cleanup levels will be calculated according to WAC 173-340 Method B (unrestricted use standards). Where both carcinogen and a noncarcinogen performance standards are available, the lowest value will be used.

b. Accuracy criteria for associated batch matrix spike percent recoveries. Evaluation based on statistical control of laboratory control samples is also performed. Precision criteria for batch laboratory replicate matrix spike analyses or replicate sample analyses.

c. Due to the reactive and volatile nature of hydrazine, quantitation is difficult and its presence in soil samples from waste stored in 2008 is unlikely; therefore, samples will not be analyzed for hydrazine.

d. For these analytical performance requirements, the required detection limit and practical quantitation limit are identical.

N/A = not applicable

NA = not available

\* Qualifier = "-" means no qualifier assigned by laboratory.

Ecology Replicate Sample for FS-1 Sample FS-1-19

Analyte	CAS Number	Analytical Method (SW-846)	Actual Method (SW-846)	Closure Performance Standard <sup>a</sup> (mg/kg)		Actual Result (mg/kg)	Qualifier	Practical Quantitation Limit <sup>d</sup> (mg/kg)	Actual PQL (mg/kg)	Accuracy Req't (% Recovery) <sup>b</sup>	Actual Accuracy (% recovery)	Precision Req't (Relative Percent Difference) <sup>b</sup>	Actual Precision (RPD)
				Carcinogen	Non-carcinogen								
Barium	7440-39-3	6010	6010B	N/A	16,000	69	-	2		±30		≤30	
Cadmium	7440-43-9	6010	6010B	N/A	80	0.47	U	0.5		±30		≤30	
Chromium (Hexavalent)	18540-29-9	7196	7196A	N/A	240	2.0	U	1		±30		≤30	
Lead	7439-92-1	6010	6010B	N/A	250	7.1	-	5		±30		≤30	
Mercury	7439-97-6	7471 or 200.8	7471A/SOP 812	N/A	24	0.032	U	0.2		±30		≤30	
Silver	7440-22-4	6010	6010B	N/A	400	0.94	U	1		±30		≤30	
Benzene	71-43-2	8260		18.2	320			0.005		±30		≤30	
Carbon Tetrachloride	56-23-5	8260		14.3	320			0.005		±30		≤30	
<i>m</i> -cresol	108-39-4	8270	3540C/8270	N/A	4,000	340	U	0.66		±30		≤30	
<i>o</i> -cresol	95-48-7	8270	3540C/8270	N/A	4,000	340	U	0.33		±30		≤30	
<i>p</i> -cresol	106-44-5	8270		N/A	400			0.33		±30		≤30	
Methyl Ethyl Ketone (2-Butanone)	78-93-3	8260		N/A	48,000			0.01		±30		≤30	
Benzene, Nitro	98-95-3	SW-846 Method 8270	3540C/8270	N/A	160	340	U	0.33		±30		≤30	
Pentachlorophenol	87-86-5	8260	3540C/8270	8.33	2,400	680	U	0.33		±30		≤30	
Pyridine	110-86-1	8260	3540C/8270	N/A	80	340	U	0.005		±30		≤30	
Trichloroethylene	79-01-6	8260		21.7	40			0.005		±30		≤30	
1,1,1-Trichloroethane	71-55-6	8260		N/A	165,000			0.005		±30		≤30	
Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane)	76-13-1	8260		N/A	2,400,000			0.01		±30		≤30	
Methylene Chloride	75-09-2	8260		133	4,800			0.005		±30		≤30	
Tetrachloroethylene	127-18-4	8260		1.85	800			0.005		±30		≤30	
Chlorobenzene	108-90-7	8260		N/A	1,600			0.005		±30		≤30	
Ortho-dichlorobenzene	95-50-1	8270	3540C/8270	N/A	7,200	340	U	0.33		±30		≤30	
1,1,2-trichloroethane	79-00-5	8260		17.5	320			0.005		±30		≤30	
Acetone	67-64-1	8260		N/A	72,000			0.02		±30		≤30	
N-butyl alcohol (1-Butanol)	71-36-3	8260		N/A	8,000			0.1		±30		≤30	
Cyclohexanone	108-94-1	8270		N/A	400,000			200		±30		≤30	
Ethyl Acetate	141-78-6	8015		N/A	72,000			5		±30		≤30	
Ethyl Benzene	100-41-4	8260		N/A	8,000			0.005		±30		≤30	
Ethyl Ether	60-29-7	8260		N/A	16,000			0.005		±30		≤30	
Methanol	67-56-1	8260		N/A	40,000			1		±30		≤30	
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	8260		N/A	6,400			0.01		±30		≤30	
<i>m</i> -Xylene	108-38-3	8260		N/A	16,000			0.005		±30		≤30	
<i>o</i> -Xylene	95-47-6	8260		N/A	16,000			0.005		±30		≤30	
<i>p</i> -Xylene	106-42-3	8260		N/A	16,000			0.005		±30		≤30	
2-Nitropropane	79-46-9	8260		0.105	N/A			1		±30		≤30	
Carbon Disulfide	75-15-0	8260		N/A	8,000			0.005		±30		≤30	
Isobutanol	78-83-1	8260		N/A	24,000			0.5		±30		≤30	
2-Ethoxyethanol	110-80-5	8270		N/A	32,000			200		±30		≤30	
Toluene	108-88-3	8260		N/A	6,400			0.005		±30		≤30	

1,4-Diethyleneoxide (1,4-Dioxane)	123-91-1	8260		10	2,400			0.5		±30		≤30	
Formic Acid (U123)	64-18-6	Modified 9056A or Modified 300.0		N/A	160,000			NA		±20		≤35	
Hydrazine (U133) <sup>c</sup>	302-01-2	8260	-	0.333	N/A	-	-	NA	-	±30	-	≤30	-
Methyl Methacrylate (I,T) (U162)	80-62-6	8260		N/A	112,000			0.01		±30		≤30	
Cyanide	57-12-5	9010/9012 / 9013/9014	9014	N/A	48	0.49	U	0.5		±30	99-100	≤30	1
Vanadium	1314-62-1	6010/200.8	6010B	N/A	720	1.9	-	NA		±30		≤30	
Polychlorinated Biphenyl	1336-36-3	8082	3540C/ 8082	0.5	1.6	272	U	0.16		±30	105-109	≤30	

Source: SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*.

a. Closure performance standards are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to WAC 173-340, "Model Toxics Control Act—Cleanup," regulations (WAC 173-340-740, "Unrestricted Land Use Soil Cleanup Standards," WAC 173-340-747, "Deriving Soil Concentrations for Groundwater Protection," and WAC 173-340-7490, "Terrestrial Ecological Evaluation Procedures," through WAC 173-340-7494, "Priority Contaminants of Ecological Concern"). These numeric cleanup levels will be calculated according to WAC 173-340 Method B (unrestricted use standards). Where both carcinogen and a noncarcinogen performance standards are available, the lowest value will be used.

b. Accuracy criteria for associated batch matrix spike percent recoveries. Evaluation based on statistical control of laboratory control samples is also performed. Precision criteria for batch laboratory replicate matrix spike analyses or replicate sample analyses.

c. Due to the reactive and volatile nature of hydrazine, quantitation is difficult and its presence in soil samples from waste stored in 2008 is unlikely; therefore, samples will not be analyzed for hydrazine.

d. For these analytical performance requirements, the required detection limit and practical quantitation limit are identical.

N/A = not applicable

NA = not available

\* Qualifier = "-" means no qualifier assigned by laboratory.

Ecology Replicate Sample for FS-1 Sample FS-1-Option-7

Analyte	CAS Number	Analytical Method (SW-846)	ECY Method (SW-846)	Closure Performance Standard <sup>a</sup> (mg/kg)		ECY Result (mg/kg)	Qualifier	Practical Quantitation Limit <sup>d</sup> (mg/kg)	Accuracy Req't (% Recovery <sup>b</sup> )	Precision Req't (Relative Percent Difference) <sup>b</sup>
				Carcinogen	Non-carcinogen					
Barium	7440-39-3	6010	6010B	N/A	16,000	96	-	2	±30	≤30
Cadmium	7440-43-9	6010	6010B	N/A	80	0.52	U	0.5	±30	≤30
Chromium (Hexavalent)	18540-29-9	7196	7196A	N/A	240	2.2	U	1	±30	≤30
Lead	7439-92-1	6010	6010B	N/A	250	9.7	-	5	±30	≤30
Mercury	7439-97-6	7471 or 200.8	7471A/SOP 812	N/A	24	0.033	U	0.2	±30	≤30
Silver	7440-22-4	6010	6010B	N/A	400	1	U	1	±30	≤30
Benzene	71-43-2	8260		18.2	320			0.005	±30	≤30
Carbon Tetrachloride	56-23-5	8260		14.3	320			0.005	±30	≤30
<i>m</i> -cresol	108-39-4	8270	3540C/8270	N/A	4,000	360	U	0.66	±30	≤30
<i>o</i> -cresol	95-48-7	8270	3540C/8270	N/A	4,000	360	U	0.33	±30	≤30
<i>p</i> -cresol	106-44-5	8270		N/A	400			0.33	±30	≤30
Methyl Ethyl Ketone (2- Butanone)	78-93-3	8260		N/A	48,000			0.01	±30	≤30
Benzene, Nitro	98-95-3	SW-846 Method 8270	3540C/8270	N/A	160	360	U	0.33	±30	≤30
Pentachlorophenol	87-86-5	8260	3540C/8270	8.33	2,400	720	U	0.33	±30	≤30
Pyridine	110-86-1	8260	3540C/8270	N/A	80	360	U	0.005	±30	≤30
Trichloroethylene	79-01-6	8260		21.7	40			0.005	±30	≤30
1,1,1-Trichloroethane	71-55-6	8260		N/A	165,000			0.005	±30	≤30
Chlorinated fluorocarbons (1,1,2-Trichloro-1,2,2-trifluoroethane)	76-13-1	8260		N/A	2,400,000			0.01	±30	≤30
Methylene Chloride	75-09-2	8260		133	4,800			0.005	±30	≤30
Tetrachloroethylene	127-18-4	8260		1.85	800			0.005	±30	≤30
Chlorobenzene	108-90-7	8260		N/A	1,600			0.005	±30	≤30
Ortho-dichlorobenzene	95-50-1	8270	3540C/8270	N/A	7,200	360	U	0.33	±30	≤30
1,1,2-trichloroethane	79-00-5	8260		17.5	320			0.005	±30	≤30
Acetone	67-64-1	8260		N/A	72,000			0.02	±30	≤30
N-butyl alcohol (1-Butanol)	71-36-3	8260		N/A	8,000			0.1	±30	≤30
Cyclohexanone	108-94-1	8270		N/A	400,000			200	±30	≤30
Ethyl Acetate	141-78-6	8015		N/A	72,000			5	±30	≤30
Ethyl Benzene	100-41-4	8260		N/A	8,000			0.005	±30	≤30
Ethyl Ether	60-29-7	8260		N/A	16,000			0.005	±30	≤30

Methanol	67-56-1	8260		N/A	40,000			1	±30	≤30
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	108-10-1	8260		N/A	6,400			0.01	±30	≤30
<i>m</i> -Xylene	108-38-3	8260		N/A	16,000			0.005	±30	≤30
<i>o</i> -Xylene	95-47-6	8260		N/A	16,000			0.005	±30	≤30
<i>p</i> -Xylene	106-42-3	8260		N/A	16,000			0.005	±30	≤30
2-Nitropropane	79-46-9	8260		0.105	N/A			1	±30	≤30
Carbon Disulfide	75-15-0	8260		N/A	8,000			0.005	±30	≤30
Isobutanol	78-83-1	8260		N/A	24,000			0.5	±30	≤30
2-Ethoxyethanol	110-80-5	8270		N/A	32,000			200	±30	≤30
Toluene	108-88-3	8260		N/A	6,400			0.005	±30	≤30
1,4-Diethyleneoxide (1,4-Dioxane)	123-91-1	8260		10	2,400			0.5	±30	≤30
Formic Acid (U123)	64-18-6	Modified 9056A or Modified 300.0		N/A	160,000			NA	±20	≤35
Hydrazine (U133) <sup>c</sup>	302-01-2	8260	-	0.333	N/A	-	-	NA	±30	≤30
Methyl Methacrylate (I,T) (U162)	80-62-6	8260		N/A	112,000			0.01	±30	≤30
Cyanide	57-12-5	9010/9012/9013/9014	9014	N/A	48	0.54	U	0.5	±30	≤30
Vanadium	1314-62-1	6010/200.8	6010B	N/A	720	50	-	NA	±30	≤30
Polychlorinated Biphenyl	1336-36-3	8082	3540C/8082	0.5	1.6	288	U	0.16	±30	≤30

Source: SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, Third Edition; Final Update IV-B*.

a. Closure performance standards are the numeric cleanup levels calculated using unrestricted use exposure assumptions according to WAC 173-340, "Model Toxics Control Act—Cleanup," regulations (WAC 173-340-740, "Unrestricted Land Use Soil Cleanup Standards," WAC 173-340-747, "Deriving Soil Concentrations for Groundwater Protection," and WAC 173-340-7490, "Terrestrial Ecological Evaluation Procedures," through WAC 173-340-7494, "Priority Contaminants of Ecological Concern"). These numeric cleanup levels will be calculated according to WAC 173-340 Method B (unrestricted use standards). Where both carcinogen and a noncarcinogen performance standards are available, the lowest value will be used.

b. Accuracy criteria for associated batch matrix spike percent recoveries. Evaluation based on statistical control of laboratory control samples is also performed. Precision criteria for batch laboratory replicate matrix spike analyses or replicate sample analyses.

c. Due to the reactive and volatile nature of hydrazine, quantitation is difficult and its presence in soil samples from waste stored in 2008 is unlikely; therefore, sample

d. For these analytical performance requirements, the required detection limit and practical quantitation limit are identical.

N/A = not applicable

NA = not available

\* Qualifier = "-" means no qualifier assigned by laboratory.

**INTEROFFICE MEMORANDUM**

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CHPRC-1600338, Revision 0

**Date:** January 13, 2016  
**To:** S. K. Johansen, Environmental Director  
**From:** V. L. Harter, Environmental Project Manager  
**Subject:** FS-1 OUTDOOR CONTAINER STORAGE AREA REVISED BARIUM RESULTS FOR SOIL SAMPLES ANALYZED TO SUPPORT RCRA CLEAN CLOSURE

**1. Sampling of the FS-1 Outdoor Container Storage Area:**

Soil samples were collected from the low-level burial ground trenches 31-34-94 Operating Unit Group FS-1 Outdoor Container Storage Area dangerous waste management unit (DWMU) (hereinafter FS-1) on August 5<sup>th</sup> and 6<sup>th</sup>, 2015. Twenty-eight soil samples were collected (20 random samples, one duplicate, and seven focused samples), along with three soil samples collected by the Washington Department of Ecology (hereinafter Ecology) for independent analysis.

**2. Revision of Barium Laboratory Results:**

A summary of all sample results was provided in CHPRC Memorandum 1505000, Rev. 0, dated October 20, 2015. In that memo, all laboratory analytical results were provided in Attachment 2 (DVD of deliverables). Barium results were contained in sample delivery group (SDG) CHPRC\_GEL\_REST\_SDG378728. In that initial SDG, barium results were assigned “N” qualifiers by the laboratory indicating spike sample recovery was outside of control limits.

A revised SDG was subsequently issued by the analytical laboratory on December 22, 2015, entitled GEL378728\_Rev3-mini (see Attachment 2 - DVD). In that revised SDG, the “N” qualifiers were removed from 20 samples: 1-1 to 1-14 (including the duplicate sample at 1-13); 1-17 to 1-20; and optional sample number seven (Opt7). Of the eight samples that retained the “N” qualifier, six were optional samples that are not included in the statistical evaluation. Two sample results from sample location 1-15 and 1-16 have the “N” qualifier and factor into the statistical evaluation.

In the revised SDG, pages four and five include an explanation of the discrepancy and re-submittal of results. Pages 186-205 contain the revised results for barium samples. The revised SDG is attached in its entirety, including the original PCB, semivolatile, methanol, cyanide, and chromium sample results.

**3. Summary of Barium Laboratory Results:**

A list of barium laboratory results are provided in the table summary (Attachment 1), including results from the Ecology analyses. Analytical results are listed in descending value, and the top of the table lists the FS-1 Closure Plan cleanup standard. This comparison of results found that barium in soil from FS-1 was detected below clean closure standards.

Regulatory action levels (clean closure standards) listed in the CLARC tables and the FS-1 Closure Plan are listed in units of milligrams per kilograms (mg/kg). Analytical results listed in the laboratory sample delivery groups were in units of micrograms per kilograms (ug/kg). All action levels have been converted to ug/kg to be consistent with analytical results.

The standard deviation was calculated using the standard error multiplied by the square root of the number of observations (20 samples). The calculated standard deviation was compared to the allowed standard deviation in our VSP model of 45% of the mean. For example, the standard error for barium is 3208.56 ug/kg. To calculate the standard deviation, this value is multiplied by the square root of 20 (4.472). The result is the standard deviation of the barium population, 14,349.12 ug/kg. To compare this to the visual sample plan model of 45% standard deviation, we normalize by dividing by the mean of the barium population, 85070 ug/kg. The result of this calculation is 16.87% standard deviation. This is below the assumed 45% ( $s = \text{std. dev.} = 0.45$ ) in the FS-1 Closure Plan Attachment H-A.b.

#### **4. Evaluation of Model Toxics Control Act – Cleanup Method B (MTCA-B) Cleanup Standards**

According to the FS-1 Closure Plan, clean-closure evaluations must comply with MTCA Method B cleanup standards. The decision rule for demonstrating compliance has three parts (see Section H-A3.9.5 of the Closure Plan):

- The 95 percent (%) upper confidence limit (UCL) on the true data mean must be less than the MTCA (WAC 173-340) Method B clean closure level.
- No sample concentration can be more than twice the cleanup level.
- Less than 10% of the samples can exceed the cleanup level.

Following the barium results summary section in Attachment 1, there is a discussion of how these criteria were met. There was no change to the conclusions from the initial assessment.

#### **5. Visual Sample Plan (VSP) Evaluation of Data:**

Revised barium data were re-entered into VSP and data evaluations are shown in Attachment 1. Considering the revised qualifiers, there was no change to the conclusions.

#### **6. Conclusion of FS-1 Outdoor Storage Area Clean Closure Evaluations:**

Given the values of detects in our sample set and utilizing the VSP software to evaluate the 95% UCL for each analyte ( $\alpha 0.01$ ), the null hypothesis that the populations mean was above the clean closure level was rejected. This meets part one of MTCA-B cleanup standards.

Barium was not found in any soil sample above the clean closure standard. This includes focused samples that were not part of the statistical analyses but were used for comparison to the respective action levels. This meets the second and third part of MTCA-B cleanup standards.

The re-evaluations of barium summary reveals the same conclusion as expressed in the initial analytical results summary.

**7. Other Information**

During the update of barium qualifiers, it was noted that the original barium summary table in Attachment 1 and Excel file (Results\_Summary\_ECY\_combined) in Attachment 2 included “J” qualifiers for barium, instead of “N” qualifiers. This has been corrected in this reissuance of barium results.

**8. Documentation of FS-1 Outdoor Storage Area Clean Closure Activities:**

The revised SDG is provided in Attachment 2 to complete the operating record for these activities.

vlh/kag

Attachments 2

cc: CHPRC Correspondence Control  
WSS Records (LLBG Trenches 31-34-94 Operating Record)  
T. J. Oliver, AKANA  
S. R. Horn, CHPRC  
D. Todak, CHPRC

ATTACHMENT 1

CHPRC-1600338, REV. 0  
CONTRACT NUMBER DE-AC06-088RL14788

**FS-1 OUTDOOR CONTAINER STORAGE AREA REVISED BARIUM RESULTS  
FOR SOIL SAMPLES ANALYZED TO SUPPORT RCRA CLEAN CLOSURE**

Consisting of 4 pages,  
including this cover page

CHPRC-02808

## **FS-1 OUTDOOR CONTAINER STORAGE AREA REVISED BARIUM RESULTS FOR SOIL SAMPLES ANALYZED TO SUPPORT RCRA CLEAN CLOSURE**

### **EVALUATION OF MODEL TOXICS CONTROL ACT – CLEANUP (WAC 173-340) METHOD B CRITERIA**

The summary table below shows barium laboratory data relating to FS-1 soil sample analysis. The summary table includes 20 randomly-selected grid samples (1-1 to 1-20), the duplicate (1-13), seven optional samples (Opt1 to Opt7), and three Ecology check samples.

The table shows detected analytical results in order of descending value. The top line lists the FS-1 Closure Plan cleanup standard for barium which is based on the action level listed in the CLARC tables (dated May 2014) based on the MTCA (WAC 173-340) Method B non-carcinogenic soil closure performance standard for unrestricted land use.

According to the FS-1 Closure Plan, clean closure evaluations must comply with MTCA Method B cleanup standards. The decision rule for demonstrating has three parts (see Section H-A3.9.5 of the Closure Plan):

- The 95% UCL on the true data mean must be less than the MTCA (WAC 173-340) Method B clean closure level.
- No sample concentration can be more than twice the cleanup level.
- Less than 10% of the samples can exceed the cleanup level.

After the barium summary, there is a discussion of how these criteria were met. The change of qualifier for selected barium results did not impact the VSP statistical evaluation. Conclusions made are the same as in the original memo reporting FS-1 Outdoor Storage Area results.

Regulatory action levels listed in the CLARC tables and the FS-1 Closure Plan are listed in units of mg/kg. Analytical results listed in the laboratory sample delivery groups were in units of ug/kg. All action levels have been converted to ug/kg to be consistent with analytical results.

The standard deviation was calculated using the standard error multiplied by the square root of the number of observations (20 samples). The calculated standard deviation was compared to the allowed standard deviation in our VSP model of 45% of the mean.

Barium Laboratory Results

FS-1 Closure Plan closure performance standard for non-carcinogen – 1.60E+04 mg/kg (1.60E+07 ug/kg).

Current CLARC tables MTCA Method B for non-carcinogen –1.60E+04 mg/kg (1.60E+07 ug/kg).

Location	Result	Units	Qualifier
FS-1 Closure Plan Action Level	1.60E+07	ug/kg	
1-12	1.32E+05	ug/kg	
1-4	1.07E+05	ug/kg	
Opt2	9.91E+04	ug/kg	N
ECY Opt7 Ctrl	9.60E+04	ug/kg	
Opt6	9.46E+04	ug/kg	N
1-16	9.44E+04	ug/kg	N
ECY 1-4 Ctrl	9.40E+04	ug/kg	
1-18	9.30E+04	ug/kg	
1-3	9.10E+04	ug/kg	
1-8	9.08E+04	ug/kg	
Opt5	9.08E+04	ug/kg	N
1-1	8.84E+04	ug/kg	
Opt7	8.84E+04	ug/kg	N
1-20	8.59E+04	ug/kg	
1-13 Dup	8.31E+04	ug/kg	
Opt1	8.22E+04	ug/kg	N
1-13	8.18E+04	ug/kg	
Opt3	8.13E+04	ug/kg	N
1-14	8.11E+04	ug/kg	
Opt4	8.09E+04	ug/kg	N
1-15	8.06E+04	ug/kg	N
1-10	7.99E+04	ug/kg	
1-9	7.98E+04	ug/kg	
1-17	7.88E+04	ug/kg	
1-11	7.72E+04	ug/kg	
1-6	7.62E+04	ug/kg	
1-5	7.51E+04	ug/kg	
1-7	7.44E+04	ug/kg	
1-2	7.25E+04	ug/kg	
ECY 1-19 Ctrl	6.90E+04	ug/kg	
1-19	6.62E+04	ug/kg	

Qualifier assigned during laboratory analysis (“N”) indicates that the spike sample recovery is outside control limits.

### Barium Visual Sample Plan (VSP) Analysis

Barium

n = 20

# Detects = 20      # Non-Detects = 0  
Min Detect = 66200      Min Non-Detect = N/A  
Max Detect = 1.32e+005      Max Non-Detect = N/A

Statistics based on Product Limit Estimator (Kaplan-Meier) method:

Mean = 85070	Percentiles:
Std Error of Mean = 3208.6	25% : 77200
Median = 81100	50% : 81100
Inter-Quartile Range = 13800	75% : 91000

Barium

Normal Distribution Test

Shapiro-Wilk Test Statistic: 0.81552      Significance Level: 5%

Shapiro-Wilk 5% Critical Value: 0.905

Data are sufficient to conclude with 95% confidence that the data are not normally distributed

Barium

Upper Confidence Limit on Mean

UCL Confidence: 95 %

95% UCL on the Mean based on the t-distribution: 90618  
95% UCL on the Mean based on the Chebyshev inequality: 99055.8

One Sample Approximate t-Test

Mean: 85070  
Standard error of the mean: 3208.56  
Action Level: 1.6e+007  
t-Statistic: -4960.15  
p-Value: 0

Very strong evidence that the true mean is less than the action level (alpha=0.01).

VSP output shows barium is not normally distributed, so it is appropriate to use non-parametric test measures to evaluate MTCA Method B criteria and whether the true mean is equal to or greater than the action level. The non-parametric UCL is 90,618 ug/kg. This value is below the action level (16,000,000 ug/kg), so there is very strong evidence that the true mean is less than the action level (alpha 0.01). Thus, the first of three MTCA Method B closure criteria was met.

There are no laboratory results from the VSP-generated random samples (nor focused samples nor Ecology check samples) that are above the closure performance standard. Thus, the remaining two MTCA Method B closure criteria were met.

The standard deviation for barium is 16.867% of the mean, within the allowable deviation of 45% in our model.

Barium results support clean closure of FS-1 Outdoor Container Storage Area.

ATTACHMENT 2

CHPRC-1600338, Rev. 0  
CONTRACT NUMBER DE-AC06-088RL14788

**SUMMARY OF FS-1 OUTDOOR CONTAINER STORAGE AREA SOIL SAMPLE  
ANALYTICAL RESULTS TO SUPPORT RCRA CLEAN CLOSURE**

Consisting of 2 pages,  
including this cover page

## **SUMMARY OF FS-1 OUTDOOR CONTAINER STORAGE AREA SOIL SAMPLE ANALYTICAL RESULTS TO SUPPORT RCRA CLEAN CLOSURE**

**Consisting of a DVD containing the following deliverables:**

### Laboratory results

- GEL378728\_Rev3-mini.pdf
  - Semivolatile Analysis (1,2-dichlorobenzene, total cresols, nitrobenzene, pentachlorophenol, pyridine)
  - FID Alcohols Annalysis (methanol)
  - PCB Analysis (aroclors)
  - Metals Analysis (barium, [**REVISED**] cadmium, lead, mercury, silver, vanadium)
  - Cyanide
  - Chromium (hexavalent)
- Results\_Summary\_ECY\_combined (Excel spreadsheet)

NOTE: SDG pages impacted by the revised barium results are page four and five (explanation of the discrepancy and re-submittal of result), and pages 186 to 205 (laboratory results for metals).

**ATTACHMENT C**  
**FS-1 CLOSURE DEVIATION MEMOS**  
**(Six Pages)**

**INTEROFFICE MEMORANDUM**

CHPRC-1503561

**Date:** August 12, 2015  
**To:** S. K. Johansen, Environmental Manager  
**From:** V. L. Harter, Environmental Project *VLHarter*  
**Subject:** TRANSMITTAL OF MINOR DEVIATIONS FROM FS-1 OUTDOOR  
CONTAINER STORAGE AREA CLOSURE PLAN

This memo discusses minor deviations from the closure plan associated with the low-level burial ground Trenches 31-34-94 Operating Unit Group FS-1 Outdoor Container Storage Area dangerous waste management unit (DWMU) (hereinafter FS-1). The minor deviation is related to randomly-selected soil sampling points that were located outside of the DWMU boundary identified by T-posts and signage. This is not in keeping with the intent and graphical representations of the FS-1 closure plan, which was to have the 20 randomly-selected soil samples within the T-post boundary.

The October 2013 version of the FS-1 Closure Plan showed statistical output from the Visual Sampling Plan (VSP) software, version 7.2. In the 2013 VSP report, the FS-1 site dimensions were entered using global positioning system (GPS) coordinates. When using GPS values as VSP input, rather than using feet or meters, the report output reflected a sampling area of zero. After further discussions with Ecology, it was requested that VSP input be based on dimensions in meters so the report output reflected the actual FS-1 grid area. The May 2015 version of the FS-1 Closure Plan showed VSP report output based on area dimensions from the Part A Addendum which were approximate dimensions.

When the survey team went to FS-1 on August 3, 2015, to mark the 20 random VSP-generated sampling locations, they found seven of these random sample locations fell slightly outside of the T-post boundary of FS-1. At that time it was decided that additional samples will be collected within the T-post boundary to meet the intent of the FS-1 Closure Plan.

The 20 random samples generated by VSP will be taken as mandated in the 2015 version of the FS-1 Closure Plan, and entered back into VSP to verify the correct user input parameters (i.e., standard deviation) (see Section H-A3.9.11, Verification of VSP Input Parameters). The additional samples collected are considered focused samples and fall outside of the VSP assumptions and Model Toxics Control Act Method B (MTCA-B) closure performance standards.

These seven focused sample locations were positioned to try and meet the intent of the VSP-identified locations, and to maximize coverage of the container storage area. The samples that fell outside of the T-post area are FS-1-2, FS-1-6, FS-1-10, FS-1-14, FS-1-18, FS-1-19, and FS-1-20. The first two focused samples were positioned at the same northing coordinates of FS-1-19 and FS-1-20, but located on the east side of the storage area, halfway between the zero-

point T-post and Sample FS-1-1. The remaining five focused samples were positioned one meter south of the corresponding random samples that fell just outside of the northern T-post boundary.

The analytical results of these focused samples will be directly compared to ensure individual values do not exceed the MTCA Method B clean-closure performance standards. The seven focused sample locations will be documented in the field notebook and provided as a minor deviation to the Sample Analysis Plan.

This approach for FS-1 Outdoor Container Storage Area is consistent with the use of focused samples in T-Plant closure plans submitted to Ecology for review.

If you have any questions, please contact me (727) 373-6715.

vlh/sjs

Attachment – Figure 1. Location of Focused Samples at FS-1 Outdoor Container Storage Area

cc: S. R. Horn, MSIN T4-09  
^WSS Records (LLBG Trenches 31-34-94 Operating Record)

ATTACHMENT

CHPRC-1503561  
CONTRACT NUMBER DE-AC06-08RL14788

TRANSMITTAL OF MINOR DEVIATIONS FROM FS-1 OUTDOOR CONTAINER  
STORAGE AREA CLOSURE PLAN

Consisting of 2 pages,  
including this cover page

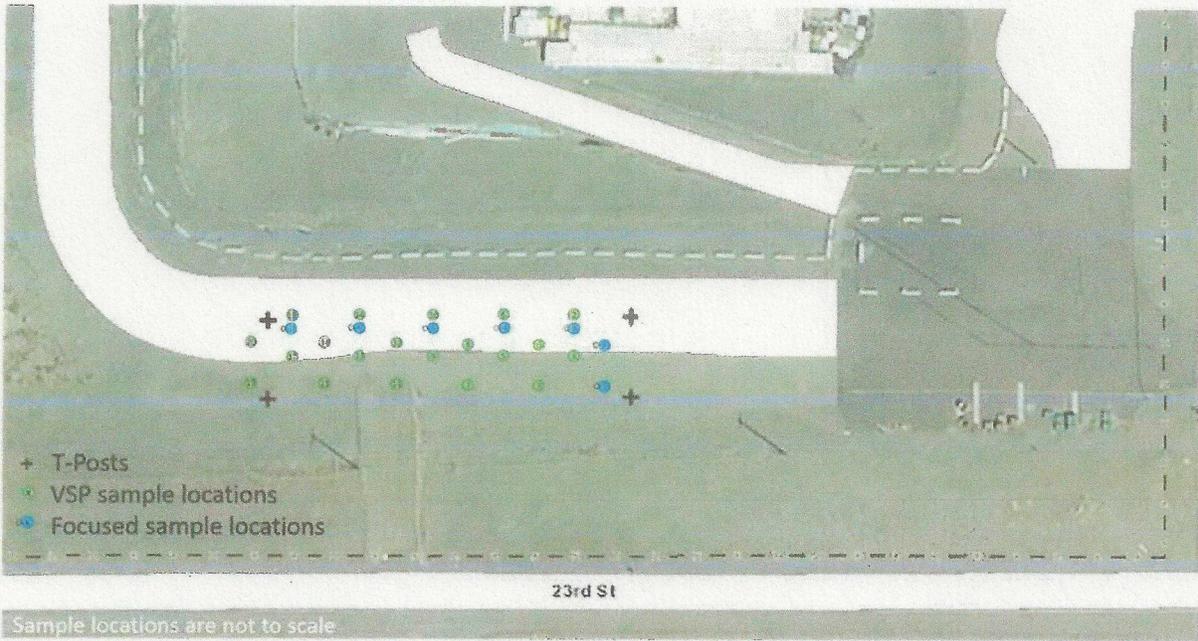


Figure 1. Location of Focused Samples at FS-1 Outdoor Container Storage Area

**INTEROFFICE MEMORANDUM**

CHPRC-1504284  
REISSUE

**Date:** September 18, 2015  
**To:** S. K. Johansen, Environmental Manager  
**From:** V. L. Harter, Environmental Project Manager *Virginia Harter*  
**Subject:** TRANSMITTAL OF PROPOSED DEVIATION FROM FS-1 OUTDOOR  
CONTAINER STORAGE AREA CLOSURE PLAN –  
LISTED ANALYTE

*This document is being reissued to add ^WSS Records (LLBG Trenches 31-34-94 Operating Record) to the cc list.*

This memo documents a deviation from the FS-1 Outdoor Container Storage Area Closure Plan. The FS-1 Closure Plan listed 47 analytes of interest (Table H-A-4). A number of laboratories were utilized to complete all analyses. However, analysis of one analyte, the solvent Cellosolve (or 2-ethoxyethanol) (CAS 110-80-5), could not be completed by any of those laboratories.

The analyte 2-ethoxyethanol is being excluded as a constituent of concern based on the following:

- The closure standard for 2-ethoxyethanol is 32,000 mg/kg, a concentration that would likely produce visible staining, not to mention a distinct smell (the odor threshold in water is 2400 mg/L). The inspection reports never noted a spill of this nature at the FS-1 Outdoor Storage Area.
- The Handbook of Environmental Degradation Rates lists a half-life of 2-ethoxyethanol in soil of between 168 and 672 hours. Storage activities ended in September 2008. If this analyte had been present at levels near the 32,000 mg/kg closure standard at that time, and if a spill of this magnitude was overlooked during the routine inspections, it would not currently be found at levels detectable by EPA Method 8270.
- This solvent was originally included because it is one of the F005 listed constituents (if present at greater than 10 percent at time of disposal). As F005 wastes were stored at the FS-1 Outdoor Container Storage Area, it was added conservatively to the closure plan.
- Waste records showed that all wastes stored in the FS-1 Outdoor Storage Area were LDR compliant prior to storage and contained no free liquids, therefore 2-ethoxyethanol would not have been spilled in a pure form. If an undocumented spill of 2-ethoxyethanol occurred, during the degradation process, organic products would be left behind. All organic analytes were non-detect results, or below the practical quantitation limit in CHPRC results.

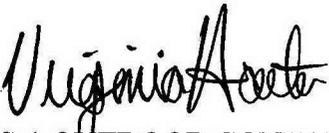
vlh/sjs

cc: ^WSS Records (LLBG Trenches 31-34-94 Operating Record)  
S. R. Horn, MSIN T4-09  
D. Todak, MSIN R3-50

**INTEROFFICE MEMORANDUM**

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CHPRC-1504935

**Date:** October 26, 2015  
**To:** S. K. Johansen, Environmental Manager  
**From:** V. L. Harter, Environmental Project Manager   
**Subject:** TRANSMITTAL OF DEVIATION FROM FS-1 OUTDOOR CONTAINER STORAGE AREA CLOSURE PLAN – VANADIUM PENTOXIDE REPORTING

This memo documents a deviation from the FS-1 Outdoor Container Storage Area Closure Plan. The FS-1 Closure Plan listed vanadium pentoxide (CAS 1314-62-1) as an analyte of interest (see Table H-A-4). The difficulty of analyzing FS-1 soil samples for vanadium pentoxide are outlined below.

- The U.S. EPA method listed for analyzing Vanadium in the FS-1 Outdoor Container Storage Area Closure Plan is SW-846 Method 6010 or 200.8. Both of these EPA methods list the metal form of vanadium (CAS 7440-62-2). Neither method would provide analysis of vanadium pentoxide.
- There is no other U.S. EPA method known to the CHPRC Soil and Groundwater Group that would be appropriate for testing of vanadium pentoxide specifically. It is likely that Vanadium in soil is already present in an oxide or hydroxide form, so analysis of vanadium compounds in method SW-846 method 6010 would include the pentoxide form.
- The results reported by the Washington Department of Ecology for their check samples of FS-1 provide the results in the metal form of vanadium using SW-846 method 6010. Other historic results reported for the Hanford site are in the metal form of vanadium.

To maintain consistency with other Hanford historic data, and Ecology results, vanadium pentoxide, FS-1 Outdoor Container Storage Area vanadium pentoxide (CAS 1314-62-1) results will be reported as vanadium (CAS 7440-62-2).

vlh/sjs

cc: ^WSS Records (LLBG Trenches 31-34-94 Operating Record)  
S. R. Horn, MSIN T4-09  
D. Todak, MSIN R3-50

**ATTACHMENT D**  
**FS-1 CLOSURE PHOTOGRAPHS**  
**(19 Pages)**

FS1 IQRPE Review Photograph Log

**Photo: 1**  
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FS-1\_Gravel-  
1\_2015-06-30



**Photo: 2**  
**File Name:**  
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FS1 IQRPE Review Photograph Log



FS1 IQRPE Review Photograph Log

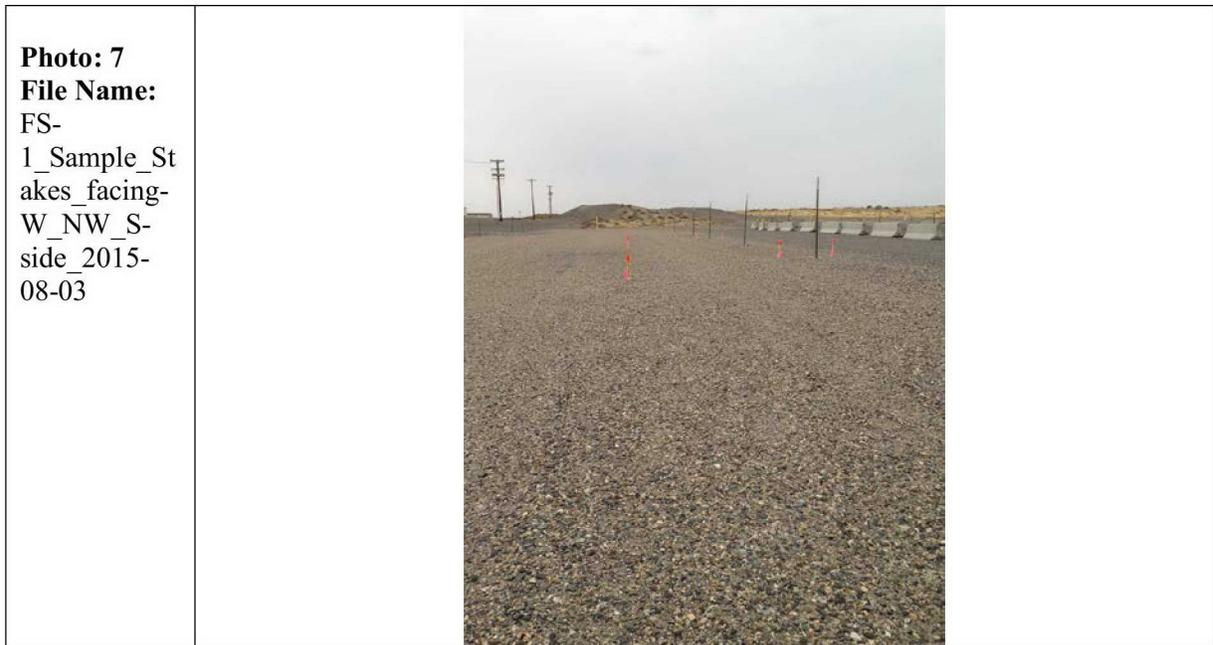
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**Photo: 6**  
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FS1 IQRPE Review Photograph Log



FS1 IQRPE Review Photograph Log

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FS1 IQRPE Review Photograph Log

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015-08-05



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FS1 IQRPE Review Photograph Log

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pact\_sample\_  
2015-08-05



FS1 IQRPE Review Photograph Log

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**Photo: 16**  
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FS1 IQRPE Review Photograph Log

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FS1 IQRPE Review Photograph Log

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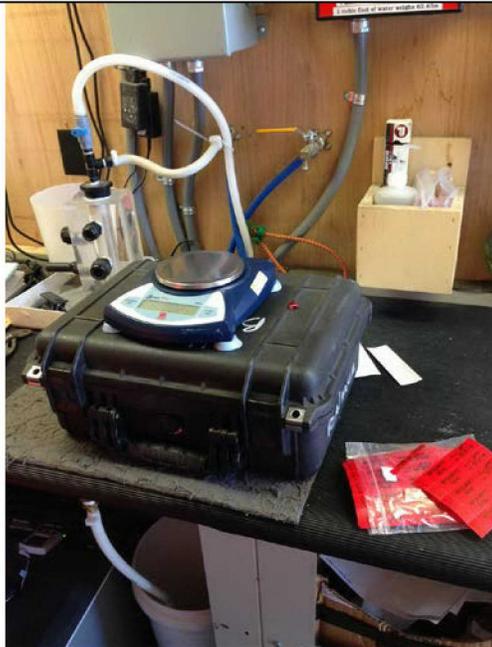
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FS1 IQRPE Review Photograph Log

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FS1 IQRPE Review Photograph Log

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FS1 IQRPE Review Photograph Log

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FS1 IQRPE Review Photograph Log

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