FINAL ANALYTICAL REPORT FOR SAMPLES FROM WASTE MANAGEMENT AREA C FOR CORE HOLE C8100 IN SUPPORT OF RCRA SOIL CHARACTERIZATION

Author Name:
G. P. Ritenour
WRPS
Richland, WA 99352
U.S. Department of Energy Contract DE-AC27-08RV14800

EDT/ECN:	N/A	UC:	N/A
Cost Center:	N/A	Charge Code:	HGP000051
B&R Code:	N/A	Total Pages:	222

Key Words: Vadose, Waste Management Area, C Farm, WMA C, Site J, WMC 2011-1, RCRA Soil Characterization, Final Analysis Report, C8100, Core Holes, 20110261, 20110264, 20110265, B2B435, B2B436, B2B437, B2B438, B2B1N3, B2B1N4, B2B1N5, B2B1N6, B2B1L6, B2B1L7, B2B1M0, B2B1M1, B2B1M4, B2B1M7, B2BX79, B2BX80, B2BX89, B2BX90, (continued on next page)

Abstract: This final report contains the analytical results supporting the RCRA characterization of Vadose samples from core 8100 in C Farm. It also contains the results for associated field and trip blanks supporting the sampling effort.

TRADEMARK DISCLAIMER. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors.

APPROVED
By G.E. Bratton at 4:09 pm, Jan 11, 2012

Release Approval Date

DATE: Jan 23, 2012
HANFORD RELEASE
STA: 4
ID: 8

Release Stamp

Approved For Public Release

Key Words: (Continued from Cover Sheet) B2BXR4, B2C1K8, B2C1K9, B2C1L0, B2C1L1, B2C1L2, B2C1L3, B2C1L4, B2C1L5, B2C1L6, B2C1L7, B2C1L8, B2C1L9, B2C1M0, B2C1M1, B2C1M2, B2C1M3, B2C1M5, B2C1M7, B2C1M8, B2C1M9, B2C1N0, B2C1N1, Advanced Technologies and Laboratories, ATL, WRPS, SW-846.

FINAL ANALYTICAL REPORT FOR SOIL FROM WASTE MANAGEMENT AREA C, CORE HOLE C8100, IN SUPPORT OF RCRA CLOSURE

ATL Document No. 20110264 Rev.0

Gerald P. Ritenour
Advanced Technologies and Laboratories International, Inc.

Date Published
August 2, 2011

Prepared for:

Washington River Protection Solutions, Inc.
P.O. Box 850
Richland, WA 99352
509-376-5029

Prepared by:

ATL International, Inc.
P.O. Box 250
Richland, WA 99352-0250
509-372-2742

8-1-2011
G. P. Ritenour; ATL Project Manager

8-1-2011
J. A. McCluskey, QA Scientist

Table of Contents

NARRATIVE..... 1

1.0 INTRODUCTION..... 1

2.0 SAMPLE RECEIPT AND BREAKDOWN..... 1

2.1 SAMPLE RECEIPT..... 1

2.2 SAMPLE BREAKDOWN..... 2

3.0 ANALYTICAL RESULTS SUMMARY..... 2

3.1 SAMPLE DIGESTIONS..... 3

3.2 INORGANIC ANALYSES 4

3.3 RADIOCHEMICAL ANALYSIS 10

3.4 ORGANIC ANALYSES..... 12

4.0 PROCEDURES..... 14

5.0 REFERENCES 15

Attachment 1: DATA SUMMARY REPORT..... 17

Equipment blank..... 18

Sample Depth: SURFACE..... 23

Sample Depth: SURFACE Dup..... 28

Sample Depth: 5.7'-7.7'..... 33

Sample Depth: 15'-19'..... 38

Sample Depth: 54'-58'..... 43

Sample Depth: 76'-78'..... 48

Sample Depth: 118'-120'..... 53

Sample Depth: 168.6'-170.6'..... 58

Sample Depth: 202'-204'..... 63

Sample Depth: 222.8'-224.8'..... 68

Attachment 2: SAMPLE BREAKDOWN DIAGRAM..... 73

Equipment Blank..... 74

Sample Depth: Surface..... 75

Sample Depth: Surface Dup..... 76

Sample Depth: 5.7'-7.7'..... 77

Sample Depth: 15'-19'..... 78

Sample Depth: 54' - 58'..... 79

Sample Depth: 76' - 78'..... 80

Sample Depth: 118' - 120'..... 81

Sample Depth: 168.6' - 170.6'..... 82

Sample Depth: 202' - 204'..... 83

Sample Depth: 222.8' - 224.8'..... 84

Attachment 3: HOLDING TIME REPORT..... 85

Holding Time Report: Cyanide..... 86

Holding Time Report: Conductivity..... 87

Holding Time Report: pH..... 88

Holding Time Report: Mercury..... 89

Holding Time Report: Ammonium by IC..... 90

Holding Time Report: Anions by IC..... 91

Holding Time Report: Metals by ICPAES..... 92

Holding Time Report: Metals by ICP/MS..... 93

Holding Time Report: GEA..... 95

Holding Time Report: Strontium-89/90 by GPC..... 96

Holding Time Report: Tritium by LSC..... 97

Holding Time Report: Selenium-79 by LSC..... 98

Holding Time Report: Carbon-14 by LSC..... 99

Holding Time Report: Nickel-63 by LSC..... 100

Holding Time Report: Iodine-129 by GEA..... 101

Holding Time Report: Am-241, Iso Cm by /AEA..... 102

Holding Time Report: Iso-Plutonium by AEA..... 103

Holding Time Report: SVOA..... 104

Holding Time Report: PCB..... 105

Attachment 4: ADDITIONAL QC RESULTS..... 106

MS/MSD..... 107

Mercury..... 107

PCB..... 108

SVOA..... 109

SVOA Surrogates..... 121

Batch 25983..... 111

Batch 26487..... 113

Batch 26489..... 115

Batch 26493..... 117

Batch 26760..... 119

Batch 26836..... 121

PCB Surrogates..... 123

Batch 26128..... 123

Batch 26470..... 124

Batch 26477..... 125

Attachment 5: TIC Report..... 126

Attachment 6: BATCH AND LAB SAMPLE ID INDEX..... 136

Attachment 7: GEOLOGICAL REPORT..... 142

Bulk Density..... 143

Soil Descriptions..... 144

Soil Photographs..... 147

Attachment 8: CCN AND CORRESPONDENCE..... 164

Attachment 9: RECEIPT PAPERWORK..... 175

COC C8100 Equip. Blank 1..... 176

COC_C8100_Surface-Surface_Dup..... 180

COC_C8100_I001..... 185

COC_C8100_I002..... 188

COC_C8100_I003..... 191

COC_C8100_I004..... 194

COC_C8100_I005..... 197

COC_C8100_I006..... 200

COC_C8100_I007..... 203

COC_C8100_I008..... 206

COC_C8100_I009..... 209

COC_C8100_I010..... 212

222-S LABORATORY

FINAL ANALYTICAL REPORT FOR SOIL SAMPLES FROM WASTE MANAGEMENT AREA C, CORE HOLE C8100, IN SUPPORT OF RCRA CLOSURE

1.0 INTRODUCTION

This final report presents the results for the samples taken from C Farm between February 24, 2011 and April 4, 2011. The samples were analyzed in accordance with RPP-PLAN-40564, *Field Sampling and Analysis Plan for Sites P and L at Waste Management Area C,* (FSAP), RPP-PLAN-38777, *Sampling and Analysis Plan for Phase 2 Characterization of Vadose Zone Soil in Waste Management Area C* (SAP); ATL-MP-1011, *ATL Quality Assurance Project Plan for 222-S Laboratory* (QAPP); SW-846, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods*; and the additional guidance given by the client's point of contact (POC).

Because the 222-S Laboratory facility was designed to analyze hazardous and complex tank waste samples, most SW-846 test methods performed at the 222-S Laboratory contain deviations that are listed in an appendix in the analytical procedures. All other known deviations or variances from SW-846 are documented in this narrative. The following attachments are included in this report.

Attachment 1	Data Summary Report
Attachment 2	Sample Breakdown Diagrams
Attachment 3	Holding Time Report
Attachment 4	Additional QC Results
Attachment 5	Tentatively Identified Compound (TIC) Report
Attachment 6	Analytical Batch and Laboratory Sample Identification Number Index
Attachment 7	Geological Report with Bulk Density Results
Attachment 8	Characterization Change Notices (CCN), and Correspondence
Attachment 9	Receipt Paperwork

2.0 SAMPLE RECEIPT AND BREAKDOWN

2.1 SAMPLE RECEIPT

A total of two grab samples, ten core intervals, and one equipment blank were received by the 222-S Laboratory between February 24, 2011 and April 4, 2011. The samples were delivered in a cooler with ice. The temperatures of the temperature blanks were measured and recorded on the sample receipt check list and the chain of custody form. All temperature blanks were in compliance with the SW-846-specified preservation temperature of 6 ^{o}C.

2.2 SAMPLE BREAKDOWN

The laboratory received each core interval as three liner samples and one shoe sample when complete core recovery was obtained. The liner samples from each core interval were extruded, described, and composited with the shoe sample by the Washington River Protection Solutions (WRPS) geologist. The WRPS geologist measured the bulk density for core liners that had sufficient recovery (see Attachments 1 and 2) and the percent moisture for all composite samples. The geologist's report is included in Attachment 7. The composite for each core interval was analyzed as described in the SAP. All core intervals had complete recovery except for intervals I002, I003, I004, and I005. These core intervals were composited to form two sample extended intervals: I002+I003 and I004+I005 (see Attachment 2).

3.0 ANALYTICAL RESULTS SUMMARY

The Data Summary Report (Attachment 1) presents the final analytical results for those analytes requested in the SAP. Secondary analytes are reported only if detected. In addition to the required isotopes, all isotopes with positive gamma energy analysis (GEA) results were reported.

The "Det Limit" column in Attachment 1 contains the method detection limit (MDL) for non-radionuclide analyses, or the minimum detectable activity (MDA) for radionuclides.

In Attachment 1, the column labeled "A#" indicates the aliquot class or the method used for sample preparation before analysis. For solid samples, the aliquot classes are defined as follows:

> "A" indicates samples that were prepared by SW-846 3050B.
>
> "E" indicates samples that were prepared by a strong acid digest.
>
> "S" indicates samples that were prepared by a distillation.
>
> "W" indicates samples that were prepared by a standard water digest.
>
> "O" indicates sample s that were prepared by methylene chloride extraction

Samples without a letter identifier in the "A#" column were analyzed directly with no separate preparation or with sample preparation performed as a part of the procedure steps.

Additionally the results for ^{99}Tc with units of pCi/g do not have letter identifier in "A#" column. These analysis were performed on the vadose water digest as required in the FSAP

The "Qual Flags" column in Attachment 1 contains data qualifier flags from FEAD CP-15383, *Common Requirements of the Format for Electronic Analytical Data,* that are defined as follows:

> "B" for organic or radiochemistry results is used to indicate that the analyte was detected in the method or preparation blank and in the sample.

"B" for inorganic results is used to indicate that the reported result should be considered an estimate because it is below the quantitation limit. The "B" flag is applied to sample concentrations that are greater than the MDL but less than the quantitation limit.

"C" for inorganic results is used to indicate that the analyte was detected in the method or preparation blank and in the sample, and the result for the blank was greater than or equal to 20% of the reported sample result.

"E" for radiochemistry results is used to indicate an estimated result due to interference.

"N" for all but gas chromatography/mass spectrometry (GC/MS) is used to indicate that the matrix spike (MS) recovery or matrix spike duplicate (MSD) recovery was outside of the specified range in the QAPP or SAP.

"M" for inorganic results is used to indicate that the relative percent difference (RPD) between the sample and the duplicate is greater than 30%.

"U" for all results is used to indicate that the reported result is less than the calculated detection limit.

"T" for CG/MS is used to indicate that the MS or MSD recovery was outside of the specified range in the QAPP or SAP.

Manual calculations using rounded results from the Data Summary Report (Attachment 1) or result calculation forms may differ slightly from the actual results derived from the raw data.

3.1 SAMPLE DIGESTIONS

3.1.1 Radiochemistry Strong Acid Digestion

Strong acid digestions with a hot plate for the heat source were performed using a mixture of concentrated nitric and hydrochloric acids. For each digest, approximately 1 to 10 g of sample was digested depending on the analysis being performed. The digestate was then filtered and diluted to a final volume. This digestion was used for all radiochemical analyses except GEA, ^{3}H, ^{14}C, and ^{129}I. This digestion is a leach of the acid soluble species only.

3.1.2 SW-846 3050B – Acid Digestion-Heating Block

This acid digestion follows SW-846 3050B using a heating block and nitric and hydrochloric acids. An aliquot of approximately 1 to 5 g of each sample was digested. All heating-block digestions were filtered and diluted to a final volume of 50 mL. In soil, this digestion is a leach of the acid soluble species only. This digestion was used for all inductively coupled plasma/mass spectrometry (ICP/MS) and inductively coupled plasma/atomic emission spectroscopy (ICP/AES) analyses except for ^{99}Tc, isotopic tin (^{117}Sn and ^{126}Sn), and antimony analysis. The digestion is modified for the ^{99}Tc analysis by using only nitric acid. This is done to eliminate the possibility of the formation of a zinc-chlorine ion pair of mass 99. The laboratory believes this

ion, when present, is responsible for low level false positives. A separate digestion for antimony and isotopic tin was prepared using additional hydrochloric acid to improve MS recoveries.

3.1.3 Water Digestion

A water digestion or leach was prepared for the anions by ion chromatography (IC), ^{14}C, and ^{3}H analyses using approximately 4 to 10 g of sample. Sonification was used, and the leachate was then filtered. In soil, this digestion is a leach of the water soluble species only.

3.1.4 Vadose Water Digestion

An approximately 65-gram sample of soil was leached using a ratio of one part water to one part soil. To maintain a one-to-one ratio, the amount of water added to the sample was adjusted based on the percent moisture of the soil. The slurries were placed on a shaker table for about 1 hour, were transferred to a centrifuge tube and centrifuged at 4,000 rpm for 30 minutes, and then filtered using a disposable vacuum filtration system. The filtrates were transferred to a clean bottle and then analyzed for ^{99}Tc by ICP/MS. A separate unfiltered aliquot was analyzed for conductivity.

3.2 INORGANIC ANALYSES

3.2.1 Cyanide

The cyanide analysis by distillation and spectrophotometry was performed on the grab samples, liner composite samples, and equipment blank. All analyses met the SW-846 holding time of 14 days except for two samples (S11V004098 and S11V004115), which exceeded the holding time by one day. The samples were originally analyzed within the holding time, but due to low MS and continuing calibration verification standard recoveries, reanalysis was necessary. There was no change in the results from the initial analysis. The laboratory believes there was little or no affect on the data usability from the holding time excursion. There was no required reporting limit in the SAP for cyanide. The target detection limit was met. For all batches except for Batch 26248, there were no notable issues and all QC requirements in the SAP and the QAPP were met.

Batch 26248: The analyst failed to include a low level standard (LLS) with this batch. Since the sample result was below the MDL, all other quality control (QC) parameters were within their prescribed limits, all LLSs in the other 10 batches were in control, and a passing LLS was analyzed with the calibration standards the previous day, it is the laboratory's opinion that the data usability was not affected.

3.2.2 Conductivity

The conductivity analysis was performed on the grab samples and liner composite samples. These analyses met all QC requirements in the SAP and QAPP. The SAP lists an administrative holding time requirement of 28 days. SW-846 9050A lists a holding time of 28 days for aqueous samples only. There is not a promulgated holding time for the conductivity measure of a soil

sample. All conductivity measurements were taken on the Vadose water digest portion within 28 days of sampling. There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

3.2.3 pH Analysis

The pH analysis was performed on the grab samples, liner composite samples, and equipment blank. These analyses met all QC requirements in the SAP and QAPP. The SAP lists a pH holding time requirement of "24 hours or as soon as possible." All solid pH measurements were taken as soon as possible after liner extrusion and compositing of the sample. The sampling-to-analysis time varied from 5.5 hours to 145 hours (see Attachment 3). There is no correlation between pH results and time to analysis, and the results fall within an expected range for alkaline soils. This indicates that the variation in time has no apparent effect on the soil results.

3.2.4 Mercury

Analysis for mercury by cold-vapor/atomic absorption was performed on the grab samples, liner composite samples, and equipment blank. For all samples analyzed, results met the QC requirements in the SAP and QAPP and all analyses met the holding time of 28 days. This analysis met the required and target detection limits.

3.2.5 Ion Chromatography – Ammonium

Analysis for ammonium was performed using a distillation preparation of the grab samples, liner composite samples, and equipment blank. The SAP lists an administrative holding time of 7 days for ammonium in soil. The laboratory believes that after distillation and preservation, the holding time is 28 days based on U.S. Environmental Protection Agency drinking water and waste water holding times for preserved aqueous samples. There is no regulatory holding time limit promulgated for ammonium in soil. All samples met the administrative holding times. These analyses met the target detection limit listed in the SAP. There was no required detection limit in the SAP for ammonium.

Batches 25867, 25918, 26004, 26213, and 26815: There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

Batch 26068: Ammonium was detected in the preparation blanks at a level below the quantitation limit and above the MDL. Ammonium was also detected in the sample at less than five times the blank level. This result has been flagged with a "C". Since all results were below the quantitation limit, reanalysis was not required.

Batch 26517: The RPD exceeded the required 30%. Since the result for this analyte was below the quantitation limit, the criterion does not apply and reanalysis is not required. Ammonium was detected in the preparation blanks at a level below the quantitation limit and above the MDL. Ammonium was also detected in the samples at less than five times the blank level. The results have been flagged with a "C". Since all results were below the quantitation limit, reanalysis was not required.

3.2.6 Ion Chromatography – Anions and Small Organic Acids

Ion chromatography analysis was performed on a standard water digest of subsamples from the grab samples, liner composite samples, and equipment blank.

The laboratory met all of the required and target detection limits. For the standard water digest, all analyses were within the applicable holding times. The sample spikes used for the standard water digestions are predigestion spikes.

Batch 26180: There were no notable issues with this batch, and all QC requirements in the SAP and the QAPP were met.

Batch 26531: The results for chloride, formate, and sulfate in the preparation blank were above the MDL but below the quantitation limit. All sample results that were less than five times the blank result have been flagged with a "C". Since all blank results were below the quantitation limit, the usability of the data was not affected. The RPD for nitrite exceeded the 30% requirement in the SAP. Since the result for this analyte was below the quantitation limit reanalysis was not required.

Batch 26818: The RPD for fluoride exceeded the 30% requirement in the SAP at 33%; since the RPDs for chloride and sulfate met this requirement, the laboratory believes this is due to matrix inhomogeneity. All fluoride results in this batch have been flagged with an "M". The RPDs for nitrite and formate exceeded the 30% requirement in the SAP. Since the results for these analytes were below the quantitation limit reanalysis was not required.

The MS recovery for phosphate exceeded the ±25% requirement in the SAP at 74%. The laboratory believes this was due to matrix interference since all other MS recoveries were between 93% and 105% and phosphate MS recoveries are frequently low in Vadose samples. These exceedances were discussed with the client POC (see Attachment 8).

3.2.7 Inductively Coupled Plasma/Atomic Emission Spectroscopy

The ICP/AES analysis was performed on an acid-digest (SW-846 3050B) of the grab samples, liner composite samples, and equipment blank. The ICP/AES analysis was unable to obtain the required detection limit for antimony, arsenic, cadmium, lead, selenium, silver, and thallium. These elements have been reported from separate ICP/MS analyses. Total uranium has not been reported by the ICP/AES analysis since it cannot meet the required detection limits in the SAP. The isotopic uranium analysis by ICP/MS met the required detection limit for ^{238}U, which is essentially total uranium. The overall data usability was not affected. For all other metals reported by ICP/AES, all target and required detection limits were met. SW-846 lists the holding time for ICP/AES metals as 6 months. All analyses met the holding time.

Due to inter-element interferences, the elements europium, niobium, neodymium, and ruthenium have not been reported even though detected in the samples. The laboratory believes that these results are likely due to unmitigated inter-element interferences. These are all secondary analytes.

Batch 26884: The initial and closing LLS recoveries for potassium and iron were above the 130% requirement. This could indicate a high bias. However, since the sample results for these elements were below the quantitation limit the data usability was not affected.

Batch 26878: Results above MDL but below the quantitation limit for manganese in the opening and closing interference check standard "A" (ICSA) and for chromium in the closing ICSA indicate a possible high bias for these elements. However, the recovery of manganese and chromium in the interference check standard "AB" (ICSAB) was within the ±20% requirement; this indicates no significant bias was present. Low levels of iron and calcium were detected in the preparation blank, but reanalysis was not required since these levels were less than 20% of the lowest sample result. Sulfur was detected in the preparation blank at slightly above the MDL. Three samples have sulfur results at less than five times the blank result and have been flagged with a "C". Sulfur is a secondary analyte.

The MS recoveries for aluminum, barium, calcium, iron, magnesium, sodium, and phosphorous exceeded the ±25% requirement in the SAP. Since the sample results for these elements exceeded the MS level by more than four times, this criterion does not apply. The MS recoveries for boron, silicon, sulfur, and zirconium exceeded the ±25% requirement and have been flagged with an "N". These are secondary analytes. The MS recovery for strontium exceeded the ±25% requirement at 128%. For all other required elements whose results were less than four times the spike, the MS recoveries were within the requirement. Therefore, the laboratory believes that the high recovery for strontium is due to inhomogeneity.

The RPD for cobalt exceeded the 30% requirement in the FSAP and SAP at 34%. Since the result for cobalt was below the quantitation limit, this criterion does not apply.

The laboratory control sample (LCS) recovery for silicon exceeded the ±25% requirement at 16%. Because of this and since silicon is a secondary element, it has not been reported. It should be noted that silicon is not listed with other elements in SW-846 3050B, section 1.1, under "Scope and Application" for the method and does not perform consistently when using this digest.

Due to the failure of all instrument quality control samples, thorium has not been reported. Reliable thorium results are reported by ICP/MS.

Batch 26957: The initial and closing LLS recoveries for chromium and iron were below the 70% requirement. This could indicate a low bias. However, since the sample results for chromium were at least 10 times the level of the LLS and the results for iron were at least 5,000 times the LLS level, it is the laboratory's opinion that the data usability was not affected. The LLS for beryllium exceeded the ±30% requirement at 149%. This could indicate a low basis for beryllium. However, since all results were below the quantitation limit, the data usability was not affected.

Results above the MDL but below the quantitation limit for manganese and titanium in the opening and closing ICSA and for barium, phosphorous, strontium, and vanadium in the closing ICSA indicate a possible high bias for these elements. However, the recoveries for these elements in the ICSAB were within the ±20% requirement; this indicates no significant bias was

present. Low levels of calcium and sulfur were detected in the preparation blank, but reanalysis was not required since these levels were less than 20% of the lowest sample result.

The MS recoveries for aluminum, calcium, iron, phosphorous, and titanium exceeded the ±25% requirement in the SAP. Since the sample results for these elements exceeded the MS level by more than four times, this criterion does not apply. The MS recoveries for sulfur and zirconium exceeded the ±25% requirement and have been flagged with an "N". These are secondary analytes.

The serial dilution for lanthanum exceeded the ±10% requirement at 14%. This could indicate that the lanthanum results are biased low. Lanthanum is a secondary element.

The LCS recovery for silicon exceeded the ±25% requirement at 78%. Silicon is a secondary element. It should be noted that silicon is not listed with other elements in SW-846 3050B, section 1.1, under "Scope and Application" for the method and does not perform consistently when using this digest.

3.2.8 Inductively Coupled Plasma/Mass Spectroscopy

The ICP/MS actinide and trace metal analyses were performed on the standard SW-846 3050B acid digestion of the grab samples, liner composite samples, and equipment blank. ICP/MS analysis for ^{126}Sn and antimony was perform on the same digest with additional hydrochloric acid, which is required to keep tin and antimony in solution. For all samples, the ICP/MS ^{99}Tc analysis was performed on the sample digest without the addition of hydrochloric acid. Hydrochloric acid is not used for ^{99}Tc analysis because of the potential formation of a ZnCl with mass 99. Technetium-99 was also analyzed using the Vadose water digest.

Direct is the most accurate type of calibration; however, standard material is not commercially available for all of the isotopes of interest. Concentrations of those isotopes without available standards are estimated based on the instrument's mass-response curve, which is generated by using the intensity/concentration relationship for the available isotope standards. Results estimated in this manner are designated "semi-quantitative."

Table 1. Inductively Coupled Plasma-Mass Spectroscopy Standards and Spikes

Standard Type	Analytes Analyzed
Initial calibration verification (nondigested)	^{232}Th, ^{235}U, ^{238}U, ^{237}Np, ^{99}Tc, ^{117}Sn
Acid digest standard (laboratory control standard)	^{232}Th, ^{235}U, ^{238}U, ^{237}Np, ^{99}Tc, ^{117}Sn
Predigest spike (MS)	^{232}Th, ^{235}U, ^{238}U, ^{237}Np, ^{99}Tc, ^{117}Sn
Post-digest spike	^{232}Th, ^{235}U, ^{238}U, ^{237}Np, ^{99}Tc, ^{117}Sn
No standard or spike of either type	^{126}Sn, ^{230}Th, ^{233}U, ^{234}U, ^{236}U

Technetium-99

For the acid digestion, the required detection limit listed in the SAP for ^{99}Tc was met. The target detection limit for ^{99}Tc was not met. For the water digested samples, both the target and required detection limits were met. The SAP lists the holding time for isotopic analytes as 6 months. All samples were analyzed within the holding time.

The acid-digested ^{99}Tc analysis is subject to isobaric interference from natural ruthenium and cobalt argide, and zinc chloride ions. However, these samples were analyzed using an ICP/MS with a collision cell, which eliminates the polyatomic interferences. Interference from natural ^{99}Ru seems unlikely since none of the more abundant nature isotopes (100, 101, and 102) were detected.

For the water digest, one sample, B2C1N0, had a positive result above the MDL and slightly below the quantitation level of 10 times the MDL. This result was twice the LLS concentration. The client requested ^{99}Tc analysis by radiochemistry (resin separation followed by liquid scintillation counting), which confirmed the ICP/MS result for this sample. The water digested ^{99}Tc results were originally reported, along with the nitrate results, in ATL Document No. 20110264-D14 as required in the FSAP.

Batches 26871, 26872, and 27327: There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met. Batch 27327 contained the equipment blank and also reports the result for ^{126}Sn.

Tin-126 and Antimony

For the solid samples, antimony and ^{126}Sn were analyzed from the same digest because of the need for additional hydrochloric acid, which results in better MS recoveries. However, this appears to cause an isobaric interference with ^{126}Sn. The laboratory has concluded that the most likely interferences are from the polyatomic ions, zirconium chloride, strontium argide, and yttrium chloride—all with mass of 126. A preliminary investigation indicated that using an ICP/MS with a collision cell will eliminate this interference. However, the instrument needed for this analysis is not currently able to operate in a “semi-quantitative” mode. The laboratory is currently working on resolving this issue. Based on the client’s earlier instructions (see Attachment 8), samples with a positive result for ^{126}Sn have been flagged with an “E”.

Batch 26962: The RPD for ^{126}Sn exceeded the 30% requirement in the FSAP and SAP at 38%. Since the result for cobalt was below the quantitation limit, this criterion does not apply.

Actinides

The required and target detection limits were met for all isotopes in all samples. The SAP lists the holding time for isotopic analytes as 6 months. All samples were analyzed within the holding time (see Attachment 3).

Batches 26835 and 26968: There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

Batch 26833: Laboratory personnel improperly prepared the low level MS. The higher level MS was recovered within the required ±25% for all analytes. Since a low level MS was recovered within the required limits for all analytes in Batch 26968, the SAP requirement for at least on MS per core hole was met and reanalysis of Batch 26833 was unnecessary.

Trace Metals

Arsenic, cadmium, lead, selenium, silver, and thallium were analyzed by ICP/MS to obtain the required detection limits in the SAP. Except for the required detection limit for selenium, all required detection limits were met or the sample results were above the quantitation limit and the sample detection limit criteria do not apply. All target detection limits were met. The required detection limit for selenium was more than an order of magnitude below the detection limit obtained by ICP/MS. The laboratory does not anticipate reaching this detection limit for future projects. The adjusted MDL for selenium soil results was approximately 1.3 µg/g. SW-846 lists the holding time for metals as 6 months. All samples were analyzed within the holding time (see Attachment 3). There were no notable issues with this batch, and all QC requirements in the SAP and the QAPP were met.

3.3 RADIOCHEMICAL ANALYSIS

The holding time listed in the SAP for radioactive isotopes is 6 months. All samples were analyzed within the required holding time. The holding time tables for these analytes are included in Attachment 3. With the exception of the ^{14}C and ^{3}H analyses, tracers and spikes are added prior to digestion.

3.3.1 Gamma Energy Analysis

Gamma energy analysis was performed directly on approximately 60 mL of soil from liner grab samples, liner composite samples, and the equipment blank. The SAP requires the reporting of all isotopes with positive results above the MDA; therefore, isotopes additional to those required in the SAP were reported when detected. The GEA analysis met all of the required detection limits in the SAP except for one sample for ^{228}Th, which was only slightly higher. The laboratory was able to meet the target detection limits for all ^{137}Cs and all ^{125}Sb analyses. Seven of the ten ^{154}Eu result met the target detection limit. The laboratory was unable to meet the remaining target detection limits. There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

3.3.2 Strontium-89/90

Strontium-89/90 analysis was performed on the grab samples, liner composite samples, and equipment blank. All of the sample analyses met the required and target detection limits. The SAP requested ^{90}Sr, not $^{89/90}Sr$, be reported. The 222-S Laboratory only performs the latter analysis. Since the half-life for ^{89}Sr is approximately 51 days and ^{89}Sr has not been produced at Hanford for years, $^{89/90}Sr$ is essentially ^{90}Sr. There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

3.3.3 Tritium

The ^{3}H analysis by liquid scintillation counting (LSC) was performed directly on the field and equipment blanks and a water leach of the liner composite samples. This method only measured the ^{3}H in the samples that could be dissolved in water. This analysis achieved the required and target detection limits in the SAP. There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

3.3.4 Selenium-79

The ^{79}Se analysis by LSC was performed on the grab samples, liner composite samples, and equipment blank. The analysis achieved the target detection limit in the SAP. No required detection limit was listed. No standard is currently available for ^{79}Se, and a cold carrier is used to monitor recovery and is measured gravimetrically. The ^{14}C LSC curve is used to determine the ^{79}Se results since their energies are similar. All samples have very low positive results, which were caused by an elevated quench from samples, resulting in insufficient background subtraction. These results should be considered very low level false positives and have been flagged with a “E”. Since all results were below the quantitation limit, reanalysis was not required.

Batch 26240: The preparation blank demonstrated a positive result below the quantitation limit with large counting error, as did the sample. The sample has been flagged with a “B”.

Batch 27781: The preparation blank demonstrated a positive result below the quantitation limit with large counting error, as did the samples. The samples have been flagged with a “B”. The RPD for the duplicate exceeded the 30% requirement in the SAP and FSAP. Since the sample result was below the quantitation limit, this criterion does not apply.

3.3.5 Carbon-14

The ^{14}C analysis by LSC was performed on a water leach of the grab samples, liner composite samples, and equipment blank. The analysis achieved the required detection limit in the SAP but exceeded the target detection limit. This analysis will only detect water soluble forms of ^{14}C. There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

3.3.6 Nickel-63

The ^{63}Ni analysis by LSC was performed on the grab samples, liner composite samples, and equipment blank. The analysis achieved the required and target detection limits in the SAP. There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

3.3.7 Iodine-129

Analysis for ^{129}I by low energy GEA was performed on the grab samples, liner composite samples, and equipment blank. The required and target detection limits in the SAP were met. There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

3.3.8 Americium-241, Curium-243/244, and Curium-242

Analysis for ^{241}Am, $^{243/244}$Cm, and ^{242}Cm by alpha energy analysis (AEA) was performed on the grab samples, liner composite samples, and equipment blank. For this analysis, there were no notable issues with any batches and all QC requirements in the SAP and the QAPP were met. The required and target detection limits in the SAP were met. The SAP requested ^{243}Cm and ^{244}Cm be reported separately. Since it is not possible to resolve these individual isotopes when using AEA, these isotopes have been reported as $^{243/244}$Cm.

3.3.9 Plutonium-238 and Plutonium-239/240

Plutonium isotopic (^{238}Pu and $^{239/240}$Pu) analysis by AEA was performed on the grab samples, liner composite samples, and equipment blank. For this analysis, there were no notable issues with any batches and all QC requirements in the SAP and the QAPP were met. The required and target detection limits in the SAP were met.

3.4 ORGANIC ANALYSES

3.4.1 Semivolatile Organic Analysis

The semivolatile organic analysis (SVOA) by GC/MS was performed on methylene chloride extractions of all grab samples, liner composite samples, and the equipment blank. All holding times were met.

The SVOA analysis met the required and target detection limits with two exceptions:

- The adjusted MDLs for cyclohexanone were above the 0.5-mg/kg target detection limit for most samples. This compound obtained detection limits between 0.5 mg/kg and 0.6 mg/kg.

- The adjusted MDLs for di-n-butyl-phthalate were above the target detection limit of 0.33 mg/kg. The analysis achieved a detection limit of between 0.5 mg/kg and 0.6 mg/kg for this compound.

LCS, MS, and MSD recoveries were compared against the laboratory's statistical process control (SPC) limits, as required by SW-846. The use of SPC limits is permitted in the FSAP, SAP, and QAPP. The results of surrogate, LSC, and MS/MSD are contained in Attachment 4. 1,4-dichlorobenzene, phenol, and pentachlorophenol are secondary compounds but have been reported in order to provide QC results for the LCS and MS/MSD.

The SAP and FSAP requested 3-methylphenol and 4-methylpnenol be reported separately. Since it is not possible to resolve these individual compounds when performing SVOA by SW-846 8270C, these compounds have been reported as 3&4 methylphenol.

Batch 26489: There were no notable issues with this batch, and all QC requirements in the FSAP, SAP, and QAPP were met.

Batch 25983: The MS experienced high recovery for 1,2,4-trichlorobenzene, 4-chloror-3-methylphenol, N-nitroso-di-n-propylamine, and Pyrene; since the result for all of these compounds were below the MDL, the data quality was not affected and reanalysis was not required. The results for these compounds have been flagged with a "T" for both samples in this batch. One sample experienced high recoveries for the surrogate terphenyl-d14; since the results for all primary compounds were below MDL, the data usability was not affected and reanalysis was unnecessary. The LCS and MS/MSD did not contain phenol, 4-nitrophenol, or 1,4-dichlorobenzene. The decision by the client to add these secondary compounds to the spikes was made after this batch was analyzed; these compounds are contained in all subsequent batches.

Batch 26487: The LCS recovery for 2-4-dinitrotoluene exceeded the laboratory statistical control limit of 60%-99% at 101%. Since the recovery is within the ±30% in the SAP and FSAP and the sample result was below the MDL, a qualifier flag was not applied.

Batches 26760 and 26836: There were no notable issues with these batches, and all QC requirements in the FSAP, SAP, and QAPP were met

3.4.2 .Polychlorinated Biphenyls Analysis

Polychlorinated biphenyls (PCB) analysis was performed on methylene chloride extractions of all grab samples, liner composite samples, and the equipment blank. The accelerated solvent extraction method was used for the solid sample analysis, and solid sample results were corrected to the dry weight of the sample. The LCS, MS, and MSD consisted of only Aroclor-1254 because it is the most common Aroclor detected in Hanford Site samples.

Batch 26470: There were no notable issues with this batch, and all QC requirements in the FSAP, SAP, and QAPP were met.

Batch 26128: The recoveries for the surrogate tetrachloro-m-xlyene exceeded the laboratory's statistically derived control limit of 53%-115% at 117% and 123%. Since the all sample results were below the MDL, the data usability was not affected.

3.4.3 Tentatively Identified Compounds

Unassigned peaks or TICs were treated as follows. Standards were obtained and analyzed for each secondary analyte identified in the SAP. This data was accumulated in the Hanford library. Following analysis, the largest TICs with instrument responses greater than 10% of the response of the nearest internal standard were evaluated and compared to the Hanford library. The estimated concentration of these TICs was calculated using measured response factors from the Hanford library compound list.

After comparison to the Hanford library, remaining unknowns were compared to the National Institute of Standards and Technology's NIST 02, *HP Mass Spectral Libraries*. The estimated concentration of compounds identified in the NIST library was calculated based on an arbitrary response factor of 1.0. If the compounds were not identified as a result of this comparison, they were reported as "unknown." Summaries of the SVOA TICs from the field samples and method blanks are provided in Attachment 5. TICs that were found in the field samples and were present in the associated batch method blank have been flagged with "B".

4.0 PROCEDURES

Table 2 Lists the procedures used in analyzing the samples contained in this report

Table 2. Analytical Procedures

Analysis	Preparation Method	Analysis Procedure
Inorganic Analyses		
Cyanide	LA-695-103, Rev. J-0 (solid) LA-695-102, Rev. L-0 (liquid) (SW-846 9010C)	LA-695-103, Rev. J-0 (solid) LA-695-102, Rev. L-0 (liquid) (SW-846 9014)
Conductivity	LA-504-102, Rev. A-0 Vadose Water Digest	LA-512-107, Rev. G-0
pH (solid)	LA-212-105, Rev. H-0 (SW-846 9045D)	LA-212-105, Rev. H-0 (SW-846 9045D)
Mercury – Cold Vapor Atomic Absorption	LA-325-110, Rev. A-0 (SW-846 7470A, 7471B)	LA-325-106, Rev. G-0 (SW-846 7470A, 7471A)
Ammonia – IC	LA-544-112, Rev. E-0	LA-533-101, Rev. Q-0
Anions & Organic Acids – IC	LA-504-101, Rev. M-0 LA-504-102, Rev. A-0 (Vadose Water Digest)	LA-533-115, Rev. J-0, K-0
Metals – ICP /AES	LA-505-163, Rev. G-0 (SW-846 3050B)	LA-505-161, Rev. J-0-A, K-0 (SW-846 6010C)
^{99}Tc, ^{126}Sn – ICP/MS	Direct	LA-506-102, Rev. F-1 LA-506-103, Rev. B-0
^{99}Tc – ICP/MS	LA-504-102, Rev. A-0 (Vadose Water Digest) LA-505-163, Rev. G-0 (SW-846 3050B)	LA-506-103, Rev. B-0
Metals, ^{126}Sn – ICP/MS	LA-505-163, Rev. G-0 (SW-846 3050B)	LA-506-102, Rev. F-1 LA-506-103, Rev. B-0 (SW-846 6020A)
Actinides – ICP/MS	LA-505-163, Rev. G-0 (SW-846 3050B)	LA-506-102, Rev. F-1
Radiochemical Analyses		
GEA	Direct	LA-548-121, Rev. I-0 LA-508-167, Rev. A-0

Analysis	Preparation Method	Analysis Procedure
$^{89/90}$Sr – Separation/GPC	Digestion LA-544-101, Rev. G-0 Separation LA-220-103, Rev. K-0 (solid) LA-220-104, Rev. J-0-A (liquid)	LA-508-124, Rev. B-0
^{3}H – LSC	Digestion LA-504-101, Rev. M-0 Separation LA-218-116, Rev. A-0	LA-508-121, Rev. G-0
^{14}C – LSC	Digestion LA-504-101, Rev. M-0 Separation LA-348-104, Rev. I-0	LA-508-121, Rev. G-0
^{79}Se – Separation/LSC	Digestion LA-544-101, Rev. G-0 Separation LA-365-132, Rev. J-0	LA-508-121, Rev. G-0
^{63}Ni – Separation/LSC	Digestion LA-544-101, Rev. G-0 Separation LA-285-102, Rev. E-0	LA-508-121, Rev. G-0
^{129}I – Separation/GEA	LA-378-105, Rev. D-0, E-0	LA-508-165, Rev. D-0
^{241}Am, $^{243/244,\ 242}$Cm – Separation/AEA	Digest LA-544-101, Rev. G-0 Separation LA-953-104, Rev. H-1, I-0	LA-508-161, Rev. F-0
$^{239/240,\ 238}$Pu – Separation/AEA	Digest LA-544-101, Rev. G-0 Separation LA-953-104, Rev. H-1, I-0	LA-508-161, Rev. F-0
Analysis	**Preparation Method**	**Analysis Procedure**
Organic Analyses		
SVOC – GC/MS	LA-523-115, Rev. H-0 LA-523-138, Rev. G-0	LA-523-135, Rev. D-0-A SW-846 8270D
PCB – GC/Electron Capture Detector	LA-523-115, Rev. H -0 LA 523-144, Rev. D-0	LA-523-140, Rev. G-0 SW-846 8082A

5.0 REFERENCES

ATL-MP-1011, 2010, *ATL Quality Assurance Project Plan for 222-S Laboratory*, Rev. 10, 10-A, Advanced Technologies and Laboratories International, Inc., Richland, Washington.

FEAD CP-15383, 2007, *Common Requirements of the Format for Electronic Analytical Data,* Version 8, CH2M Hill Plateau Remediation Co., Richland, WA.

RPP-PLAN-3877, 2009, *Sampling and Analysis Plan for Phase 2 Characterization of Vadose Zone Soil in Waste Management Area C*, Rev. 1, Washington River Protection Solutions, Inc., Richland, Washington.

RPP-PLAN-40564, 2009, *Field Sampling and Analysis Plan for Sites P and L at Waste Management Area C,* Rev. 2, Washington River Protection Solutions, Inc., Richland, Washington.

NIST 02, 2002, *HP Mass Spectral Libraries*, July 2002 Release, Hewlett-Packard Company, Palo Alto, California.

SW-846, 1986, *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods,* Third Edition, as amended, U.S. Environmental Protection Agency, Washington, D.C.

Attachment 1

DATA SUMMARY REPORT

02 - Aug - 2011 16:30:19
DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20110261
Core Number: C8100
Customer Sample ID: B2B1N6
Sample Depth: Equipment blank

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004090		O	120-82-1	1,2,4-Trichlorobenzene	ug/L	38.5	<25.5	<25.5	n/a	n/a	n/a	39.6	25.5	n/a	U
S11V004090		O	95-50-1	1,2-Dichlorobenzene	ug/L	n/a	<71.1	<71.1	n/a	n/a	n/a	n/a	71.1	n/a	U
S11V004090		O	106-46-7	1,4-Dichlorobenzene	ug/L	36.1	<14.7	<14.7	n/a	n/a	n/a	37.1	14.7	n/a	U
S11V004090		O	121-14-2	2,4-Dinitrotoluene	ug/L	90.5	<13.5	<13.5	n/a	n/a	n/a	88.0	13.5	n/a	U
S11V004090		O	95-95-4	2,4,5-Trichlorophenol	ug/L	n/a	<16.3	<16.3	n/a	n/a	n/a	n/a	16.3	n/a	U
S11V004090		O	88-06-2	2,4,6-Trichlorophenol	ug/L	n/a	<17.2	<17.2	n/a	n/a	n/a	n/a	17.2	n/a	U
S11V004090		O	95-48-7	2-Methylphenol	ug/L	n/a	<20.6	<20.6	n/a	n/a	n/a	n/a	20.6	n/a	U
S11V004090		O	88-75-5	2-Nitrophenol	ug/L	n/a	<22.4	<22.4	n/a	n/a	n/a	n/a	22.4	n/a	U
S11V004090		O	65794-96-9	3 &4 Methylphenol	ug/L	n/a	<20.6	<20.6	n/a	n/a	n/a	n/a	20.6	n/a	U
S11V004090		O	83-32-9	Acenaphthene	ug/L	68.7	<25.2	<25.2	n/a	n/a	n/a	69.0	25.2	n/a	U
S11V004090		O	56-55-3	Benzo(a)anthracene	ug/L	n/a	<17.2	<17.2	n/a	n/a	n/a	n/a	17.2	n/a	U
S11V004090		O	205-99-2	Benzo(b)fluoranthene	ug/L	n/a	<16.5	<16.5	n/a	n/a	n/a	n/a	16.5	n/a	U
S11V004090		O	50-32-8	Benzo(a)pyrene	ug/L	n/a	<15.5	<15.5	n/a	n/a	n/a	n/a	15.5	n/a	U
S11V004090		O	117-81-7	Bis(2-ethylhexyl) phthalate	ug/L	n/a	<51.2	<51.2	n/a	n/a	n/a	n/a	51.2	n/a	U
S11V004090		O	207-08-9	Benzo(k)fluoranthene	ug/L	n/a	<15.8	<15.8	n/a	n/a	n/a	n/a	15.8	n/a	U
S11V004090		O	85-68-7	Butylbenzylphthalate	ug/L	n/a	<14.7	<14.7	n/a	n/a	n/a	n/a	14.7	n/a	U
S11V004090		O	59-50-7	4-Chloro-3-methylphenol	ug/L	79.1	<17.4	<17.4	n/a	n/a	n/a	80.1	17.4	n/a	U
S11V004090		O	95-57-8	2-Chlorophenol	ug/L	75.2	<23.9	<23.9	n/a	n/a	n/a	76.1	23.9	n/a	U
S11V004090		O	218-01-9	Chrysene	ug/L	n/a	<16.5	<16.5	n/a	n/a	n/a	n/a	16.5	n/a	U
S11V004090		O	53-70-3	Dibenz[a,h]anthracene	ug/L	n/a	<15.5	<15.5	n/a	n/a	n/a	n/a	15.5	n/a	U
S11V004090		O	84-74-2	Di-n-butylphthalate	ug/L	n/a	<14.9	<14.9	n/a	n/a	n/a	n/a	14.9	n/a	U
S11V004090		O	117-84-0	Di-n-octylphthalate	ug/L	n/a	<17.0	<17.0	n/a	n/a	n/a	n/a	17.0	n/a	U
S11V004090		O	621-64-7	N-Nitroso-di-n-dipropylamine	ug/L	79.5	<23.9	<23.9	n/a	n/a	n/a	76.7	23.9	n/a	U
S11V004090		O	206-44-0	Fluoranthene	ug/L	n/a	<15.3	<15.3	n/a	n/a	n/a	n/a	15.3	n/a	U
S11V004090		O	87-68-3	Hexachlorobutadiene	ug/L	n/a	<14.0	<14.0	n/a	n/a	n/a	n/a	14.0	n/a	U
S11V004090		O	67-72-1	Hexachloroethane	ug/L	n/a	<9.51	<9.51	n/a	n/a	n/a	n/a	9.51	n/a	U
S11V004090		O	193-39-5	Indeno(1,2,3-cd)pyrene	ug/L	n/a	<14.9	<14.9	n/a	n/a	n/a	n/a	14.9	n/a	U
S11V004090		O	108-95-2	Phenol	ug/L	79.8	<22.6	<22.6	n/a	n/a	n/a	81.0	22.6	n/a	U
S11V004090		O	91-20-3	Naphthalene	ug/L	n/a	<31.4	<31.4	n/a	n/a	n/a	n/a	31.4	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

02 - Aug - 2011 16:30:19
DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20110261
Core Number: C8100
Customer Sample ID: B2B1N6
Sample Depth: Equipment blank

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004090		O	98-95-3	Nitrobenzene	ug/L	n/a	<23.5	<23.5	n/a	n/a	n/a	n/a	23.5	n/a	U
S11V004090		O	100-02-7	4-Nitrophenol	ug/L	89.9	<12.3	<12.3	n/a	n/a	n/a	92.0	12.3	n/a	U
S11V004090		O	87-86-5	Pentachlorophenol	ug/L	84.0	<8.17	<8.17	n/a	n/a	n/a	80.8	8.17	n/a	U
S11V004090		O	129-00-0	Pyrene	ug/L	91.2	<15.8	<15.8	n/a	n/a	n/a	83.6	15.8	n/a	U
S11V004090		O	110-86-1	Pyridine	ug/L	n/a	<31.2	<31.2	n/a	n/a	n/a	n/a	31.2	n/a	U
S11V004090		O	126-73-8	Tributyl phosphate	ug/L	n/a	<6.37	<6.37	n/a	n/a	n/a	n/a	6.37	n/a	U
S11V004090		O	128-37-0	BHT	ug/L	n/a	<97.1	<97.1	n/a	n/a	n/a	n/a	97.1	n/a	U
S11V004090		O	110-80-5	2-Ethoxyethanol	ug/L	n/a	<73.4	<73.4	n/a	n/a	n/a	n/a	73.4	n/a	U
S11V004090		O	1319-77-3	Total Methylphenols	ug/L	n/a	<41.0	<41.0	n/a	n/a	n/a	n/a	41.0	n/a	U
S11V004090		O	108-94-1	Cyclohexanone	ug/L	n/a	<43.6	<43.6	n/a	n/a	n/a	n/a	43.6	n/a	U
S11V004090		O	59-89-2	N-Nitrosomorpholine	ug/L	n/a	<144	<144	n/a	n/a	n/a	n/a	144	n/a	U
S11V004090		O	78-83-1	Isobutanol	ug/L	n/a	<376	<376	n/a	n/a	n/a	n/a	376	n/a	U
S11V004091			7439-97-6	Mercury	ug/mL	97.9	<1.00E-04	<4.00E-04	n/a	n/a	n/a	n/a	4.00E-04	n/a	U
S11V004091			7440-22-4	Silver	ug/mL	99.0	<5.00E-03	<5.00E-03	n/a	n/a	n/a	n/a	5.00E-03	n/a	U
S11V004091			7429-90-5	Aluminum	ug/mL	102	<0.0300	<0.0300	n/a	n/a	n/a	n/a	0.0300	n/a	U
S11V004091			7440-38-2	Arsenic	ug/mL	99.3	<0.0500	<0.0500	n/a	n/a	n/a	n/a	0.0500	n/a	U
S11V004091			7440-42-8	Boron	ug/mL	101	<0.0300	<0.0300	n/a	n/a	n/a	n/a	0.0300	n/a	U
S11V004091			7440-39-3	Barium	ug/mL	102	<3.00E-03	<3.00E-03	n/a	n/a	n/a	n/a	3.00E-03	n/a	U
S11V004091			7440-41-7	Beryllium	ug/mL	97.5	<1.00E-03	<1.00E-03	n/a	n/a	n/a	n/a	1.00E-03	n/a	U
S11V004091			7440-70-2	Calcium	ug/mL	97.8	<0.0500	<0.0500	n/a	n/a	n/a	n/a	0.0500	n/a	U
S11V004091			7440-43-9	Cadmium	ug/mL	102	<5.00E-03	<5.00E-03	n/a	n/a	n/a	n/a	5.00E-03	n/a	U
S11V004091			7440-45-1	Cerium	ug/mL	104	<0.0300	<0.0300	n/a	n/a	n/a	n/a	0.0300	n/a	U
S11V004091			7440-48-4	Cobalt	ug/mL	100	<0.0100	<0.0100	n/a	n/a	n/a	n/a	0.0100	n/a	U
S11V004091			7440-47-3	Chromium	ug/mL	101	<5.00E-03	<5.00E-03	n/a	n/a	n/a	n/a	5.00E-03	n/a	U
S11V004091			7440-50-8	Copper	ug/mL	103	<5.00E-03	<5.00E-03	n/a	n/a	n/a	n/a	5.00E-03	n/a	U
S11V004091			7440-53-1	Europium	ug/mL	98.9	<5.00E-03	<5.00E-03	n/a	n/a	n/a	n/a	5.00E-03	n/a	U
S11V004091			7439-89-6	Iron	ug/mL	98.5	<5.00E-03	0.0240	n/a	n/a	n/a	n/a	5.00E-03	n/a	B
S11V004091			7440-09-7	Potassium	ug/mL	102	<0.500	0.535	n/a	n/a	n/a	n/a	0.500	n/a	B
S11V004091			7439-91-0	Lanthanum	ug/mL	100	<3.00E-03	<3.00E-03	n/a	n/a	n/a	n/a	3.00E-03	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

02 - Aug - 2011 16:30:19
DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20110261
Core Number: C8100
Customer Sample ID: B2B1N6
Sample Depth: Equipment blank

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004091			7439-93-2	Lithium	ug/mL	108	<3.00E-03	<3.00E-03	n/a	n/a	n/a	n/a	3.00E-03	n/a	U
S11V004091			7439-95-4	Magnesium	ug/mL	103	<0.0500	<0.0500	n/a	n/a	n/a	n/a	0.0500	n/a	U
S11V004091			7439-96-5	Manganese	ug/mL	99.5	<3.00E-03	<3.00E-03	n/a	n/a	n/a	n/a	3.00E-03	n/a	U
S11V004091			7439-98-7	Molybdenum	ug/mL	99.8	<0.0200	<0.0200	n/a	n/a	n/a	n/a	0.0200	n/a	U
S11V004091			7440-23-5	Sodium	ug/mL	108	<0.100	0.187	n/a	n/a	n/a	n/a	0.100	n/a	B
S11V004091			7440-02-0	Nickel	ug/mL	99.5	<0.0200	<0.0200	n/a	n/a	n/a	n/a	0.0200	n/a	U
S11V004091			7723-14-0	Phosphorus	ug/mL	102	<0.0500	<0.0500	n/a	n/a	n/a	n/a	0.0500	n/a	U
S11V004091			7439-92-1	Lead	ug/mL	105	<0.0500	<0.0500	n/a	n/a	n/a	n/a	0.0500	n/a	U
S11V004091			7440-10-0	Praseodymium	ug/mL	103	<0.0100	<0.0100	n/a	n/a	n/a	n/a	0.0100	n/a	U
S11V004091			7440-16-6	Rhodium	ug/mL	99.5	<0.0500	<0.0500	n/a	n/a	n/a	n/a	0.0500	n/a	U
S11V004091			7440-18-8	Ruthenium	ug/mL	102	<0.0300	<0.0300	n/a	n/a	n/a	n/a	0.0300	n/a	U
S11V004091			7704-34-9	Sulfur	ug/mL	104	<0.100	<0.100	n/a	n/a	n/a	n/a	0.100	n/a	U
S11V004091			7440-36-0	Antimony	ug/mL	98.8	<0.0500	<0.0500	n/a	n/a	n/a	n/a	0.0500	n/a	U
S11V004091			7782-49-2	Selenium	ug/mL	103	<0.100	<0.100	n/a	n/a	n/a	n/a	0.100	n/a	U
S11V004091			7440-21-3	Silicon	ug/mL	94.0	<0.0300	<0.0300	n/a	n/a	n/a	n/a	0.0300	n/a	U
S11V004091			7440-19-9	Samarium	ug/mL	104	<0.0200	<0.0200	n/a	n/a	n/a	n/a	0.0200	n/a	U
S11V004091			7440-24-6	Strontium	ug/mL	100	<3.00E-03	<3.00E-03	n/a	n/a	n/a	n/a	3.00E-03	n/a	U
S11V004091			7440-25-7	Tantalum	ug/mL	97.9	<0.0500	<0.0500	n/a	n/a	n/a	n/a	0.0500	n/a	U
S11V004091			13494-80-9	Tellurium	ug/mL	101	<0.100	<0.100	n/a	n/a	n/a	n/a	0.100	n/a	U
S11V004091			7440-29-1	Thorium	ug/mL	98.7	<0.0500	<0.0500	n/a	n/a	n/a	n/a	0.0500	n/a	U
S11V004091			7440-32-6	Titanium	ug/mL	101	<5.00E-03	<5.00E-03	n/a	n/a	n/a	n/a	5.00E-03	n/a	U
S11V004091			7440-28-0	Thallium	ug/mL	n/a	<0.100	<0.100	n/a	n/a	n/a	n/a	0.100	n/a	U
S11V004091			7440-62-2	Vanadium	ug/mL	101	<5.00E-03	<5.00E-03	n/a	n/a	n/a	n/a	5.00E-03	n/a	U
S11V004091			7440-65-5	Yttrium	ug/mL	99.3	<2.00E-03	<2.00E-03	n/a	n/a	n/a	n/a	2.00E-03	n/a	U
S11V004091			7440-66-6	Zinc	ug/mL	99.4	<5.00E-03	0.0482	n/a	n/a	n/a	n/a	5.00E-03	n/a	B
S11V004091			7440-67-7	Zirconium	ug/mL	96.3	<5.00E-03	<5.00E-03	n/a	n/a	n/a	n/a	5.00E-03	n/a	U
S11V004091			14269-63-7	Thorium-230	ug/mL	n/a	<7.00E-09	<1.40E-08	1.80E-08	n/a	n/a	n/a	1.40E-08	n/a	U
S11V004091			TH-232	Thorium-232	ug/mL	99.4	<5.00E-07	<1.00E-06	<1.00E-06	n/a	n/a	96.7	1.00E-06	n/a	U
S11V004091			13968-55-3	Uranium-233	ug/mL	99.4	<2.00E-07	<4.00E-07	<4.00E-07	n/a	n/a	97.7	4.00E-07	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

02 - Aug - 2011 16:30:19
DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20110261
Core Number: C8100
Customer Sample ID: B2B1N6
Sample Depth: Equipment blank

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004091			13966-29-5	Uranium-234	ug/mL	n/a	<5.00E-09	<1.00E-08	<1.00E-08	n/a	n/a	n/a	1.00E-08	n/a	U
S11V004091			15117-96-1	Uranium-235	ug/mL	95.6	<1.00E-08	<2.00E-08	<2.00E-08	n/a	n/a	110	2.00E-08	n/a	U
S11V004091			13982-70-2	Uranium-236	ug/mL	n/a	<4.00E-09	<8.00E-09	<8.00E-09	n/a	n/a	n/a	8.00E-09	n/a	U
S11V004091			13994-20-2	Neptunium-237	ug/mL	100	<1.00E-07	<2.00E-07	<2.00E-07	n/a	n/a	97.4	2.00E-07	n/a	U
S11V004091			U-238	Uranium-238	ug/mL	99.2	<5.00E-07	<1.00E-06	<1.00E-06	n/a	n/a	99.2	1.00E-06	n/a	U
S11V004091			14133-76-7	Technetium-99	ug/mL	105	<6.00E-07	<1.20E-06	<1.20E-06	n/a	n/a	119	1.20E-06	n/a	U
S11V004091			SN-117	Tin-117	ug/mL	102	<1.00E-05	<2.00E-05	<2.00E-05	n/a	n/a	107	2.00E-05	n/a	U
S11V004091			15832-50-5	Tin-126	ug/mL	n/a	<2.00E-07	<4.00E-07	<4.00E-07	n/a	n/a	n/a	4.00E-07	n/a	U
S11V004092			14762-75-5	Carbon-14	uCi/mL	94.5	<1.36E-07	<1.28E-07	<1.28E-07	n/a	n/a	93.4	1.28E-07	n/a	U
S11V004092			15046-84-1	Iodine-129	uCi/mL	118	<1.69E-08	<1.85E-08	<1.97E-08	n/a	n/a	n/a	1.85E-08	n/a	U
S11V004092			10028-17-8	Tritium	uCi/mL	96.5	<2.67E-07	<2.65E-07	<2.66E-07	n/a	n/a	93.0	2.65E-07	n/a	U
S11V004093			CM-243/244	Curium-243/244	uCi/mL	n/a	<9.67E-10	<1.13E-09	<1.01E-09	n/a	n/a	n/a	1.13E-09	n/a	U
S11V004093			14596-10-2	Americium-241	uCi/mL	100	<2.42E-09	<2.82E-09	<2.53E-09	n/a	n/a	n/a	2.82E-09	n/a	U
S11V004093			15510-73-3	Curium-242	uCi/mL	n/a	<9.67E-10	<1.13E-09	<1.01E-09	n/a	n/a	n/a	1.13E-09	n/a	U
S11V004093			10198-40-0	Cobalt-60	uCi/mL	97.9	<2.34E-07	<1.25E-07	<2.50E-07	n/a	n/a	n/a	1.25E-07	n/a	U
S11V004093			14234-35-6	Antimony-125	uCi/mL	n/a	<6.31E-07	<3.41E-07	<6.44E-07	n/a	n/a	n/a	3.41E-07	n/a	U
S11V004093			10045-97-3	Cesium-137	uCi/mL	98.3	<2.63E-07	<1.23E-07	<2.47E-07	n/a	n/a	n/a	1.23E-07	n/a	U
S11V004093			14683-23-9	Europium-152	uCi/mL	n/a	<5.45E-07	<3.23E-07	<5.32E-07	n/a	n/a	n/a	3.23E-07	22.35	U
S11V004093			15585-10-1	Europium-154	uCi/mL	n/a	<3.76E-07	<2.29E-07	<3.79E-07	n/a	n/a	n/a	2.29E-07	n/a	U
S11V004093			14391-16-3	Europium-155	uCi/mL	n/a	<7.02E-07	<4.32E-07	<7.11E-07	n/a	n/a	n/a	4.32E-07	n/a	U
S11V004093			14274-82-9	Thorium-228	uCi/mL	n/a	<1.11E-04	<6.77E-05	<1.13E-04	n/a	n/a	n/a	6.77E-05	n/a	U
S11V004093			15065-10-8	Thorium-234	uCi/mL	n/a	<4.55E-06	<3.78E-06	<5.26E-06	n/a	n/a	n/a	3.78E-06	n/a	U
S11V004093			13981-37-8	Nickel-63	uCi/mL	100	<5.33E-08	<5.29E-08	<5.34E-08	n/a	n/a	n/a	5.29E-08	n/a	U
S11V004093			PU-239/240	Plutonium-239/240	uCi/mL	106	<1.88E-09	<2.47E-09	<1.65E-09	n/a	n/a	n/a	2.47E-09	n/a	U
S11V004093			13981-16-3	Plutonium-238	uCi/mL	n/a	<1.88E-09	<2.47E-09	<1.65E-09	n/a	n/a	n/a	2.47E-09	n/a	U
S11V004093			15758-45-9	Selenium-79	uCi/mL	n/a	4.94E-08	2.33E-08	2.21E-08	2.27E-08	5.29	n/a	1.55E-08	108.294	BE
S11V004093			SR-89/90	Strontium-89/90	uCi/mL	105	<8.25E-09	<8.37E-09	<8.06E-09	n/a	n/a	n/a	8.37E-09	n/a	U
S11V004094			16984-48-8	Fluoride	ug/mL	103	<1.61E-03	0.120	0.119	0.120	0.970	110	1.61E-03	n/a	
S11V004094			GLYCOLAT	Glycolate	ug/mL	97.9	<9.37E-03	<9.37E-03	<9.37E-03	n/a	n/a	103	9.37E-03	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

02 - Aug - 2011 16:30:19
DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20110261

Core Number: C8100

Customer Sample ID: B2B1N6

Sample Depth: Equipment blank

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004094			71-50-1	Acetate	ug/mL	99.6	<6.04E-03	<6.04E-03	<6.04E-03	n/a	n/a	105	6.04E-03	n/a	U
S11V004094			FORMATE	Formate	ug/mL	100	<4.67E-03	0.0588	0.0591	0.0589	0.577	105	4.67E-03	n/a	
S11V004094			16887-00-6	Chloride	ug/mL	98.4	<9.98E-03	<9.98E-03	<9.98E-03	n/a	n/a	102	9.98E-03	n/a	U
S11V004094			14797-65-0	Nitrite	ug/mL	102	<0.0192	<0.0192	<0.0192	n/a	n/a	106	0.0192	n/a	U
S11V004094			14808-79-8	Sulfate	ug/mL	101	<0.0187	<0.0187	<0.0187	n/a	n/a	104	0.0187	n/a	U
S11V004094			338-70-5	Oxalate	ug/mL	99.2	<0.0231	<0.0231	<0.0231	n/a	n/a	103	0.0231	n/a	U
S11V004094			24959-67-9	Bromide	ug/mL	98.8	<0.0580	<0.0580	<0.0580	n/a	n/a	103	0.0580	n/a	U
S11V004094			14797-55-8	Nitrate	ug/mL	97.7	<0.0208	<0.0208	<0.0208	n/a	n/a	102	0.0208	n/a	U
S11V004094			14265-44-2	Phosphate	ug/mL	97.9	<0.0167	<0.0167	<0.0167	n/a	n/a	102	0.0167	n/a	U
S11V004094			PH	pH	unitless	n/a	n/a	4.80	4.55	4.68	5.35	n/a	0.0100	n/a	
S11V004095			57-12-5	Cyanide	ug/mL	100	<4.00E-03	<0.0200	<0.0200	n/a	n/a	99.3	0.0200	n/a	U
S11V004096		S	14798-03-9	Ammonium	ug/mL	95.7	<0.120	<0.120	<0.120	n/a	n/a	97.3	0.120	n/a	U
S11V004195		O	12674-11-2	Aroclor 1016	ug/L	n/a	<5.40	<5.40	n/a	n/a	n/a	n/a	5.40	n/a	U
S11V004195		O	11104-28-2	Aroclor 1221	ug/L	n/a	<1.01	<1.01	n/a	n/a	n/a	n/a	1.01	n/a	U
S11V004195		O	11141-16-5	Aroclor 1232	ug/L	n/a	<1.17	<1.17	n/a	n/a	n/a	n/a	1.17	n/a	U
S11V004195		O	53469-21-9	Aroclor 1242	ug/L	n/a	<1.80	<1.80	n/a	n/a	n/a	n/a	1.80	n/a	U
S11V004195		O	12672-29-6	Aroclor 1248	ug/L	n/a	<1.01	<1.01	n/a	n/a	n/a	n/a	1.01	n/a	U
S11V004195		O	11097-69-1	Aroclor 1254	ug/L	81.7	<0.371	<0.371	n/a	n/a	n/a	82.8	0.371	n/a	U
S11V004195		O	11096-82-5	Aroclor 1260	ug/L	n/a	<4.09	<4.09	n/a	n/a	n/a	n/a	4.09	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2B1L6

Sample Depth: SURFACE

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004098		%WATERA	%WATER-APD	%	n/a	n/a	6.970	n/a	n/a	n/a	n/a	0.01000	n/a	
S11V004098		57-12-5	Cyanide	ug/g	92.0	<0.0370	<0.480	<0.480	n/a	n/a	87.7	0.480	n/a	U
S11V004098		WT%SOLID	Weight percent solids	%	n/a	n/a	93.0	n/a	n/a	n/a	n/a	0.0100	n/a	
S11V004098		7439-97-6	Mercury	ug/g	97.0	<1.00E-04	0.0104	n/a	n/a	n/a	91.8	9.15E-03	n/a	B
S11V004098		PH	pH	unitless	n/a	n/a	8.69	8.62	8.66	0.809	n/a	0.0100	n/a	
S11V004099		13966-00-2	Potassium-40	uCi/g	n/a	n/a	9.26E-06	9.29E-06	9.28E-06	0.339	n/a	2.39E-06	7.16	
S11V004099		10198-40-0	Cobalt-60	uCi/g	98.8	<1.71E-07	<8.47E-08	<8.49E-08	n/a	n/a	n/a	8.47E-08	n/a	U
S11V004099		14234-35-6	Antimony-125	uCi/g	n/a	<4.59E-07	<2.53E-07	<2.25E-07	n/a	n/a	n/a	2.53E-07	n/a	U
S11V004099		10045-97-3	Cesium-137	uCi/g	101	<2.03E-07	4.84E-06	6.45E-06	5.64E-06	28.6	n/a	9.82E-08	1.27	
S11V004099		14683-23-9	Europium-152	uCi/g	n/a	<4.23E-07	<2.09E-07	<2.07E-07	n/a	n/a	n/a	2.09E-07	n/a	U
S11V004099		15585-10-1	Europium-154	uCi/g	n/a	<2.69E-07	<1.50E-07	<1.50E-07	n/a	n/a	n/a	1.50E-07	n/a	U
S11V004099		14391-16-3	Europium-155	uCi/g	n/a	<5.69E-07	<2.90E-07	<2.85E-07	n/a	n/a	n/a	2.90E-07	n/a	U
S11V004099		14913-50-9	Thallium-208	uCi/g	n/a	n/a	2.53E-07	2.57E-07	2.55E-07	1.66	n/a	9.44E-08	10.71	
S11V004099		15092-94-1	Lead-212	uCi/g	n/a	n/a	5.10E-07	6.30E-07	5.70E-07	21.1	n/a	1.51E-07	9.95	
S11V004099		14733-03-0	Bismuth-214	uCi/g	n/a	n/a	9.54E-07	1.19E-06	1.07E-06	22.2	n/a	2.05E-07	8.80	
S11V004099		15067-28-4	Lead-214	uCi/g	n/a	n/a	8.12E-07	9.83E-07	8.98E-07	19.1	n/a	2.13E-07	10.28	
S11V004099		13982-63-3	Radium-226	uCi/g	n/a	n/a	1.88E-06	1.98E-06	1.93E-06	5.01	n/a	1.53E-06	27.51	
S11V004099		14274-82-9	Thorium-228	uCi/g	n/a	<8.56E-05	<4.37E-05	<4.51E-05	n/a	n/a	n/a	4.37E-05	n/a	U
S11V004099		15065-10-8	Thorium-234	uCi/g	n/a	<3.63E-06	<1.14E-05	<1.16E-05	n/a	n/a	n/a	1.14E-05	43.18	U
S11V004099		15046-84-1	Iodine-129	uCi/g	104	<2.15E-05	<2.13E-06	<1.81E-06	n/a	n/a	n/a	2.13E-06	n/a	U
S11V004101		CONDUCT	Conductivity	uMHO/cm	98.7	<1.00	312	296	304	5.29	n/a	1.00	n/a	
S11V004101	WV	14133-76-7	Technetium-99	ug/g	100	<6.00E-06	<6.27E-06	<6.29E-06	n/a	n/a	105	6.27E-06	n/a	U
S11V004102	O	12674-11-2	Aroclor 1016	ug/kg	n/a	<19.7	<21.0	n/a	n/a	n/a	n/a	21.0	n/a	U
S11V004102	O	11104-28-2	Aroclor 1221	ug/kg	n/a	<3.26	<3.48	n/a	n/a	n/a	n/a	3.48	n/a	U
S11V004102	O	11141-16-5	Aroclor 1232	ug/kg	n/a	<5.53	<5.90	n/a	n/a	n/a	n/a	5.90	n/a	U
S11V004102	O	53469-21-9	Aroclor 1242	ug/kg	n/a	<13.2	<14.0	n/a	n/a	n/a	n/a	14.0	n/a	U
S11V004102	O	12672-29-6	Aroclor 1248	ug/kg	n/a	<7.45	<7.95	n/a	n/a	n/a	n/a	7.95	n/a	U
S11V004102	O	11097-69-1	Aroclor 1254	ug/kg	94.4	<4.77	<5.09	n/a	n/a	n/a	n/a	5.09	n/a	U
S11V004102	O	11096-82-5	Aroclor 1260	ug/kg	n/a	<7.72	<8.23	n/a	n/a	n/a	n/a	8.23	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

02 - Aug - 2011 16:30:19
DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20110264
Core Number: C8100
Customer Sample ID: B2B1L6
Sample Depth: SURFACE

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004103	A	7440-36-0	Antimony	ug/g	102	<2.00E-04	0.219	0.183	0.201	17.8	99.5	9.76E-03	n/a	
S11V004103	A	SN-117	Tin-117	ug/g	105	<1.00E-03	<0.0488	<0.0494	n/a	n/a	107	0.0488	n/a	U
S11V004103	A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	<9.76E-04	<9.89E-04	n/a	n/a	n/a	9.76E-04	n/a	U
S11V004104	O	120-82-1	1,2,4-Trichlorobenzene	ug/kg	86.3	<77.4	<75.9	n/a	n/a	n/a	96.6	75.9	n/a	UT
S11V004104	O	95-50-1	1,2-Dichlorobenzene	ug/kg	n/a	<101	<98.8	n/a	n/a	n/a	n/a	98.8	n/a	U
S11V004104	O	121-14-2	2,4-Dinitrotoluene	ug/kg	93.1	<38.1	<37.4	n/a	n/a	n/a	90.0	37.4	n/a	U
S11V004104	O	95-95-4	2,4,5-Trichlorophenol	ug/kg	n/a	<44.0	<43.2	n/a	n/a	n/a	n/a	43.2	n/a	U
S11V004104	O	88-06-2	2,4,6-Trichlorophenol	ug/kg	n/a	<49.5	<48.6	n/a	n/a	n/a	n/a	48.6	n/a	U
S11V004104	O	95-48-7	2-Methylphenol	ug/kg	n/a	<57.5	<56.4	n/a	n/a	n/a	n/a	56.4	n/a	U
S11V004104	O	88-75-5	2-Nitrophenol	ug/kg	n/a	<53.7	<52.7	n/a	n/a	n/a	n/a	52.7	n/a	U
S11V004104	O	65794-96-9	3 &4 Methylphenol	ug/kg	n/a	<51.4	<50.4	n/a	n/a	n/a	n/a	50.4	n/a	U
S11V004104	O	83-32-9	Acenaphthene	ug/kg	87.3	<17.6	<17.3	n/a	n/a	n/a	102	17.3	n/a	U
S11V004104	O	56-55-3	Benzo(a)anthracene	ug/kg	n/a	<37.8	<37.1	n/a	n/a	n/a	n/a	37.1	n/a	U
S11V004104	O	205-99-2	Benzo(b)fluoranthene	ug/kg	n/a	<48.9	<48.0	n/a	n/a	n/a	n/a	48.0	n/a	U
S11V004104	O	50-32-8	Benzo(a)pyrene	ug/kg	n/a	<41.2	<40.4	n/a	n/a	n/a	n/a	40.4	n/a	U
S11V004104	O	117-81-7	Bis(2-ethylhexyl) phthalate	ug/kg	n/a	<590	<579	n/a	n/a	n/a	n/a	579	n/a	U
S11V004104	O	207-08-9	Benzo(k)fluoranthene	ug/kg	n/a	<39.1	<38.4	n/a	n/a	n/a	n/a	38.4	n/a	U
S11V004104	O	85-68-7	Butylbenzylphthalate	ug/kg	n/a	<50.0	<49.0	n/a	n/a	n/a	n/a	49.0	n/a	U
S11V004104	O	59-50-7	4-Chloro-3-methylphenol	ug/kg	87.3	<43.2	<42.4	n/a	n/a	n/a	97.4	42.4	n/a	UT
S11V004104	O	95-57-8	2-Chlorophenol	ug/kg	86.0	<66.5	<65.2	n/a	n/a	n/a	91.3	65.2	n/a	U
S11V004104	O	218-01-9	Chrysene	ug/kg	n/a	<81.4	<79.8	n/a	n/a	n/a	n/a	79.8	n/a	U
S11V004104	O	53-70-3	Dibenz[a,h]anthracene	ug/kg	n/a	<51.1	<50.1	n/a	n/a	n/a	n/a	50.1	n/a	U
S11V004104	O	84-74-2	Di-n-butylphthalate	ug/kg	n/a	<562	<552	n/a	n/a	n/a	n/a	552	n/a	U
S11V004104	O	117-84-0	Di-n-octylphthalate	ug/kg	n/a	<47.7	<46.8	n/a	n/a	n/a	n/a	46.8	n/a	U
S11V004104	O	621-64-7	N-Nitroso-di-n-dipropylamine	ug/kg	87.3	<58.1	<57.0	n/a	n/a	n/a	102	57.0	n/a	UT
S11V004104	O	206-44-0	Fluoranthene	ug/kg	n/a	<35.4	<34.7	n/a	n/a	n/a	n/a	34.7	n/a	U
S11V004104	O	87-68-3	Hexachlorobutadiene	ug/kg	n/a	<69.7	<68.4	n/a	n/a	n/a	n/a	68.4	n/a	U
S11V004104	O	67-72-1	Hexachloroethane	ug/kg	n/a	<112	<110	n/a	n/a	n/a	n/a	110	n/a	U
S11V004104	O	193-39-5	Indeno(1,2,3-cd)pyrene	ug/kg	n/a	<51.0	<50.0	n/a	n/a	n/a	n/a	50.0	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

02 - Aug - 2011 16:30:19
DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20110264
Core Number: C8100
Customer Sample ID: B2B1L6
Sample Depth: SURFACE

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004104		O	91-20-3	Naphthalene	ug/kg	n/a	<62.6	<61.4	n/a	n/a	n/a	n/a	61.4	n/a	U
S11V004104		O	98-95-3	Nitrobenzene	ug/kg	n/a	<64.6	<63.4	n/a	n/a	n/a	n/a	63.4	n/a	U
S11V004104		O	87-86-5	Pentachlorophenol	ug/kg	106	<37.5	<36.8	n/a	n/a	n/a	96.1	36.8	n/a	U
S11V004104		O	129-00-0	Pyrene	ug/kg	104	<62.9	<61.7	n/a	n/a	n/a	114	61.7	n/a	UT
S11V004104		O	110-86-1	Pyridine	ug/kg	n/a	<65.0	<63.8	n/a	n/a	n/a	n/a	63.8	n/a	U
S11V004104		O	126-73-8	Tributyl phosphate	ug/kg	n/a	<108	<106	n/a	n/a	n/a	n/a	106	n/a	U
S11V004104		O	128-37-0	BHT	ug/kg	n/a	<236	<231	n/a	n/a	n/a	n/a	231	n/a	U
S11V004104		O	110-80-5	2-Ethoxyethanol	ug/kg	n/a	<182	<179	n/a	n/a	n/a	n/a	179	n/a	U
S11V004104		O	1319-77-3	Total Methylphenols	ug/kg	n/a	<107	<105	n/a	n/a	n/a	n/a	105	n/a	U
S11V004104		O	108-94-1	Cyclohexanone	ug/kg	n/a	<558	<547	n/a	n/a	n/a	n/a	547	n/a	U
S11V004104		O	59-89-2	N-Nitrosomorpholine	ug/kg	n/a	<191	<188	n/a	n/a	n/a	n/a	188	n/a	U
S11V004104		O	78-83-1	Isobutanol	ug/kg	n/a	<460	<452	n/a	n/a	n/a	n/a	452	n/a	U
S11V004105		W	16984-48-8	Fluoride	ug/g	103	<1.61E-03	0.502	0.438	0.470	13.8	108	0.0142	n/a	
S11V004105		W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0826	<0.0821	n/a	n/a	103	0.0826	n/a	U
S11V004105		W	71-50-1	Acetate	ug/g	103	<6.04E-03	3.22	<0.0529	n/a	n/a	105	0.0532	n/a	
S11V004105		W	FORMATE	Formate	ug/g	103	0.0206	0.236	0.189	0.213	22.3	105	0.0412	n/a	B
S11V004105		W	16887-00-6	Chloride	ug/g	102	0.0207	0.354	0.312	0.333	12.9	107	0.0880	n/a	C
S11V004105		W	14797-65-0	Nitrite	ug/g	102	0.0637	0.613	0.854	0.734	32.8	102	0.169	n/a	CB
S11V004105		W	14808-79-8	Sulfate	ug/g	105	0.0350	2.94	2.57	2.75	13.7	107	0.165	n/a	
S11V004105		W	338-70-5	Oxalate	ug/g	101	<0.0231	<0.204	<0.202	n/a	n/a	104	0.204	n/a	U
S11V004105		W	24959-67-9	Bromide	ug/g	103	<0.0580	<0.511	<0.508	n/a	n/a	106	0.511	n/a	U
S11V004105		W	14797-55-8	Nitrate	ug/g	102	<0.0208	3.24	3.01	3.13	7.40	105	0.183	n/a	
S11V004105		W	14265-44-2	Phosphate	ug/g	102	<0.0167	1.77	1.53	1.65	14.1	105	0.147	n/a	B
S11V004106		A	7429-90-5	Aluminum	ug/g	91.6	<0.0300	7.74E+03	8.43E+03	8.09E+03	8.54	2.81E+03	2.74	n/a	
S11V004106		A	7440-42-8	Boron	ug/g	89.1	<0.0300	43.9	47.5	45.7	7.89	134	2.74	n/a	N
S11V004106		A	7440-39-3	Barium	ug/g	96.7	<3.00E-03	244	272	258	10.6	179	0.274	n/a	
S11V004106		A	7440-41-7	Beryllium	ug/g	101	<1.00E-03	0.328	0.368	0.348	11.4	97.7	0.0915	n/a	B
S11V004106		A	7440-70-2	Calcium	ug/g	90.8	0.139	1.53E+04	1.94E+04	1.74E+04	23.5	6.45E+03	4.57	n/a	
S11V004106		A	7440-45-1	Cerium	ug/g	98.7	<0.0300	20.3	22.4	21.4	10.0	103	2.74	n/a	B

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

02 - Aug - 2011 16:30:19
DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20110264
Core Number: C8100
Customer Sample ID: B2B1L6
Sample Depth: SURFACE

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004106	A	7440-48-4	Cobalt	ug/g	92.1	<0.0100	6.34	8.92	7.63	33.8	102	0.915	n/a	B
S11V004106	A	7440-47-3	Chromium	ug/g	92.9	<5.00E-03	10.5	8.56	9.53	20.5	98.5	0.457	n/a	
S11V004106	A	7440-50-8	Copper	ug/g	97.0	<5.00E-03	11.8	13.0	12.4	9.32	111	0.457	n/a	
S11V004106	A	7439-89-6	Iron	ug/g	92.3	0.0102	1.87E+04	2.02E+04	1.94E+04	7.71	3.44E+03	0.457	n/a	
S11V004106	A	7440-09-7	Potassium	ug/g	91.1	<0.500	950	958	954	0.896	127	45.7	n/a	
S11V004106	A	7439-91-0	Lanthanum	ug/g	95.2	<3.00E-03	9.38	10.0	9.71	6.73	101	0.274	n/a	
S11V004106	A	7439-93-2	Lithium	ug/g	103	<3.00E-03	8.68	8.82	8.75	1.61	100	0.274	n/a	
S11V004106	A	7439-95-4	Magnesium	ug/g	91.9	<0.0500	6.05E+03	6.83E+03	6.44E+03	12.1	1.15E+03	4.57	n/a	
S11V004106	A	7439-96-5	Manganese	ug/g	91.9	<3.00E-03	240	256	248	6.52	160	0.274	n/a	
S11V004106	A	7439-98-7	Molybdenum	ug/g	92.0	<0.0200	<1.83	<1.93	n/a	n/a	95.2	1.83	n/a	U
S11V004106	A	7440-23-5	Sodium	ug/g	100	<0.100	515	542	529	5.15	525	9.15	n/a	
S11V004106	A	7440-02-0	Nickel	ug/g	91.6	<0.0200	13.7	13.3	13.5	3.16	92.1	1.83	n/a	B
S11V004106	A	7723-14-0	Phosphorus	ug/g	95.2	<0.0500	763	833	798	8.76	343	4.57	n/a	
S11V004106	A	7440-10-0	Praseodymium	ug/g	103	<0.0100	2.26	2.08	2.17	8.23	100	0.915	n/a	B
S11V004106	A	7704-34-9	Sulfur	ug/g	99.5	0.239	129	142	135	9.64	136	9.15	n/a	N
S11V004106	A	7440-21-3	Silicon	ug/g	16.0	<0.0300	68.6	84.7	76.7	20.9	-6.93	2.74	n/a	N
S11V004106	A	7440-31-5	Tin	ug/g	88.8	<0.0300	3.03	<2.89	n/a	n/a	94.1	2.74	n/a	B
S11V004106	A	7440-24-6	Strontium	ug/g	95.7	<3.00E-03	125	140	132	11.5	128	0.274	n/a	N
S11V004106	A	13494-80-9	Tellurium	ug/g	90.4	<0.100	11.3	<9.63	n/a	n/a	88.2	9.15	n/a	B
S11V004106	A	7440-32-6	Titanium	ug/g	93.4	<5.00E-03	1.18E+03	1.18E+03	1.18E+03	0.677	91.6	0.457	n/a	
S11V004106	A	7440-62-2	Vanadium	ug/g	94.1	<5.00E-03	41.9	42.5	42.2	1.34	107	0.457	n/a	
S11V004106	A	7440-65-5	Yttrium	ug/g	94.2	<2.00E-03	8.99	9.63	9.31	6.90	98.3	0.183	n/a	
S11V004106	A	7440-66-6	Zinc	ug/g	91.4	<5.00E-03	34.3	35.5	34.9	3.70	111	0.457	n/a	
S11V004106	A	7440-67-7	Zirconium	ug/g	92.4	<5.00E-03	15.7	13.3	14.5	16.8	-9.18	0.457	n/a	N
S11V004106	A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<6.40E-05	7.92E-05	n/a	n/a	n/a	6.40E-05	n/a	U
S11V004106	A	TH-232	Thorium-232	ug/g	109	<5.00E-04	2.59	2.77	2.68	6.57	113	4.57E-03	n/a	
S11V004106	A	13968-55-3	Uranium-233	ug/g	102	<2.00E-04	<1.83E-03	<1.93E-03	n/a	n/a	98.7	1.83E-03	n/a	U
S11V004106	A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	<4.57E-05	<4.81E-05	n/a	n/a	n/a	4.57E-05	n/a	U
S11V004106	A	15117-96-1	Uranium-235	ug/g	109	<1.00E-05	4.49E-03	4.66E-03	4.57E-03	3.68	102	9.15E-05	n/a	

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

02 - Aug - 2011 16:30:19
DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20110264
Core Number: C8100
Customer Sample ID: B2B1L6
Sample Depth: SURFACE

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004106		A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<3.66E-05	<3.85E-05	n/a	n/a	n/a	3.66E-05	n/a	U
S11V004106		A	13994-20-2	Neptunium-237	ug/g	107	<1.00E-04	<9.15E-04	<9.63E-04	n/a	n/a	107	9.15E-04	n/a	U
S11V004106		A	U-238	Uranium-238	ug/g	109	<5.00E-04	0.646	0.689	0.668	6.52	112	4.57E-03	n/a	
S11V004106		A	7440-22-4	Silver	ug/g	109	<2.00E-03	0.0624	0.0783	0.0704	22.6	102	0.0183	n/a	B
S11V004106		A	7440-38-2	Arsenic	ug/g	94.1	<0.0420	3.27	3.49	3.38	6.74	98.0	0.384	n/a	B
S11V004106		A	7440-43-9	Cadmium	ug/g	107	<6.00E-03	0.102	0.0968	0.0994	5.10	105	0.0549	n/a	B
S11V004106		A	7439-92-1	Lead	ug/g	101	<0.0150	5.29	5.42	5.36	2.47	102	0.137	n/a	
S11V004106		A	7782-49-2	Selenium	ug/g	103	<0.135	<1.23	<1.30	n/a	n/a	101	1.23	n/a	U
S11V004106		A	7440-28-0	Thallium	ug/g	101	<4.00E-03	0.0617	0.0675	0.0646	9.12	101	0.0366	n/a	B
S11V004107		S	14798-03-9	Ammonium	ug/g	103	<0.120	3.82	3.22	3.52	17.1	98.7	0.472	n/a	B
S11V004108		A	14133-76-7	Technetium-99	ug/g	107	<6.00E-05	<5.71E-04	<5.74E-04	n/a	n/a	102	5.71E-04	n/a	U
S11V004109		E	CM-243/244	Curium-243/244	uCi/g	n/a	<4.58E-08	<3.37E-08	<4.15E-08	n/a	n/a	n/a	3.37E-08	n/a	U
S11V004109		E	14596-10-2	Americium-241	uCi/g	103	<5.32E-08	<4.76E-08	<3.63E-08	n/a	n/a	n/a	4.76E-08	n/a	U
S11V004109		E	15510-73-3	Curium-242	uCi/g	n/a	<2.34E-08	<1.16E-08	<1.08E-08	n/a	n/a	n/a	1.16E-08	n/a	U
S11V004109		E	PU-239/240	Plutonium-239/240	uCi/g	107	<6.34E-08	3.78E-08	<5.18E-08	n/a	n/a	n/a	3.71E-08	33.33	
S11V004109		E	13981-16-3	Plutonium-238	uCi/g	n/a	<6.58E-08	<4.04E-08	9.40E-08	6.72E-08	79.7	n/a	4.04E-08	n/a	U
S11V004110		E	SR-89/90	Strontium-89/90	uCi/g	111	<4.70E-07	3.95E-06	3.97E-06	3.96E-06	0.542	n/a	2.22E-07	14.727	
S11V004111		E	13981-37-8	Nickel-63	uCi/g	102	<1.02E-05	<6.24E-06	<5.03E-06	n/a	n/a	n/a	6.24E-06	n/a	U
S11V004112		E	15758-45-9	Selenium-79	uCi/g	n/a	4.77E-06	9.19E-06	5.96E-06	7.58E-06	42.6	n/a	1.66E-06	123.242	BE
S11V004113		W	14762-75-5	Carbon-14	uCi/g	92.2	<4.26E-06	<4.23E-06	5.29E-06	n/a	n/a	92.0	4.23E-06	n/a	U
S11V004113		W	10028-17-8	Tritium	uCi/g	99.3	<3.91E-06	<4.08E-06	<2.65E-06	n/a	n/a	102	4.08E-06	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2B1L7

Sample Depth: SURFACE Dup

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004115			%WATERA	%WATER-APD	%	n/a	n/a	4.790	n/a	n/a	n/a	n/a	0.01000	n/a	
S11V004115			57-12-5	Cyanide	ug/g	92.0	<0.0370	<0.480	n/a	n/a	n/a	n/a	0.480	n/a	U
S11V004115			WT%SOLID	Weight percent solids	%	n/a	n/a	95.2	n/a	n/a	n/a	n/a	0.0100	n/a	
S11V004115			7439-97-6	Mercury	ug/g	97.0	<1.00E-04	0.0162	n/a	n/a	n/a	n/a	9.08E-03	n/a	B
S11V004115			PH	pH	unitless	n/a	n/a	8.66	n/a	n/a	n/a	n/a	0.0100	n/a	
S11V004116			13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.05E-05	n/a	n/a	n/a	n/a	2.52E-06	6.79	
S11V004116			10198-40-0	Cobalt-60	uCi/g	98.8	<1.71E-07	<1.01E-07	n/a	n/a	n/a	n/a	1.01E-07	n/a	U
S11V004116			14234-35-6	Antimony-125	uCi/g	n/a	<4.59E-07	<2.62E-07	n/a	n/a	n/a	n/a	2.62E-07	n/a	U
S11V004116			10045-97-3	Cesium-137	uCi/g	101	<2.03E-07	5.71E-06	n/a	n/a	n/a	n/a	1.06E-07	1.16	
S11V004116			14683-23-9	Europium-152	uCi/g	n/a	<4.23E-07	<2.23E-07	n/a	n/a	n/a	n/a	2.23E-07	n/a	U
S11V004116			15585-10-1	Europium-154	uCi/g	n/a	<2.69E-07	<1.59E-07	n/a	n/a	n/a	n/a	1.59E-07	n/a	U
S11V004116			14391-16-3	Europium-155	uCi/g	n/a	<5.69E-07	<3.06E-07	n/a	n/a	n/a	n/a	3.06E-07	n/a	U
S11V004116			14913-50-9	Thallium-208	uCi/g	n/a	n/a	2.41E-07	n/a	n/a	n/a	n/a	1.10E-07	16.41	
S11V004116			15092-94-1	Lead-212	uCi/g	n/a	n/a	6.23E-07	n/a	n/a	n/a	n/a	1.55E-07	8.35	
S11V004116			14733-03-0	Bismuth-214	uCi/g	n/a	n/a	7.67E-07	n/a	n/a	n/a	n/a	2.03E-07	8.88	
S11V004116			15067-28-4	Lead-214	uCi/g	n/a	n/a	7.36E-07	n/a	n/a	n/a	n/a	2.16E-07	10.32	
S11V004116			13982-63-3	Radium-226	uCi/g	n/a	n/a	1.91E-06	n/a	n/a	n/a	n/a	1.68E-06	30.27	
S11V004116			14331-83-0	Actinium-228	uCi/g	n/a	n/a	7.28E-07	n/a	n/a	n/a	n/a	3.92E-07	12.60	
S11V004116			14274-82-9	Thorium-228	uCi/g	n/a	<8.56E-05	<4.62E-05	n/a	n/a	n/a	n/a	4.62E-05	n/a	U
S11V004116			15065-10-8	Thorium-234	uCi/g	n/a	<3.63E-06	<1.33E-05	n/a	n/a	n/a	n/a	1.33E-05	n/a	U
S11V004116			15046-84-1	Iodine-129	uCi/g	104	<2.15E-05	<1.95E-07	n/a	n/a	n/a	n/a	1.95E-07	n/a	U
S11V004118			CONDUCT	Conductivity	uMHO/cm	98.7	<1.00	199	n/a	n/a	n/a	n/a	1.00	n/a	
S11V004118		WV	14133-76-7	Technetium-99	ug/g	100	<6.00E-06	<5.99E-06	n/a	n/a	n/a	n/a	5.99E-06	n/a	U
S11V004119		O	12674-11-2	Aroclor 1016	ug/kg	n/a	<19.7	<20.6	n/a	n/a	n/a	n/a	20.6	n/a	U
S11V004119		O	11104-28-2	Aroclor 1221	ug/kg	n/a	<3.26	<3.41	n/a	n/a	n/a	n/a	3.41	n/a	U
S11V004119		O	11141-16-5	Aroclor 1232	ug/kg	n/a	<5.53	<5.79	n/a	n/a	n/a	n/a	5.79	n/a	U
S11V004119		O	53469-21-9	Aroclor 1242	ug/kg	n/a	<13.2	<13.8	n/a	n/a	n/a	n/a	13.8	n/a	U
S11V004119		O	12672-29-6	Aroclor 1248	ug/kg	n/a	<7.45	<7.80	n/a	n/a	n/a	n/a	7.80	n/a	U
S11V004119		O	11097-69-1	Aroclor 1254	ug/kg	94.4	<4.77	<5.00	n/a	n/a	n/a	101	5.00	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2B1L7

Sample Depth: SURFACE Dup

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004119	O	11096-82-5	Aroclor 1260	ug/kg	n/a	<7.72	<8.08	n/a	n/a	n/a	n/a	8.08	n/a	U
S11V004120	A	7440-36-0	Antimony	ug/g	102	<2.00E-04	0.178	n/a	n/a	n/a	n/a	9.68E-03	n/a	
S11V004120	A	SN-117	Tin-117	ug/g	105	<1.00E-03	<0.0484	n/a	n/a	n/a	n/a	0.0484	n/a	U
S11V004120	A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	<9.68E-04	n/a	n/a	n/a	n/a	9.68E-04	n/a	U
S11V004121	O	120-82-1	1,2,4-Trichlorobenzene	ug/kg	86.3	<77.4	<77.1	n/a	n/a	n/a	n/a	77.1	n/a	UT
S11V004121	O	95-50-1	1,2-Dichlorobenzene	ug/kg	n/a	<101	<100	n/a	n/a	n/a	n/a	100	n/a	U
S11V004121	O	121-14-2	2,4-Dinitrotoluene	ug/kg	93.1	<38.1	<38.0	n/a	n/a	n/a	n/a	38.0	n/a	U
S11V004121	O	95-95-4	2,4,5-Trichlorophenol	ug/kg	n/a	<44.0	<43.8	n/a	n/a	n/a	n/a	43.8	n/a	U
S11V004121	O	88-06-2	2,4,6-Trichlorophenol	ug/kg	n/a	<49.5	<49.3	n/a	n/a	n/a	n/a	49.3	n/a	U
S11V004121	O	95-48-7	2-Methylphenol	ug/kg	n/a	<57.5	<57.3	n/a	n/a	n/a	n/a	57.3	n/a	U
S11V004121	O	88-75-5	2-Nitrophenol	ug/kg	n/a	<53.7	<53.5	n/a	n/a	n/a	n/a	53.5	n/a	U
S11V004121	O	65794-96-9	3 &4 Methylphenol	ug/kg	n/a	<51.4	<51.2	n/a	n/a	n/a	n/a	51.2	n/a	U
S11V004121	O	83-32-9	Acenaphthene	ug/kg	87.3	<17.6	<17.5	n/a	n/a	n/a	n/a	17.5	n/a	U
S11V004121	O	56-55-3	Benzo(a)anthracene	ug/kg	n/a	<37.8	<37.7	n/a	n/a	n/a	n/a	37.7	n/a	U
S11V004121	O	205-99-2	Benzo(b)fluoranthene	ug/kg	n/a	<48.9	<48.7	n/a	n/a	n/a	n/a	48.7	n/a	U
S11V004121	O	50-32-8	Benzo(a)pyrene	ug/kg	n/a	<41.2	<41.1	n/a	n/a	n/a	n/a	41.1	n/a	U
S11V004121	O	117-81-7	Bis(2-ethylhexyl) phthalate	ug/kg	n/a	<590	<588	n/a	n/a	n/a	n/a	588	n/a	U
S11V004121	O	207-08-9	Benzo(k)fluoranthene	ug/kg	n/a	<39.1	<39.0	n/a	n/a	n/a	n/a	39.0	n/a	U
S11V004121	O	85-68-7	Butylbenzylphthalate	ug/kg	n/a	<50.0	<49.8	n/a	n/a	n/a	n/a	49.8	n/a	U
S11V004121	O	59-50-7	4-Chloro-3-methylphenol	ug/kg	87.3	<43.2	<43.0	n/a	n/a	n/a	n/a	43.0	n/a	UT
S11V004121	O	95-57-8	2-Chlorophenol	ug/kg	86.0	<66.5	<66.3	n/a	n/a	n/a	n/a	66.3	n/a	U
S11V004121	O	218-01-9	Chrysene	ug/kg	n/a	<81.4	<81.1	n/a	n/a	n/a	n/a	81.1	n/a	U
S11V004121	O	53-70-3	Dibenz[a,h]anthracene	ug/kg	n/a	<51.1	<50.9	n/a	n/a	n/a	n/a	50.9	n/a	U
S11V004121	O	84-74-2	Di-n-butylphthalate	ug/kg	n/a	<562	<560	n/a	n/a	n/a	n/a	560	n/a	U
S11V004121	O	117-84-0	Di-n-octylphthalate	ug/kg	n/a	<47.7	<47.5	n/a	n/a	n/a	n/a	47.5	n/a	U
S11V004121	O	621-64-7	N-Nitroso-di-n-dipropylamine	ug/kg	87.3	<58.1	<57.9	n/a	n/a	n/a	n/a	57.9	n/a	UT
S11V004121	O	206-44-0	Fluoranthene	ug/kg	n/a	<35.4	<35.3	n/a	n/a	n/a	n/a	35.3	n/a	U
S11V004121	O	87-68-3	Hexachlorobutadiene	ug/kg	n/a	<69.7	<69.5	n/a	n/a	n/a	n/a	69.5	n/a	U
S11V004121	O	67-72-1	Hexachloroethane	ug/kg	n/a	<112	<111	n/a	n/a	n/a	n/a	111	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2B1L7

Sample Depth: SURFACE Dup

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004121	O	193-39-5	Indeno(1,2,3-cd)pyrene	ug/kg	n/a	<51.0	<50.8	n/a	n/a	n/a	n/a	50.8	n/a	U
S11V004121	O	91-20-3	Naphthalene	ug/kg	n/a	<62.6	<62.4	n/a	n/a	n/a	n/a	62.4	n/a	U
S11V004121	O	98-95-3	Nitrobenzene	ug/kg	n/a	<64.6	<64.4	n/a	n/a	n/a	n/a	64.4	n/a	U
S11V004121	O	87-86-5	Pentachlorophenol	ug/kg	106	<37.5	<37.4	n/a	n/a	n/a	n/a	37.4	n/a	U
S11V004121	O	129-00-0	Pyrene	ug/kg	104	<62.9	<62.7	n/a	n/a	n/a	n/a	62.7	n/a	UT
S11V004121	O	110-86-1	Pyridine	ug/kg	n/a	<65.0	<64.8	n/a	n/a	n/a	n/a	64.8	n/a	U
S11V004121	O	126-73-8	Tributyl phosphate	ug/kg	n/a	<108	<107	n/a	n/a	n/a	n/a	107	n/a	U
S11V004121	O	128-37-0	BHT	ug/kg	n/a	<236	<235	n/a	n/a	n/a	n/a	235	n/a	U
S11V004121	O	110-80-5	2-Ethoxyethanol	ug/kg	n/a	<182	<182	n/a	n/a	n/a	n/a	182	n/a	U
S11V004121	O	1319-77-3	Total Methylphenols	ug/kg	n/a	<107	<106	n/a	n/a	n/a	n/a	106	n/a	U
S11V004121	O	108-94-1	Cyclohexanone	ug/kg	n/a	<558	<556	n/a	n/a	n/a	n/a	556	n/a	U
S11V004121	O	59-89-2	N-Nitrosomorpholine	ug/kg	n/a	<191	<191	n/a	n/a	n/a	n/a	191	n/a	U
S11V004121	O	78-83-1	Isobutanol	ug/kg	n/a	<460	<459	n/a	n/a	n/a	n/a	459	n/a	U
S11V004122	W	16984-48-8	Fluoride	ug/g	103	<1.61E-03	0.459	n/a	n/a	n/a	n/a	0.0144	n/a	
S11V004122	W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0837	n/a	n/a	n/a	n/a	0.0837	n/a	U
S11V004122	W	71-50-1	Acetate	ug/g	103	<6.04E-03	0.174	n/a	n/a	n/a	n/a	0.0539	n/a	B
S11V004122	W	FORMATE	Formate	ug/g	103	0.0206	0.214	n/a	n/a	n/a	n/a	0.0417	n/a	CB
S11V004122	W	16887-00-6	Chloride	ug/g	102	0.0207	0.294	n/a	n/a	n/a	n/a	0.0891	n/a	CB
S11V004122	W	14797-65-0	Nitrite	ug/g	102	0.0637	1.55	n/a	n/a	n/a	n/a	0.171	n/a	CB
S11V004122	W	14808-79-8	Sulfate	ug/g	105	0.0350	2.71	n/a	n/a	n/a	n/a	0.167	n/a	
S11V004122	W	338-70-5	Oxalate	ug/g	101	<0.0231	<0.206	n/a	n/a	n/a	n/a	0.206	n/a	U
S11V004122	W	24959-67-9	Bromide	ug/g	103	<0.0580	<0.518	n/a	n/a	n/a	n/a	0.518	n/a	U
S11V004122	W	14797-55-8	Nitrate	ug/g	102	<0.0208	3.05	n/a	n/a	n/a	n/a	0.186	n/a	
S11V004122	W	14265-44-2	Phosphate	ug/g	102	<0.0167	1.56	n/a	n/a	n/a	n/a	0.149	n/a	B
S11V004123	A	7429-90-5	Aluminum	ug/g	91.6	<0.0300	7.62E+03	n/a	n/a	n/a	n/a	2.82	n/a	
S11V004123	A	7440-42-8	Boron	ug/g	89.1	<0.0300	41.7	n/a	n/a	n/a	n/a	2.82	n/a	N
S11V004123	A	7440-39-3	Barium	ug/g	96.7	<3.00E-03	239	n/a	n/a	n/a	n/a	0.282	n/a	
S11V004123	A	7440-41-7	Beryllium	ug/g	101	<1.00E-03	0.311	n/a	n/a	n/a	n/a	0.0940	n/a	B
S11V004123	A	7440-69-9	Bismuth	ug/g	92.4	<0.100	13.1	n/a	n/a	n/a	n/a	9.40	n/a	B

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2B1L7

Sample Depth: SURFACE Dup

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004123		A	7440-70-2	Calcium	ug/g	90.8	0.139	1.63E+04	n/a	n/a	n/a	n/a	4.70	n/a	
S11V004123		A	7440-45-1	Cerium	ug/g	98.7	<0.0300	19.0	n/a	n/a	n/a	n/a	2.82	n/a	B
S11V004123		A	7440-48-4	Cobalt	ug/g	92.1	<0.0100	5.63	n/a	n/a	n/a	n/a	0.940	n/a	B
S11V004123		A	7440-47-3	Chromium	ug/g	92.9	<5.00E-03	8.49	n/a	n/a	n/a	n/a	0.470	n/a	
S11V004123		A	7440-50-8	Copper	ug/g	97.0	<5.00E-03	12.1	n/a	n/a	n/a	n/a	0.470	n/a	
S11V004123		A	7439-89-6	Iron	ug/g	92.3	0.0102	1.79E+04	n/a	n/a	n/a	n/a	0.470	n/a	
S11V004123		A	7440-09-7	Potassium	ug/g	91.1	<0.500	921	n/a	n/a	n/a	n/a	47.0	n/a	
S11V004123		A	7439-91-0	Lanthanum	ug/g	95.2	<3.00E-03	8.71	n/a	n/a	n/a	n/a	0.282	n/a	
S11V004123		A	7439-93-2	Lithium	ug/g	103	<3.00E-03	8.40	n/a	n/a	n/a	n/a	0.282	n/a	
S11V004123		A	7439-95-4	Magnesium	ug/g	91.9	<0.0500	5.69E+03	n/a	n/a	n/a	n/a	4.70	n/a	
S11V004123		A	7439-96-5	Manganese	ug/g	91.9	<3.00E-03	287	n/a	n/a	n/a	n/a	0.282	n/a	
S11V004123		A	7439-98-7	Molybdenum	ug/g	92.0	<0.0200	<1.88	n/a	n/a	n/a	n/a	1.88	n/a	U
S11V004123		A	7440-23-5	Sodium	ug/g	100	<0.100	516	n/a	n/a	n/a	n/a	9.40	n/a	
S11V004123		A	7440-02-0	Nickel	ug/g	91.6	<0.0200	9.47	n/a	n/a	n/a	n/a	1.88	n/a	B
S11V004123		A	7723-14-0	Phosphorus	ug/g	95.2	<0.0500	705	n/a	n/a	n/a	n/a	4.70	n/a	
S11V004123		A	7440-10-0	Praseodymium	ug/g	103	<0.0100	1.52	n/a	n/a	n/a	n/a	0.940	n/a	B
S11V004123		A	7704-34-9	Sulfur	ug/g	99.5	0.239	126	n/a	n/a	n/a	n/a	9.40	n/a	N
S11V004123		A	7440-21-3	Silicon	ug/g	16.0	<0.0300	71.9	n/a	n/a	n/a	n/a	2.82	n/a	N
S11V004123		A	7440-24-6	Strontium	ug/g	95.7	<3.00E-03	118	n/a	n/a	n/a	n/a	0.282	n/a	N
S11V004123		A	7440-32-6	Titanium	ug/g	93.4	<5.00E-03	1.06E+03	n/a	n/a	n/a	n/a	0.470	n/a	
S11V004123		A	7440-62-2	Vanadium	ug/g	94.1	<5.00E-03	38.4	n/a	n/a	n/a	n/a	0.470	n/a	
S11V004123		A	7440-65-5	Yttrium	ug/g	94.2	<2.00E-03	8.47	n/a	n/a	n/a	n/a	0.188	n/a	
S11V004123		A	7440-66-6	Zinc	ug/g	91.4	<5.00E-03	31.6	n/a	n/a	n/a	n/a	0.470	n/a	
S11V004123		A	7440-67-7	Zirconium	ug/g	92.4	<5.00E-03	9.08	n/a	n/a	n/a	n/a	0.470	n/a	N
S11V004123		A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<6.58E-05	n/a	n/a	n/a	n/a	6.58E-05	n/a	U
S11V004123		A	TH-232	Thorium-232	ug/g	109	<5.00E-04	2.46	n/a	n/a	n/a	n/a	4.70E-03	n/a	
S11V004123		A	13968-55-3	Uranium-233	ug/g	102	<2.00E-04	<1.88E-03	n/a	n/a	n/a	n/a	1.88E-03	n/a	U
S11V004123		A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	<4.70E-05	n/a	n/a	n/a	n/a	4.70E-05	n/a	U
S11V004123		A	15117-96-1	Uranium-235	ug/g	109	<1.00E-05	4.40E-03	n/a	n/a	n/a	n/a	9.40E-05	n/a	

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2B1L7

Sample Depth: SURFACE Dup

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004123		A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<3.76E-05	n/a	n/a	n/a	n/a	3.76E-05	n/a	U
S11V004123		A	13994-20-2	Neptunium-237	ug/g	107	<1.00E-04	<9.40E-04	n/a	n/a	n/a	n/a	9.40E-04	n/a	U
S11V004123		A	U-238	Uranium-238	ug/g	109	<5.00E-04	0.627	n/a	n/a	n/a	n/a	4.70E-03	n/a	
S11V004123		A	7440-22-4	Silver	ug/g	109	<2.00E-03	0.0622	n/a	n/a	n/a	n/a	0.0188	n/a	B
S11V004123		A	7440-38-2	Arsenic	ug/g	94.1	<0.0420	2.92	n/a	n/a	n/a	n/a	0.395	n/a	B
S11V004123		A	7440-43-9	Cadmium	ug/g	107	<6.00E-03	0.0868	n/a	n/a	n/a	n/a	0.0564	n/a	B
S11V004123		A	7439-92-1	Lead	ug/g	101	<0.0150	5.22	n/a	n/a	n/a	n/a	0.141	n/a	
S11V004123		A	7782-49-2	Selenium	ug/g	103	<0.135	<1.27	n/a	n/a	n/a	n/a	1.27	n/a	U
S11V004123		A	7440-28-0	Thallium	ug/g	101	<4.00E-03	0.0674	n/a	n/a	n/a	n/a	0.0376	n/a	B
S11V004124		S	14798-03-9	Ammonium	ug/g	103	<0.120	2.77	n/a	n/a	n/a	n/a	0.475	n/a	B
S11V004125		A	14133-76-7	Technetium-99	ug/g	107	<6.00E-05	<5.73E-04	n/a	n/a	n/a	n/a	5.73E-04	n/a	U
S11V004126		E	CM-243/244	Curium-243/244	uCi/g	n/a	<4.58E-08	<4.44E-08	n/a	n/a	n/a	n/a	4.44E-08	n/a	U
S11V004126		E	14596-10-2	Americium-241	uCi/g	103	<5.32E-08	<4.78E-08	n/a	n/a	n/a	n/a	4.78E-08	n/a	U
S11V004126		E	15510-73-3	Curium-242	uCi/g	n/a	<2.34E-08	<1.17E-08	n/a	n/a	n/a	n/a	1.17E-08	n/a	U
S11V004126		E	PU-239/240	Plutonium-239/240	uCi/g	107	<6.34E-08	<4.54E-08	n/a	n/a	n/a	n/a	4.54E-08	n/a	U
S11V004126		E	13981-16-3	Plutonium-238	uCi/g	n/a	<6.58E-08	6.66E-08	n/a	n/a	n/a	n/a	3.06E-08	26.7	
S11V004127		E	SR-89/90	Strontium-89/90	uCi/g	111	<4.70E-07	4.01E-06	n/a	n/a	n/a	n/a	1.94E-07	13.379	
S11V004128		E	13981-37-8	Nickel-63	uCi/g	102	<1.02E-05	<1.08E-05	n/a	n/a	n/a	n/a	1.08E-05	n/a	U
S11V004129		E	15758-45-9	Selenium-79	uCi/g	n/a	4.77E-06	1.13E-05	n/a	n/a	n/a	n/a	1.70E-06	118.774	BE
S11V004130		W	14762-75-5	Carbon-14	uCi/g	92.2	<4.26E-06	1.37E-05	n/a	n/a	n/a	n/a	2.63E-06	22.288	
S11V004130		W	10028-17-8	Tritium	uCi/g	99.3	<3.91E-06	<2.60E-06	n/a	n/a	n/a	n/a	2.60E-06	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M2

Sample Depth: 5.7'-7.7'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004136			%WATERA	%WATER-APD	%	n/a	n/a	7.420	n/a	n/a	n/a	n/a	0.01000	n/a	
S11V004136			57-12-5	Cyanide	ug/g	92.0	<0.0370	<0.480	n/a	n/a	n/a	n/a	0.480	n/a	U
S11V004136			WT%SOLID	Weight percent solids	%	n/a	n/a	92.6	n/a	n/a	n/a	n/a	0.0100	n/a	
S11V004136			7439-97-6	Mercury	ug/g	93.4	<1.00E-04	<9.14E-03	n/a	n/a	n/a	n/a	9.14E-03	n/a	U
S11V004136			PH	pH	unitless	n/a	n/a	8.85	n/a	n/a	n/a	n/a	0.0100	n/a	
S11V004137			13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.25E-05	n/a	n/a	n/a	n/a	2.34E-06	5.33	
S11V004137			10198-40-0	Cobalt-60	uCi/g	98.8	<1.71E-07	<9.58E-08	n/a	n/a	n/a	n/a	9.58E-08	n/a	U
S11V004137			14234-35-6	Antimony-125	uCi/g	n/a	<4.59E-07	<2.31E-07	n/a	n/a	n/a	n/a	2.31E-07	n/a	U
S11V004137			10045-97-3	Cesium-137	uCi/g	101	<2.03E-07	<7.63E-08	n/a	n/a	n/a	n/a	7.63E-08	n/a	U
S11V004137			14683-23-9	Europium-152	uCi/g	n/a	<4.23E-07	<2.00E-07	n/a	n/a	n/a	n/a	2.00E-07	n/a	U
S11V004137			15585-10-1	Europium-154	uCi/g	n/a	<2.69E-07	<1.43E-07	n/a	n/a	n/a	n/a	1.43E-07	n/a	U
S11V004137			14391-16-3	Europium-155	uCi/g	n/a	<5.69E-07	<2.75E-07	n/a	n/a	n/a	n/a	2.75E-07	n/a	U
S11V004137			14913-50-9	Thallium-208	uCi/g	n/a	n/a	2.28E-07	n/a	n/a	n/a	n/a	1.01E-07	16.15	
S11V004137			15092-94-1	Lead-212	uCi/g	n/a	n/a	6.81E-07	n/a	n/a	n/a	n/a	1.48E-07	7.71	
S11V004137			14733-03-0	Bismuth-214	uCi/g	n/a	n/a	6.75E-07	n/a	n/a	n/a	n/a	2.01E-07	10.84	
S11V004137			14331-83-0	Actinium-228	uCi/g	n/a	n/a	7.36E-07	n/a	n/a	n/a	n/a	3.73E-07	13.36	
S11V004137			14274-82-9	Thorium-228	uCi/g	n/a	<8.56E-05	<4.56E-05	n/a	n/a	n/a	n/a	4.56E-05	n/a	U
S11V004137			15065-10-8	Thorium-234	uCi/g	n/a	<3.63E-06	<1.10E-05	n/a	n/a	n/a	n/a	1.10E-05	n/a	U
S11V004137			15046-84-1	Iodine-129	uCi/g	104	<2.15E-05	<2.63E-06	n/a	n/a	n/a	n/a	2.63E-06	n/a	U
S11V004139			CONDUCT	Conductivity	uMHO/cm	98.7	<1.00	226	n/a	n/a	n/a	n/a	1.00	n/a	
S11V004139		WV	14133-76-7	Technetium-99	ug/g	100	<6.00E-06	<6.35E-06	n/a	n/a	n/a	n/a	6.35E-06	n/a	U
S11V004140		O	12674-11-2	Aroclor 1016	ug/kg	n/a	<19.7	<20.8	n/a	n/a	n/a	n/a	20.8	n/a	U
S11V004140		O	11104-28-2	Aroclor 1221	ug/kg	n/a	<3.26	<3.44	n/a	n/a	n/a	n/a	3.44	n/a	U
S11V004140		O	11141-16-5	Aroclor 1232	ug/kg	n/a	<5.53	<5.84	n/a	n/a	n/a	n/a	5.84	n/a	U
S11V004140		O	53469-21-9	Aroclor 1242	ug/kg	n/a	<13.2	<13.9	n/a	n/a	n/a	n/a	13.9	n/a	U
S11V004140		O	12672-29-6	Aroclor 1248	ug/kg	n/a	<7.45	<7.88	n/a	n/a	n/a	n/a	7.88	n/a	U
S11V004140		O	11097-69-1	Aroclor 1254	ug/kg	94.4	<4.77	<5.05	n/a	n/a	n/a	n/a	5.05	n/a	U
S11V004140		O	11096-82-5	Aroclor 1260	ug/kg	n/a	<7.72	<8.16	n/a	n/a	n/a	n/a	8.16	n/a	U
S11V004141		A	7440-36-0	Antimony	ug/g	102	<2.00E-04	0.233	n/a	n/a	n/a	n/a	9.87E-03	n/a	

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M2

Sample Depth: 5.7'-7.7'

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004141	A	SN-117	Tin-117	ug/g	105	<1.00E-03	<0.0493	n/a	n/a	n/a	n/a	0.0493	n/a	U
S11V004141	A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	<9.87E-04	n/a	n/a	n/a	n/a	9.87E-04	n/a	U
S11V004142	O	120-82-1	1,2,4-Trichlorobenzene	ug/kg	78.0	<77.4	<76.7	n/a	n/a	n/a	n/a	76.7	n/a	U
S11V004142	O	95-50-1	1,2-Dichlorobenzene	ug/kg	n/a	<101	<99.8	n/a	n/a	n/a	n/a	99.8	n/a	U
S11V004142	O	106-46-7	1,4-Dichlorobenzene	ug/kg	76.5	<113	<112	n/a	n/a	n/a	n/a	112	n/a	U
S11V004142	O	121-14-2	2,4-Dinitrotoluene	ug/kg	93.2	<38.1	<37.7	n/a	n/a	n/a	n/a	37.7	n/a	U
S11V004142	O	95-95-4	2,4,5-Trichlorophenol	ug/kg	n/a	<44.0	<43.6	n/a	n/a	n/a	n/a	43.6	n/a	U
S11V004142	O	88-06-2	2,4,6-Trichlorophenol	ug/kg	n/a	<49.5	<49.0	n/a	n/a	n/a	n/a	49.0	n/a	U
S11V004142	O	95-48-7	2-Methylphenol	ug/kg	n/a	<57.5	<57.0	n/a	n/a	n/a	n/a	57.0	n/a	U
S11V004142	O	88-75-5	2-Nitrophenol	ug/kg	n/a	<53.7	<53.2	n/a	n/a	n/a	n/a	53.2	n/a	U
S11V004142	O	65794-96-9	3 &4 Methylphenol	ug/kg	n/a	<51.4	<50.9	n/a	n/a	n/a	n/a	50.9	n/a	U
S11V004142	O	83-32-9	Acenaphthene	ug/kg	86.9	<17.6	<17.4	n/a	n/a	n/a	n/a	17.4	n/a	U
S11V004142	O	56-55-3	Benzo(a)anthracene	ug/kg	n/a	<37.8	<37.4	n/a	n/a	n/a	n/a	37.4	n/a	U
S11V004142	O	205-99-2	Benzo(b)fluoranthene	ug/kg	n/a	<48.9	<48.4	n/a	n/a	n/a	n/a	48.4	n/a	U
S11V004142	O	50-32-8	Benzo(a)pyrene	ug/kg	n/a	<41.2	<40.8	n/a	n/a	n/a	n/a	40.8	n/a	U
S11V004142	O	117-81-7	Bis(2-ethylhexyl) phthalate	ug/kg	n/a	<590	<585	n/a	n/a	n/a	n/a	585	n/a	U
S11V004142	O	207-08-9	Benzo(k)fluoranthene	ug/kg	n/a	<39.1	<38.7	n/a	n/a	n/a	n/a	38.7	n/a	U
S11V004142	O	85-68-7	Butylbenzylphthalate	ug/kg	n/a	<50.0	<49.5	n/a	n/a	n/a	n/a	49.5	n/a	U
S11V004142	O	59-50-7	4-Chloro-3-methylphenol	ug/kg	80.5	<43.2	<42.8	n/a	n/a	n/a	n/a	42.8	n/a	U
S11V004142	O	95-57-8	2-Chlorophenol	ug/kg	79.5	<66.5	<65.9	n/a	n/a	n/a	n/a	65.9	n/a	U
S11V004142	O	218-01-9	Chrysene	ug/kg	n/a	<81.4	<80.6	n/a	n/a	n/a	n/a	80.6	n/a	U
S11V004142	O	53-70-3	Dibenz[a,h]anthracene	ug/kg	n/a	<51.1	<50.6	n/a	n/a	n/a	n/a	50.6	n/a	U
S11V004142	O	84-74-2	Di-n-butylphthalate	ug/kg	n/a	<562	<557	n/a	n/a	n/a	n/a	557	n/a	U
S11V004142	O	117-84-0	Di-n-octylphthalate	ug/kg	n/a	<47.7	159	n/a	n/a	n/a	n/a	47.3	n/a	J
S11V004142	O	621-64-7	N-Nitroso-di-n-dipropylamine	ug/kg	78.6	<58.1	<57.6	n/a	n/a	n/a	n/a	57.6	n/a	U
S11V004142	O	206-44-0	Fluoranthene	ug/kg	n/a	<35.4	<35.1	n/a	n/a	n/a	n/a	35.1	n/a	U
S11V004142	O	87-68-3	Hexachlorobutadiene	ug/kg	n/a	<69.7	<69.1	n/a	n/a	n/a	n/a	69.1	n/a	U
S11V004142	O	67-72-1	Hexachloroethane	ug/kg	n/a	<112	<111	n/a	n/a	n/a	n/a	111	n/a	U
S11V004142	O	193-39-5	Indeno(1,2,3-cd)pyrene	ug/kg	n/a	<51.0	<50.5	n/a	n/a	n/a	n/a	50.5	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M2

Sample Depth: 5.7'-7.7'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004142		O	108-95-2	Phenol	ug/kg	82.0	<59.4	<58.8	n/a	n/a	n/a	n/a	58.8	n/a	U
S11V004142		O	91-20-3	Naphthalene	ug/kg	n/a	<62.6	<62.0	n/a	n/a	n/a	n/a	62.0	n/a	U
S11V004142		O	98-95-3	Nitrobenzene	ug/kg	n/a	<64.6	<64.0	n/a	n/a	n/a	n/a	64.0	n/a	U
S11V004142		O	100-02-7	4-Nitrophenol	ug/kg	94.3	<52.6	<52.1	n/a	n/a	n/a	n/a	52.1	n/a	U
S11V004142		O	87-86-5	Pentachlorophenol	ug/kg	90.8	<37.5	<37.2	n/a	n/a	n/a	n/a	37.2	n/a	U
S11V004142		O	129-00-0	Pyrene	ug/kg	104	<62.9	<62.3	n/a	n/a	n/a	n/a	62.3	n/a	U
S11V004142		O	110-86-1	Pyridine	ug/kg	n/a	<65.0	<64.4	n/a	n/a	n/a	n/a	64.4	n/a	U
S11V004142		O	126-73-8	Tributyl phosphate	ug/kg	n/a	<108	<107	n/a	n/a	n/a	n/a	107	n/a	U
S11V004142		O	128-37-0	BHT	ug/kg	n/a	<236	<233	n/a	n/a	n/a	n/a	233	n/a	U
S11V004142		O	110-80-5	2-Ethoxyethanol	ug/kg	n/a	<182	<181	n/a	n/a	n/a	n/a	181	n/a	U
S11V004142		O	1319-77-3	Total Methylphenols	ug/kg	n/a	<107	<106	n/a	n/a	n/a	n/a	106	n/a	U
S11V004142		O	108-94-1	Cyclohexanone	ug/kg	n/a	<559	<554	n/a	n/a	n/a	n/a	554	n/a	U
S11V004142		O	59-89-2	N-Nitrosomorpholine	ug/kg	n/a	<191	<190	n/a	n/a	n/a	n/a	190	n/a	U
S11V004142		O	78-83-1	Isobutanol	ug/kg	n/a	<460	<456	n/a	n/a	n/a	n/a	456	n/a	U
S11V004143		W	16984-48-8	Fluoride	ug/g	103	<1.61E-03	1.04	n/a	n/a	n/a	n/a	0.0149	n/a	
S11V004143		W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0864	n/a	n/a	n/a	n/a	0.0864	n/a	U
S11V004143		W	71-50-1	Acetate	ug/g	103	<6.04E-03	2.71	n/a	n/a	n/a	n/a	0.0557	n/a	
S11V004143		W	FORMATE	Formate	ug/g	103	0.0206	0.387	n/a	n/a	n/a	n/a	0.0431	n/a	CB
S11V004143		W	16887-00-6	Chloride	ug/g	102	0.0207	0.677	n/a	n/a	n/a	n/a	0.0921	n/a	B
S11V004143		W	14797-65-0	Nitrite	ug/g	102	0.0637	2.50	n/a	n/a	n/a	n/a	0.177	n/a	C
S11V004143		W	14808-79-8	Sulfate	ug/g	105	0.0350	6.62	n/a	n/a	n/a	n/a	0.172	n/a	
S11V004143		W	338-70-5	Oxalate	ug/g	101	<0.0231	<0.213	n/a	n/a	n/a	n/a	0.213	n/a	U
S11V004143		W	24959-67-9	Bromide	ug/g	103	<0.0580	<0.535	n/a	n/a	n/a	n/a	0.535	n/a	U
S11V004143		W	14797-55-8	Nitrate	ug/g	102	<0.0208	9.23	n/a	n/a	n/a	n/a	0.192	n/a	
S11V004143		W	14265-44-2	Phosphate	ug/g	102	<0.0167	1.28	n/a	n/a	n/a	n/a	0.154	n/a	B
S11V004144		A	7429-90-5	Aluminum	ug/g	91.6	<0.0300	6.89E+03	n/a	n/a	n/a	n/a	2.88	n/a	
S11V004144		A	7440-42-8	Boron	ug/g	89.1	<0.0300	5.61	n/a	n/a	n/a	n/a	2.88	n/a	BN
S11V004144		A	7440-39-3	Barium	ug/g	96.7	<3.00E-03	79.5	n/a	n/a	n/a	n/a	0.288	n/a	
S11V004144		A	7440-41-7	Beryllium	ug/g	101	<1.00E-03	0.160	n/a	n/a	n/a	n/a	0.0960	n/a	B

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

02 - Aug - 2011 16:30:19
DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20110264
Core Number: C8100
Customer Sample ID: B2C1M2
Sample Depth: 5.7'-7.7'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004144		A	7440-70-2	Calcium	ug/g	90.8	0.139	9.24E+03	n/a	n/a	n/a	n/a	4.80	n/a	
S11V004144		A	7440-45-1	Cerium	ug/g	98.7	<0.0300	21.4	n/a	n/a	n/a	n/a	2.88	n/a	B
S11V004144		A	7440-48-4	Cobalt	ug/g	92.1	<0.0100	6.95	n/a	n/a	n/a	n/a	0.960	n/a	B
S11V004144		A	7440-47-3	Chromium	ug/g	92.9	<5.00E-03	11.6	n/a	n/a	n/a	n/a	0.480	n/a	
S11V004144		A	7440-50-8	Copper	ug/g	97.0	<5.00E-03	12.2	n/a	n/a	n/a	n/a	0.480	n/a	
S11V004144		A	7439-89-6	Iron	ug/g	92.3	0.0102	2.16E+04	n/a	n/a	n/a	n/a	0.480	n/a	
S11V004144		A	7440-09-7	Potassium	ug/g	91.1	<0.500	1.01E+03	n/a	n/a	n/a	n/a	48.0	n/a	
S11V004144		A	7439-91-0	Lanthanum	ug/g	95.2	<3.00E-03	9.58	n/a	n/a	n/a	n/a	0.288	n/a	
S11V004144		A	7439-93-2	Lithium	ug/g	103	<3.00E-03	7.46	n/a	n/a	n/a	n/a	0.288	n/a	
S11V004144		A	7439-95-4	Magnesium	ug/g	91.9	<0.0500	5.13E+03	n/a	n/a	n/a	n/a	4.80	n/a	
S11V004144		A	7439-96-5	Manganese	ug/g	91.9	<3.00E-03	340	n/a	n/a	n/a	n/a	0.288	n/a	
S11V004144		A	7439-98-7	Molybdenum	ug/g	92.0	<0.0200	<1.92	n/a	n/a	n/a	n/a	1.92	n/a	U
S11V004144		A	7440-23-5	Sodium	ug/g	100	<0.100	279	n/a	n/a	n/a	n/a	9.60	n/a	
S11V004144		A	7440-02-0	Nickel	ug/g	91.6	<0.0200	10.2	n/a	n/a	n/a	n/a	1.92	n/a	B
S11V004144		A	7723-14-0	Phosphorus	ug/g	95.2	<0.0500	902	n/a	n/a	n/a	n/a	4.80	n/a	
S11V004144		A	7440-10-0	Praseodymium	ug/g	103	<0.0100	2.56	n/a	n/a	n/a	n/a	0.960	n/a	B
S11V004144		A	7704-34-9	Sulfur	ug/g	99.5	0.239	79.0	n/a	n/a	n/a	n/a	9.60	n/a	CBN
S11V004144		A	7440-21-3	Silicon	ug/g	16.0	<0.0300	61.7	n/a	n/a	n/a	n/a	2.88	n/a	N
S11V004144		A	7440-31-5	Tin	ug/g	88.8	<0.0300	3.60	n/a	n/a	n/a	n/a	2.88	n/a	B
S11V004144		A	7440-24-6	Strontium	ug/g	95.7	<3.00E-03	33.1	n/a	n/a	n/a	n/a	0.288	n/a	N
S11V004144		A	7440-32-6	Titanium	ug/g	93.4	<5.00E-03	1.36E+03	n/a	n/a	n/a	n/a	0.480	n/a	
S11V004144		A	7440-62-2	Vanadium	ug/g	94.1	<5.00E-03	47.7	n/a	n/a	n/a	n/a	0.480	n/a	
S11V004144		A	7440-65-5	Yttrium	ug/g	94.2	<2.00E-03	10.4	n/a	n/a	n/a	n/a	0.192	n/a	
S11V004144		A	7440-66-6	Zinc	ug/g	91.4	<5.00E-03	43.4	n/a	n/a	n/a	n/a	0.480	n/a	
S11V004144		A	7440-67-7	Zirconium	ug/g	92.4	<5.00E-03	2.93	n/a	n/a	n/a	n/a	0.480	n/a	BN
S11V004144		A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<6.72E-05	n/a	n/a	n/a	n/a	6.72E-05	n/a	U
S11V004144		A	TH-232	Thorium-232	ug/g	109	<5.00E-04	2.89	n/a	n/a	n/a	n/a	4.80E-03	n/a	
S11V004144		A	13968-55-3	Uranium-233	ug/g	102	<2.00E-04	<1.92E-03	n/a	n/a	n/a	n/a	1.92E-03	n/a	U
S11V004144		A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	<4.80E-05	n/a	n/a	n/a	n/a	4.80E-05	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M2

Sample Depth: 5.7'-7.7'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004144		A	15117-96-1	Uranium-235	ug/g	109	<1.00E-05	3.86E-03	n/a	n/a	n/a	n/a	9.60E-05	n/a	
S11V004144		A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<3.84E-05	n/a	n/a	n/a	n/a	3.84E-05	n/a	U
S11V004144		A	13994-20-2	Neptunium-237	ug/g	107	<1.00E-04	<9.60E-04	n/a	n/a	n/a	n/a	9.60E-04	n/a	U
S11V004144		A	U-238	Uranium-238	ug/g	109	<5.00E-04	0.568	n/a	n/a	n/a	n/a	4.80E-03	n/a	
S11V004144		A	7440-22-4	Silver	ug/g	109	<2.00E-03	0.0577	n/a	n/a	n/a	n/a	0.0192	n/a	B
S11V004144		A	7440-38-2	Arsenic	ug/g	94.1	<0.0420	5.29	n/a	n/a	n/a	n/a	0.403	n/a	
S11V004144		A	7440-43-9	Cadmium	ug/g	107	<6.00E-03	0.113	n/a	n/a	n/a	n/a	0.0576	n/a	B
S11V004144		A	7439-92-1	Lead	ug/g	101	<0.0150	4.90	n/a	n/a	n/a	n/a	0.144	n/a	
S11V004144		A	7782-49-2	Selenium	ug/g	103	<0.135	<1.30	n/a	n/a	n/a	n/a	1.30	n/a	U
S11V004144		A	7440-28-0	Thallium	ug/g	101	<4.00E-03	0.0823	n/a	n/a	n/a	n/a	0.0384	n/a	B
S11V004145		S	14798-03-9	Ammonium	ug/g	97.2	<0.120	2.35	1.94	2.15	18.9	102	0.480	n/a	B
S11V004146		A	14133-76-7	Technetium-99	ug/g	107	<6.00E-05	<5.71E-04	n/a	n/a	n/a	n/a	5.71E-04	n/a	U
S11V004147		E	CM-243/244	Curium-243/244	uCi/g	n/a	<4.58E-08	<4.82E-08	n/a	n/a	n/a	n/a	4.82E-08	n/a	U
S11V004147		E	14596-10-2	Americium-241	uCi/g	103	<5.32E-08	<4.23E-08	n/a	n/a	n/a	n/a	4.23E-08	n/a	U
S11V004147		E	15510-73-3	Curium-242	uCi/g	n/a	<2.34E-08	<1.98E-08	n/a	n/a	n/a	n/a	1.98E-08	n/a	U
S11V004147		E	PU-239/240	Plutonium-239/240	uCi/g	107	<6.34E-08	<3.17E-08	n/a	n/a	n/a	n/a	3.17E-08	n/a	U
S11V004147		E	13981-16-3	Plutonium-238	uCi/g	n/a	<6.58E-08	<2.98E-08	n/a	n/a	n/a	n/a	2.98E-08	n/a	U
S11V004148		E	SR-89/90	Strontium-89/90	uCi/g	111	<4.70E-07	<7.54E-07	n/a	n/a	n/a	n/a	7.54E-07	n/a	U
S11V004149		E	13981-37-8	Nickel-63	uCi/g	102	<1.02E-05	<1.05E-05	n/a	n/a	n/a	n/a	1.05E-05	n/a	U
S11V004150		E	15758-45-9	Selenium-79	uCi/g	n/a	4.77E-06	3.76E-06	n/a	n/a	n/a	n/a	1.54E-06	39.84	BE
S11V004151		W	14762-75-5	Carbon-14	uCi/g	92.2	<4.26E-06	<3.39E-06	n/a	n/a	n/a	n/a	3.39E-06	n/a	U
S11V004151		W	10028-17-8	Tritium	uCi/g	99.3	<3.91E-06	<3.52E-06	n/a	n/a	n/a	n/a	3.52E-06	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M3

Sample Depth: 15'-19'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004157			%WATERA	%WATER-APD	%	n/a	n/a	9.780	n/a	n/a	n/a	n/a	0.01000	n/a	
S11V004157			57-12-5	Cyanide	ug/g	105	<0.0370	<0.480	<0.480	n/a	n/a	92.8	0.480	n/a	U
S11V004157			WT%SOLID	Weight percent solids	%	n/a	n/a	90.2	n/a	n/a	n/a	n/a	0.0100	n/a	
S11V004157			7439-97-6	Mercury	ug/g	93.4	<1.00E-04	0.0115	n/a	n/a	n/a	n/a	9.26E-03	n/a	B
S11V004157			PH	pH	unitless	n/a	n/a	8.82	9.20	9.01	4.22	n/a	0.0100	n/a	
S11V004158			13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.14E-05	n/a	n/a	n/a	n/a	2.28E-06	5.82	
S11V004158			10198-40-0	Cobalt-60	uCi/g	98.8	<1.71E-07	<9.32E-08	n/a	n/a	n/a	n/a	9.32E-08	n/a	U
S11V004158			14234-35-6	Antimony-125	uCi/g	n/a	<4.59E-07	2.10E-06	n/a	n/a	n/a	n/a	2.25E-07	3.46	
S11V004158			10045-97-3	Cesium-137	uCi/g	101	<2.03E-07	<7.53E-08	n/a	n/a	n/a	n/a	7.53E-08	n/a	U
S11V004158			14683-23-9	Europium-152	uCi/g	n/a	<4.23E-07	<1.87E-07	n/a	n/a	n/a	n/a	1.87E-07	n/a	U
S11V004158			15585-10-1	Europium-154	uCi/g	n/a	<2.69E-07	<1.45E-07	n/a	n/a	n/a	n/a	1.45E-07	n/a	U
S11V004158			14391-16-3	Europium-155	uCi/g	n/a	<5.69E-07	<2.67E-07	n/a	n/a	n/a	n/a	2.67E-07	n/a	U
S11V004158			14913-50-9	Thallium-208	uCi/g	n/a	n/a	2.60E-07	n/a	n/a	n/a	n/a	1.01E-07	15.00	
S11V004158			15092-94-1	Lead-212	uCi/g	n/a	n/a	5.70E-07	n/a	n/a	n/a	n/a	1.40E-07	8.52	
S11V004158			14733-03-0	Bismuth-214	uCi/g	n/a	n/a	5.30E-07	n/a	n/a	n/a	n/a	1.95E-07	13.50	
S11V004158			15067-28-4	Lead-214	uCi/g	n/a	n/a	4.41E-07	n/a	n/a	n/a	n/a	1.94E-07	14.56	
S11V004158			14331-83-0	Actinium-228	uCi/g	n/a	n/a	6.72E-07	n/a	n/a	n/a	n/a	3.79E-07	13.12	
S11V004158			14274-82-9	Thorium-228	uCi/g	n/a	<8.56E-05	<4.49E-05	n/a	n/a	n/a	n/a	4.49E-05	n/a	U
S11V004158			15065-10-8	Thorium-234	uCi/g	n/a	<3.63E-06	<1.05E-05	n/a	n/a	n/a	n/a	1.05E-05	n/a	U
S11V004158			15046-84-1	Iodine-129	uCi/g	104	<2.15E-05	<2.30E-06	n/a	n/a	n/a	n/a	2.30E-06	n/a	U
S11V004160			CONDUCT	Conductivity	uMHO/cm	98.7	<1.00	358	n/a	n/a	n/a	n/a	1.00	n/a	
S11V004160		WV	14133-76-7	Technetium-99	ug/g	100	<6.00E-06	<6.66E-06	n/a	n/a	n/a	n/a	6.66E-06	n/a	U
S11V004161		O	12674-11-2	Aroclor 1016	ug/kg	n/a	<54.2	<18.6	n/a	n/a	n/a	n/a	18.6	n/a	U
S11V004161		O	11104-28-2	Aroclor 1221	ug/kg	n/a	<8.96	<3.07	n/a	n/a	n/a	n/a	3.07	n/a	U
S11V004161		O	11141-16-5	Aroclor 1232	ug/kg	n/a	<15.2	<5.22	n/a	n/a	n/a	n/a	5.22	n/a	U
S11V004161		O	53469-21-9	Aroclor 1242	ug/kg	n/a	<36.2	<12.4	n/a	n/a	n/a	n/a	12.4	n/a	U
S11V004161		O	12672-29-6	Aroclor 1248	ug/kg	n/a	<20.5	<7.03	n/a	n/a	n/a	n/a	7.03	n/a	U
S11V004161		O	11097-69-1	Aroclor 1254	ug/kg	84.5	<13.1	<4.51	n/a	n/a	n/a	80.2	4.51	n/a	U
S11V004161		O	11096-82-5	Aroclor 1260	ug/kg	n/a	<21.2	<7.28	n/a	n/a	n/a	n/a	7.28	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M3

Sample Depth: 15'-19'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004162		A	7440-36-0	Antimony	ug/g	102	<2.00E-04	2.16	n/a	n/a	n/a	n/a	9.62E-03	n/a	
S11V004162		A	SN-117	Tin-117	ug/g	105	<1.00E-03	0.0702	n/a	n/a	n/a	n/a	0.0481	n/a	
S11V004162		A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	<9.62E-04	n/a	n/a	n/a	n/a	9.62E-04	n/a	U
S11V004163		O	120-82-1	1,2,4-Trichlorobenzene	ug/kg	78.0	<77.4	<76.4	n/a	n/a	n/a	n/a	76.4	n/a	U
S11V004163		O	95-50-1	1,2-Dichlorobenzene	ug/kg	n/a	<101	<99.4	n/a	n/a	n/a	n/a	99.4	n/a	U
S11V004163		O	106-46-7	1,4-Dichlorobenzene	ug/kg	76.5	<113	<112	n/a	n/a	n/a	n/a	112	n/a	U
S11V004163		O	121-14-2	2,4-Dinitrotoluene	ug/kg	93.2	<38.1	<37.6	n/a	n/a	n/a	n/a	37.6	n/a	U
S11V004163		O	95-95-4	2,4,5-Trichlorophenol	ug/kg	n/a	<44.0	<43.4	n/a	n/a	n/a	n/a	43.4	n/a	U
S11V004163		O	88-06-2	2,4,6-Trichlorophenol	ug/kg	n/a	<49.5	<48.8	n/a	n/a	n/a	n/a	48.8	n/a	U
S11V004163		O	95-48-7	2-Methylphenol	ug/kg	n/a	<57.5	<56.7	n/a	n/a	n/a	n/a	56.7	n/a	U
S11V004163		O	88-75-5	2-Nitrophenol	ug/kg	n/a	<53.7	<53.0	n/a	n/a	n/a	n/a	53.0	n/a	U
S11V004163		O	65794-96-9	3 &4 Methylphenol	ug/kg	n/a	<51.4	<50.7	n/a	n/a	n/a	n/a	50.7	n/a	U
S11V004163		O	83-32-9	Acenaphthene	ug/kg	86.9	<17.6	<17.4	n/a	n/a	n/a	n/a	17.4	n/a	U
S11V004163		O	56-55-3	Benzo(a)anthracene	ug/kg	n/a	<37.8	<37.3	n/a	n/a	n/a	n/a	37.3	n/a	U
S11V004163		O	205-99-2	Benzo(b)fluoranthene	ug/kg	n/a	<48.9	<48.3	n/a	n/a	n/a	n/a	48.3	n/a	U
S11V004163		O	50-32-8	Benzo(a)pyrene	ug/kg	n/a	<41.2	<40.7	n/a	n/a	n/a	n/a	40.7	n/a	U
S11V004163		O	117-81-7	Bis(2-ethylhexyl) phthalate	ug/kg	n/a	<590	2.07E+03	n/a	n/a	n/a	n/a	582	n/a	J
S11V004163		O	207-08-9	Benzo(k)fluoranthene	ug/kg	n/a	<39.1	<38.6	n/a	n/a	n/a	n/a	38.6	n/a	U
S11V004163		O	85-68-7	Butylbenzylphthalate	ug/kg	n/a	<50.0	77.8	n/a	n/a	n/a	n/a	49.3	n/a	J
S11V004163		O	59-50-7	4-Chloro-3-methylphenol	ug/kg	80.5	<43.2	<42.6	n/a	n/a	n/a	n/a	42.6	n/a	U
S11V004163		O	95-57-8	2-Chlorophenol	ug/kg	79.5	<66.5	<65.6	n/a	n/a	n/a	n/a	65.6	n/a	U
S11V004163		O	218-01-9	Chrysene	ug/kg	n/a	<81.4	<80.3	n/a	n/a	n/a	n/a	80.3	n/a	U
S11V004163		O	53-70-3	Dibenz[a,h]anthracene	ug/kg	n/a	<51.1	<50.4	n/a	n/a	n/a	n/a	50.4	n/a	U
S11V004163		O	84-74-2	Di-n-butylphthalate	ug/kg	n/a	<562	<555	n/a	n/a	n/a	n/a	555	n/a	U
S11V004163		O	117-84-0	Di-n-octylphthalate	ug/kg	n/a	<47.7	89.5	n/a	n/a	n/a	n/a	47.1	n/a	J
S11V004163		O	621-64-7	N-Nitroso-di-n-dipropylamine	ug/kg	78.6	<58.1	<57.3	n/a	n/a	n/a	n/a	57.3	n/a	U
S11V004163		O	206-44-0	Fluoranthene	ug/kg	n/a	<35.4	<34.9	n/a	n/a	n/a	n/a	34.9	n/a	U
S11V004163		O	87-68-3	Hexachlorobutadiene	ug/kg	n/a	<69.7	<68.8	n/a	n/a	n/a	n/a	68.8	n/a	U
S11V004163		O	67-72-1	Hexachloroethane	ug/kg	n/a	<112	<110	n/a	n/a	n/a	n/a	110	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M3

Sample Depth: 15'-19'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004163		O	193-39-5	Indeno(1,2,3-cd)pyrene	ug/kg	n/a	<51.0	<50.3	n/a	n/a	n/a	n/a	50.3	n/a	U
S11V004163		O	108-95-2	Phenol	ug/kg	82.0	<59.4	<58.6	n/a	n/a	n/a	n/a	58.6	n/a	U
S11V004163		O	91-20-3	Naphthalene	ug/kg	n/a	<62.6	<61.8	n/a	n/a	n/a	n/a	61.8	n/a	U
S11V004163		O	98-95-3	Nitrobenzene	ug/kg	n/a	<64.6	<63.7	n/a	n/a	n/a	n/a	63.7	n/a	U
S11V004163		O	100-02-7	4-Nitrophenol	ug/kg	94.3	<52.6	<51.9	n/a	n/a	n/a	n/a	51.9	n/a	U
S11V004163		O	87-86-5	Pentachlorophenol	ug/kg	90.8	<37.5	<37.0	n/a	n/a	n/a	n/a	37.0	n/a	U
S11V004163		O	129-00-0	Pyrene	ug/kg	104	<62.9	<62.1	n/a	n/a	n/a	n/a	62.1	n/a	U
S11V004163		O	110-86-1	Pyridine	ug/kg	n/a	<65.0	<64.1	n/a	n/a	n/a	n/a	64.1	n/a	U
S11V004163		O	126-73-8	Tributyl phosphate	ug/kg	n/a	<108	<106	n/a	n/a	n/a	n/a	106	n/a	U
S11V004163		O	128-37-0	BHT	ug/kg	n/a	<236	<232	n/a	n/a	n/a	n/a	232	n/a	U
S11V004163		O	110-80-5	2-Ethoxyethanol	ug/kg	n/a	<182	<180	n/a	n/a	n/a	n/a	180	n/a	U
S11V004163		O	1319-77-3	Total Methylphenols	ug/kg	n/a	<107	<105	n/a	n/a	n/a	n/a	105	n/a	U
S11V004163		O	108-94-1	Cyclohexanone	ug/kg	n/a	<559	<552	n/a	n/a	n/a	n/a	552	n/a	U
S11V004163		O	59-89-2	N-Nitrosomorpholine	ug/kg	n/a	<191	<189	n/a	n/a	n/a	n/a	189	n/a	U
S11V004163		O	78-83-1	Isobutanol	ug/kg	n/a	<460	<454	n/a	n/a	n/a	n/a	454	n/a	U
S11V004164		W	16984-48-8	Fluoride	ug/g	103	<1.61E-03	1.53	n/a	n/a	n/a	n/a	0.0142	n/a	
S11V004164		W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0828	n/a	n/a	n/a	n/a	0.0828	n/a	U
S11V004164		W	71-50-1	Acetate	ug/g	103	<6.04E-03	4.14	n/a	n/a	n/a	n/a	0.0533	n/a	
S11V004164		W	FORMATE	Formate	ug/g	103	0.0206	0.819	n/a	n/a	n/a	n/a	0.0412	n/a	CB
S11V004164		W	16887-00-6	Chloride	ug/g	102	0.0207	3.14	n/a	n/a	n/a	n/a	0.0882	n/a	
S11V004164		W	14797-65-0	Nitrite	ug/g	102	0.0637	1.22	n/a	n/a	n/a	n/a	0.170	n/a	CB
S11V004164		W	14808-79-8	Sulfate	ug/g	105	0.0350	44.1	n/a	n/a	n/a	n/a	0.165	n/a	
S11V004164		W	338-70-5	Oxalate	ug/g	101	<0.0231	1.94	n/a	n/a	n/a	n/a	0.204	n/a	
S11V004164		W	24959-67-9	Bromide	ug/g	103	<0.0580	<0.512	n/a	n/a	n/a	n/a	0.512	n/a	U
S11V004164		W	14797-55-8	Nitrate	ug/g	102	<0.0208	8.92	n/a	n/a	n/a	n/a	0.184	n/a	
S11V004164		W	14265-44-2	Phosphate	ug/g	102	<0.0167	0.582	n/a	n/a	n/a	n/a	0.148	n/a	B
S11V004165		A	7429-90-5	Aluminum	ug/g	91.6	<0.0300	6.91E+03	n/a	n/a	n/a	n/a	2.86	n/a	
S11V004165		A	7440-42-8	Boron	ug/g	89.1	<0.0300	6.97	n/a	n/a	n/a	n/a	2.86	n/a	BN
S11V004165		A	7440-39-3	Barium	ug/g	96.7	<3.00E-03	77.8	n/a	n/a	n/a	n/a	0.286	n/a	

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M3

Sample Depth: 15'-19'

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004165	A	7440-41-7	Beryllium	ug/g	101	<1.00E-03	0.134	n/a	n/a	n/a	n/a	0.0955	n/a	B
S11V004165	A	7440-70-2	Calcium	ug/g	90.8	0.139	1.57E+04	n/a	n/a	n/a	n/a	4.77	n/a	
S11V004165	A	7440-45-1	Cerium	ug/g	98.7	<0.0300	21.1	n/a	n/a	n/a	n/a	2.86	n/a	B
S11V004165	A	7440-48-4	Cobalt	ug/g	92.1	<0.0100	8.27	n/a	n/a	n/a	n/a	0.955	n/a	B
S11V004165	A	7440-47-3	Chromium	ug/g	92.9	<5.00E-03	9.58	n/a	n/a	n/a	n/a	0.477	n/a	
S11V004165	A	7440-50-8	Copper	ug/g	97.0	<5.00E-03	13.8	n/a	n/a	n/a	n/a	0.477	n/a	
S11V004165	A	7439-89-6	Iron	ug/g	92.3	0.0102	2.41E+04	n/a	n/a	n/a	n/a	0.477	n/a	
S11V004165	A	7440-09-7	Potassium	ug/g	91.1	<0.500	979	n/a	n/a	n/a	n/a	47.7	n/a	
S11V004165	A	7439-91-0	Lanthanum	ug/g	95.2	<3.00E-03	9.41	n/a	n/a	n/a	n/a	0.286	n/a	
S11V004165	A	7439-93-2	Lithium	ug/g	103	<3.00E-03	7.30	n/a	n/a	n/a	n/a	0.286	n/a	
S11V004165	A	7439-95-4	Magnesium	ug/g	91.9	<0.0500	5.07E+03	n/a	n/a	n/a	n/a	4.77	n/a	
S11V004165	A	7439-96-5	Manganese	ug/g	91.9	<3.00E-03	383	n/a	n/a	n/a	n/a	0.286	n/a	
S11V004165	A	7439-98-7	Molybdenum	ug/g	92.0	<0.0200	<1.91	n/a	n/a	n/a	n/a	1.91	n/a	U
S11V004165	A	7440-23-5	Sodium	ug/g	100	<0.100	471	n/a	n/a	n/a	n/a	9.55	n/a	
S11V004165	A	7440-02-0	Nickel	ug/g	91.6	<0.0200	10.7	n/a	n/a	n/a	n/a	1.91	n/a	B
S11V004165	A	7723-14-0	Phosphorus	ug/g	95.2	<0.0500	858	n/a	n/a	n/a	n/a	4.77	n/a	
S11V004165	A	7440-10-0	Praseodymium	ug/g	103	<0.0100	1.84	n/a	n/a	n/a	n/a	0.955	n/a	B
S11V004165	A	7704-34-9	Sulfur	ug/g	99.5	0.239	149	n/a	n/a	n/a	n/a	9.55	n/a	N
S11V004165	A	7440-21-3	Silicon	ug/g	16.0	<0.0300	72.0	n/a	n/a	n/a	n/a	2.86	n/a	N
S11V004165	A	7440-24-6	Strontium	ug/g	95.7	<3.00E-03	33.8	n/a	n/a	n/a	n/a	0.286	n/a	N
S11V004165	A	7440-32-6	Titanium	ug/g	93.4	<5.00E-03	1.60E+03	n/a	n/a	n/a	n/a	0.477	n/a	
S11V004165	A	7440-62-2	Vanadium	ug/g	94.1	<5.00E-03	54.3	n/a	n/a	n/a	n/a	0.477	n/a	
S11V004165	A	7440-65-5	Yttrium	ug/g	94.2	<2.00E-03	9.94	n/a	n/a	n/a	n/a	0.191	n/a	
S11V004165	A	7440-66-6	Zinc	ug/g	91.4	<5.00E-03	52.3	n/a	n/a	n/a	n/a	0.477	n/a	
S11V004165	A	7440-67-7	Zirconium	ug/g	92.4	<5.00E-03	4.13	n/a	n/a	n/a	n/a	0.477	n/a	BN
S11V004165	A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<6.68E-05	n/a	n/a	n/a	n/a	6.68E-05	n/a	U
S11V004165	A	TH-232	Thorium-232	ug/g	109	<5.00E-04	2.68	n/a	n/a	n/a	n/a	4.77E-03	n/a	
S11V004165	A	13968-55-3	Uranium-233	ug/g	102	<2.00E-04	<1.91E-03	n/a	n/a	n/a	n/a	1.91E-03	n/a	U
S11V004165	A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	<4.77E-05	n/a	n/a	n/a	n/a	4.77E-05	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M3

Sample Depth: 15'-19'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004165		A	15117-96-1	Uranium-235	ug/g	109	<1.00E-05	4.08E-03	n/a	n/a	n/a	n/a	9.55E-05	n/a	
S11V004165		A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<3.82E-05	n/a	n/a	n/a	n/a	3.82E-05	n/a	U
S11V004165		A	13994-20-2	Neptunium-237	ug/g	107	<1.00E-04	<9.55E-04	n/a	n/a	n/a	n/a	9.55E-04	n/a	U
S11V004165		A	U-238	Uranium-238	ug/g	109	<5.00E-04	0.578	n/a	n/a	n/a	n/a	4.77E-03	n/a	
S11V004165		A	7440-22-4	Silver	ug/g	109	<2.00E-03	0.0588	n/a	n/a	n/a	n/a	0.0191	n/a	B
S11V004165		A	7440-38-2	Arsenic	ug/g	94.1	<0.0420	7.89	n/a	n/a	n/a	n/a	0.401	n/a	
S11V004165		A	7440-43-9	Cadmium	ug/g	107	<6.00E-03	0.0840	n/a	n/a	n/a	n/a	0.0573	n/a	B
S11V004165		A	7439-92-1	Lead	ug/g	101	<0.0150	5.00	n/a	n/a	n/a	n/a	0.143	n/a	
S11V004165		A	7782-49-2	Selenium	ug/g	103	<0.135	<1.29	n/a	n/a	n/a	n/a	1.29	n/a	U
S11V004165		A	7440-28-0	Thallium	ug/g	101	<4.00E-03	0.0817	n/a	n/a	n/a	n/a	0.0382	n/a	B
S11V004166		S	14798-03-9	Ammonium	ug/g	104	<0.120	1.65	1.83	1.74	10.4	102	0.475	n/a	B
S11V004167		A	14133-76-7	Technetium-99	ug/g	107	<6.00E-05	<5.64E-04	n/a	n/a	n/a	n/a	5.64E-04	n/a	U
S11V004168		E	CM-243/244	Curium-243/244	uCi/g	n/a	<4.58E-08	<5.52E-08	n/a	n/a	n/a	n/a	5.52E-08	n/a	U
S11V004168		E	14596-10-2	Americium-241	uCi/g	103	<5.32E-08	<5.09E-08	n/a	n/a	n/a	n/a	5.09E-08	n/a	U
S11V004168		E	15510-73-3	Curium-242	uCi/g	n/a	<2.34E-08	<2.08E-08	n/a	n/a	n/a	n/a	2.08E-08	n/a	U
S11V004168		E	PU-239/240	Plutonium-239/240	uCi/g	107	<6.34E-08	<4.02E-08	n/a	n/a	n/a	n/a	4.02E-08	n/a	U
S11V004168		E	13981-16-3	Plutonium-238	uCi/g	n/a	<6.58E-08	<3.84E-08	n/a	n/a	n/a	n/a	3.84E-08	n/a	U
S11V004169		E	SR-89/90	Strontium-89/90	uCi/g	111	<4.70E-07	<6.86E-07	n/a	n/a	n/a	n/a	6.86E-07	n/a	U
S11V004170		E	13981-37-8	Nickel-63	uCi/g	102	<1.02E-05	<4.87E-06	n/a	n/a	n/a	n/a	4.87E-06	n/a	U
S11V004171		E	15758-45-9	Selenium-79	uCi/g	n/a	4.77E-06	5.19E-06	n/a	n/a	n/a	n/a	1.63E-06	59.644	BE
S11V004172		W	14762-75-5	Carbon-14	uCi/g	92.2	<4.26E-06	<3.06E-06	n/a	n/a	n/a	n/a	3.06E-06	n/a	U
S11V004172		W	10028-17-8	Tritium	uCi/g	99.3	<3.91E-06	<2.67E-06	n/a	n/a	n/a	n/a	2.67E-06	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M5

Sample Depth: 54'-58'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004200			%WATERA	%WATER-APD	%	n/a	n/a	8.550	9.070	8.810	5.902	n/a	0.01000	n/a	
S11V004200			57-12-5	Cyanide	ug/g	105	<0.0370	<0.480	n/a	n/a	n/a	n/a	0.480	n/a	U
S11V004200			WT%SOLID	Weight percent solids	%	n/a	n/a	91.4	90.9	91.2	0.570	n/a	0.0100	n/a	
S11V004200			7439-97-6	Mercury	ug/g	93.4	<1.00E-04	<9.14E-03	n/a	n/a	n/a	n/a	9.14E-03	n/a	U
S11V004200			PH	pH	unitless	n/a	n/a	9.23	9.64	9.44	4.35	n/a	0.0100	n/a	
S11V004201			13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.33E-05	n/a	n/a	n/a	n/a	2.66E-06	5.67	
S11V004201			10198-40-0	Cobalt-60	uCi/g	98.8	<1.71E-07	<8.84E-08	n/a	n/a	n/a	n/a	8.84E-08	n/a	U
S11V004201			14234-35-6	Antimony-125	uCi/g	n/a	<4.59E-07	<2.60E-07	n/a	n/a	n/a	n/a	2.60E-07	n/a	U
S11V004201			10045-97-3	Cesium-137	uCi/g	101	<2.03E-07	<9.38E-08	n/a	n/a	n/a	n/a	9.38E-08	n/a	U
S11V004201			14683-23-9	Europium-152	uCi/g	n/a	<4.23E-07	<2.32E-07	n/a	n/a	n/a	n/a	2.32E-07	n/a	U
S11V004201			15585-10-1	Europium-154	uCi/g	n/a	<2.69E-07	<1.65E-07	n/a	n/a	n/a	n/a	1.65E-07	n/a	U
S11V004201			14391-16-3	Europium-155	uCi/g	n/a	<5.69E-07	<3.13E-07	n/a	n/a	n/a	n/a	3.13E-07	n/a	U
S11V004201			14913-50-9	Thallium-208	uCi/g	n/a	n/a	2.94E-07	n/a	n/a	n/a	n/a	1.25E-07	17.38	
S11V004201			15092-94-1	Lead-212	uCi/g	n/a	n/a	7.45E-07	n/a	n/a	n/a	n/a	1.65E-07	7.86	
S11V004201			14733-03-0	Bismuth-214	uCi/g	n/a	n/a	7.09E-07	n/a	n/a	n/a	n/a	2.14E-07	10.59	
S11V004201			15067-28-4	Lead-214	uCi/g	n/a	n/a	5.57E-07	n/a	n/a	n/a	n/a	2.23E-07	14.26	
S11V004201			14331-83-0	Actinium-228	uCi/g	n/a	n/a	6.39E-07	n/a	n/a	n/a	n/a	4.20E-07	13.87	
S11V004201			14274-82-9	Thorium-228	uCi/g	n/a	<8.56E-05	<5.21E-05	n/a	n/a	n/a	n/a	5.21E-05	n/a	U
S11V004201			15065-10-8	Thorium-234	uCi/g	n/a	<3.63E-06	<1.16E-05	n/a	n/a	n/a	n/a	1.16E-05	n/a	U
S11V004201			15046-84-1	Iodine-129	uCi/g	104	<2.15E-05	<1.91E-06	n/a	n/a	n/a	n/a	1.91E-06	n/a	U
S11V004203			CONDUCT	Conductivity	uMHO/cm	98.7	<1.00	337	n/a	n/a	n/a	n/a	1.00	n/a	
S11V004203		WV	14133-76-7	Technetium-99	ug/g	100	<6.00E-06	<6.48E-06	n/a	n/a	n/a	n/a	6.48E-06	n/a	U
S11V004205		A	7440-36-0	Antimony	ug/g	102	<2.00E-04	0.160	n/a	n/a	n/a	n/a	9.79E-03	n/a	
S11V004205		A	SN-117	Tin-117	ug/g	105	<1.00E-03	<0.0490	n/a	n/a	n/a	n/a	0.0490	n/a	U
S11V004205		A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	<9.79E-04	n/a	n/a	n/a	n/a	9.79E-04	n/a	U
S11V004206		O	120-82-1	1,2,4-Trichlorobenzene	ug/kg	78.0	<77.4	<76.8	n/a	n/a	n/a	70.5	76.8	n/a	U
S11V004206		O	95-50-1	1,2-Dichlorobenzene	ug/kg	n/a	<101	<99.9	n/a	n/a	n/a	n/a	99.9	n/a	U
S11V004206		O	106-46-7	1,4-Dichlorobenzene	ug/kg	76.5	<113	<112	n/a	n/a	n/a	68.8	112	n/a	U
S11V004206		O	121-14-2	2,4-Dinitrotoluene	ug/kg	93.2	<38.1	<37.8	n/a	n/a	n/a	96.2	37.8	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M5

Sample Depth: 54'-58'

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004206	O	95-95-4	2,4,5-Trichlorophenol	ug/kg	n/a	<44.0	<43.6	n/a	n/a	n/a	n/a	43.6	n/a	U
S11V004206	O	88-06-2	2,4,6-Trichlorophenol	ug/kg	n/a	<49.5	<49.1	n/a	n/a	n/a	n/a	49.1	n/a	U
S11V004206	O	95-48-7	2-Methylphenol	ug/kg	n/a	<57.5	<57.0	n/a	n/a	n/a	n/a	57.0	n/a	U
S11V004206	O	88-75-5	2-Nitrophenol	ug/kg	n/a	<53.7	<53.3	n/a	n/a	n/a	n/a	53.3	n/a	U
S11V004206	O	65794-96-9	3 &4 Methylphenol	ug/kg	n/a	<51.4	<51.0	n/a	n/a	n/a	n/a	51.0	n/a	U
S11V004206	O	83-32-9	Acenaphthene	ug/kg	86.9	<17.6	<17.5	n/a	n/a	n/a	83.3	17.5	n/a	U
S11V004206	O	56-55-3	Benzo(a)anthracene	ug/kg	n/a	<37.8	<37.5	n/a	n/a	n/a	n/a	37.5	n/a	U
S11V004206	O	205-99-2	Benzo(b)fluoranthene	ug/kg	n/a	<48.9	<48.5	n/a	n/a	n/a	n/a	48.5	n/a	U
S11V004206	O	50-32-8	Benzo(a)pyrene	ug/kg	n/a	<41.2	<40.9	n/a	n/a	n/a	n/a	40.9	n/a	U
S11V004206	O	117-81-7	Bis(2-ethylhexyl) phthalate	ug/kg	n/a	<590	<585	n/a	n/a	n/a	n/a	585	n/a	U
S11V004206	O	207-08-9	Benzo(k)fluoranthene	ug/kg	n/a	<39.1	<38.8	n/a	n/a	n/a	n/a	38.8	n/a	U
S11V004206	O	85-68-7	Butylbenzylphthalate	ug/kg	n/a	<50.0	<49.6	n/a	n/a	n/a	n/a	49.6	n/a	U
S11V004206	O	59-50-7	4-Chloro-3-methylphenol	ug/kg	80.5	<43.2	<42.8	n/a	n/a	n/a	75.6	42.8	n/a	U
S11V004206	O	95-57-8	2-Chlorophenol	ug/kg	79.5	<66.5	<65.9	n/a	n/a	n/a	70.3	65.9	n/a	U
S11V004206	O	218-01-9	Chrysene	ug/kg	n/a	<81.4	<80.7	n/a	n/a	n/a	n/a	80.7	n/a	U
S11V004206	O	53-70-3	Dibenz[a,h]anthracene	ug/kg	n/a	<51.1	<50.7	n/a	n/a	n/a	n/a	50.7	n/a	U
S11V004206	O	84-74-2	Di-n-butylphthalate	ug/kg	n/a	<562	<558	n/a	n/a	n/a	n/a	558	n/a	U
S11V004206	O	117-84-0	Di-n-octylphthalate	ug/kg	n/a	<47.7	<47.3	n/a	n/a	n/a	n/a	47.3	n/a	U
S11V004206	O	621-64-7	N-Nitroso-di-n-dipropylamine	ug/kg	78.6	<58.1	<57.6	n/a	n/a	n/a	70.7	57.6	n/a	U
S11V004206	O	206-44-0	Fluoranthene	ug/kg	n/a	<35.4	<35.1	n/a	n/a	n/a	n/a	35.1	n/a	U
S11V004206	O	87-68-3	Hexachlorobutadiene	ug/kg	n/a	<69.7	<69.1	n/a	n/a	n/a	n/a	69.1	n/a	U
S11V004206	O	67-72-1	Hexachloroethane	ug/kg	n/a	<112	<111	n/a	n/a	n/a	n/a	111	n/a	U
S11V004206	O	193-39-5	Indeno(1,2,3-cd)pyrene	ug/kg	n/a	<51.0	<50.6	n/a	n/a	n/a	n/a	50.6	n/a	U
S11V004206	O	108-95-2	Phenol	ug/kg	82.0	<59.4	<58.9	n/a	n/a	n/a	72.8	58.9	n/a	U
S11V004206	O	91-20-3	Naphthalene	ug/kg	n/a	<62.6	<62.1	n/a	n/a	n/a	n/a	62.1	n/a	U
S11V004206	O	98-95-3	Nitrobenzene	ug/kg	n/a	<64.6	<64.1	n/a	n/a	n/a	n/a	64.1	n/a	U
S11V004206	O	100-02-7	4-Nitrophenol	ug/kg	94.3	<52.6	<52.2	n/a	n/a	n/a	93.0	52.2	n/a	U
S11V004206	O	87-86-5	Pentachlorophenol	ug/kg	90.8	<37.5	<37.2	n/a	n/a	n/a	90.4	37.2	n/a	U
S11V004206	O	129-00-0	Pyrene	ug/kg	104	<62.9	<62.4	n/a	n/a	n/a	94.9	62.4	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M5

Sample Depth: 54'-58'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004206		O	110-86-1	Pyridine	ug/kg	n/a	<65.0	<64.5	n/a	n/a	n/a	n/a	64.5	n/a	U
S11V004206		O	126-73-8	Tributyl phosphate	ug/kg	n/a	<108	<107	n/a	n/a	n/a	n/a	107	n/a	U
S11V004206		O	128-37-0	BHT	ug/kg	n/a	<236	<234	n/a	n/a	n/a	n/a	234	n/a	U
S11V004206		O	110-80-5	2-Ethoxyethanol	ug/kg	n/a	<182	<181	n/a	n/a	n/a	n/a	181	n/a	U
S11V004206		O	1319-77-3	Total Methylphenols	ug/kg	n/a	<107	<106	n/a	n/a	n/a	n/a	106	n/a	U
S11V004206		O	108-94-1	Cyclohexanone	ug/kg	n/a	<559	<554	n/a	n/a	n/a	n/a	554	n/a	U
S11V004206		O	59-89-2	N-Nitrosomorpholine	ug/kg	n/a	<191	<190	n/a	n/a	n/a	n/a	190	n/a	U
S11V004206		O	78-83-1	Isobutanol	ug/kg	n/a	<460	<456	n/a	n/a	n/a	n/a	456	n/a	U
S11V004207		W	16984-48-8	Fluoride	ug/g	103	<1.61E-03	1.55	n/a	n/a	n/a	n/a	0.0143	n/a	
S11V004207		W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0831	n/a	n/a	n/a	n/a	0.0831	n/a	U
S11V004207		W	71-50-1	Acetate	ug/g	103	<6.04E-03	8.38	n/a	n/a	n/a	n/a	0.0536	n/a	
S11V004207		W	FORMATE	Formate	ug/g	103	0.0206	0.430	n/a	n/a	n/a	n/a	0.0414	n/a	CB
S11V004207		W	16887-00-6	Chloride	ug/g	102	0.0207	0.864	n/a	n/a	n/a	n/a	0.0885	n/a	
S11V004207		W	14797-65-0	Nitrite	ug/g	102	0.0637	0.813	n/a	n/a	n/a	n/a	0.170	n/a	CB
S11V004207		W	14808-79-8	Sulfate	ug/g	105	0.0350	23.9	n/a	n/a	n/a	n/a	0.166	n/a	
S11V004207		W	338-70-5	Oxalate	ug/g	101	<0.0231	<0.205	n/a	n/a	n/a	n/a	0.205	n/a	U
S11V004207		W	24959-67-9	Bromide	ug/g	103	<0.0580	<0.515	n/a	n/a	n/a	n/a	0.515	n/a	U
S11V004207		W	14797-55-8	Nitrate	ug/g	102	<0.0208	16.8	n/a	n/a	n/a	n/a	0.185	n/a	
S11V004207		W	14265-44-2	Phosphate	ug/g	102	<0.0167	3.29	n/a	n/a	n/a	n/a	0.148	n/a	
S11V004208		A	7429-90-5	Aluminum	ug/g	91.6	<0.0300	6.92E+03	n/a	n/a	n/a	n/a	2.80	n/a	
S11V004208		A	7440-42-8	Boron	ug/g	89.1	<0.0300	4.58	n/a	n/a	n/a	n/a	2.80	n/a	BN
S11V004208		A	7440-39-3	Barium	ug/g	96.7	<3.00E-03	67.9	n/a	n/a	n/a	n/a	0.280	n/a	
S11V004208		A	7440-41-7	Beryllium	ug/g	101	<1.00E-03	0.152	n/a	n/a	n/a	n/a	0.0934	n/a	B
S11V004208		A	7440-70-2	Calcium	ug/g	90.8	0.139	6.15E+03	n/a	n/a	n/a	n/a	4.67	n/a	
S11V004208		A	7440-45-1	Cerium	ug/g	98.7	<0.0300	19.2	n/a	n/a	n/a	n/a	2.80	n/a	B
S11V004208		A	7440-48-4	Cobalt	ug/g	92.1	<0.0100	5.79	n/a	n/a	n/a	n/a	0.934	n/a	B
S11V004208		A	7440-47-3	Chromium	ug/g	92.9	<5.00E-03	8.84	n/a	n/a	n/a	n/a	0.467	n/a	
S11V004208		A	7440-50-8	Copper	ug/g	97.0	<5.00E-03	9.78	n/a	n/a	n/a	n/a	0.467	n/a	
S11V004208		A	7439-89-6	Iron	ug/g	92.3	0.0102	1.92E+04	n/a	n/a	n/a	n/a	0.467	n/a	

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M5

Sample Depth: 54'-58'

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004208	A	7440-09-7	Potassium	ug/g	91.1	<0.500	1.11E+03	n/a	n/a	n/a	n/a	46.7	n/a	
S11V004208	A	7439-91-0	Lanthanum	ug/g	95.2	<3.00E-03	8.83	n/a	n/a	n/a	n/a	0.280	n/a	
S11V004208	A	7439-93-2	Lithium	ug/g	103	<3.00E-03	6.99	n/a	n/a	n/a	n/a	0.280	n/a	
S11V004208	A	7439-95-4	Magnesium	ug/g	91.9	<0.0500	4.42E+03	n/a	n/a	n/a	n/a	4.67	n/a	
S11V004208	A	7439-96-5	Manganese	ug/g	91.9	<3.00E-03	297	n/a	n/a	n/a	n/a	0.280	n/a	
S11V004208	A	7439-98-7	Molybdenum	ug/g	92.0	<0.0200	<1.87	n/a	n/a	n/a	n/a	1.87	n/a	U
S11V004208	A	7440-23-5	Sodium	ug/g	100	<0.100	336	n/a	n/a	n/a	n/a	9.34	n/a	
S11V004208	A	7440-02-0	Nickel	ug/g	91.6	<0.0200	9.38	n/a	n/a	n/a	n/a	1.87	n/a	B
S11V004208	A	7723-14-0	Phosphorus	ug/g	95.2	<0.0500	758	n/a	n/a	n/a	n/a	4.67	n/a	
S11V004208	A	7440-10-0	Praseodymium	ug/g	103	<0.0100	1.96	n/a	n/a	n/a	n/a	0.934	n/a	B
S11V004208	A	7704-34-9	Sulfur	ug/g	99.5	0.239	67.6	n/a	n/a	n/a	n/a	9.34	n/a	CBN
S11V004208	A	7440-21-3	Silicon	ug/g	16.0	<0.0300	58.6	n/a	n/a	n/a	n/a	2.80	n/a	N
S11V004208	A	7440-24-6	Strontium	ug/g	95.7	<3.00E-03	26.5	n/a	n/a	n/a	n/a	0.280	n/a	N
S11V004208	A	7440-25-7	Tantalum	ug/g	30.8	<0.0500	6.43	n/a	n/a	n/a	n/a	4.67	n/a	B
S11V004208	A	7440-32-6	Titanium	ug/g	93.4	<5.00E-03	1.27E+03	n/a	n/a	n/a	n/a	0.467	n/a	
S11V004208	A	7440-62-2	Vanadium	ug/g	94.1	<5.00E-03	43.3	n/a	n/a	n/a	n/a	0.467	n/a	
S11V004208	A	7440-65-5	Yttrium	ug/g	94.2	<2.00E-03	8.71	n/a	n/a	n/a	n/a	0.187	n/a	
S11V004208	A	7440-66-6	Zinc	ug/g	91.4	<5.00E-03	38.3	n/a	n/a	n/a	n/a	0.467	n/a	
S11V004208	A	7440-67-7	Zirconium	ug/g	92.4	<5.00E-03	2.94	n/a	n/a	n/a	n/a	0.467	n/a	BN
S11V004208	A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<6.54E-05	n/a	n/a	n/a	n/a	6.54E-05	n/a	U
S11V004208	A	TH-232	Thorium-232	ug/g	109	<5.00E-04	2.77	n/a	n/a	n/a	n/a	4.67E-03	n/a	
S11V004208	A	13968-55-3	Uranium-233	ug/g	102	<2.00E-04	<1.87E-03	n/a	n/a	n/a	n/a	1.87E-03	n/a	U
S11V004208	A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	<4.67E-05	n/a	n/a	n/a	n/a	4.67E-05	n/a	U
S11V004208	A	15117-96-1	Uranium-235	ug/g	109	<1.00E-05	4.32E-03	n/a	n/a	n/a	n/a	9.34E-05	n/a	
S11V004208	A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<3.74E-05	n/a	n/a	n/a	n/a	3.74E-05	n/a	U
S11V004208	A	13994-20-2	Neptunium-237	ug/g	107	<1.00E-04	<9.34E-04	n/a	n/a	n/a	n/a	9.34E-04	n/a	U
S11V004208	A	U-238	Uranium-238	ug/g	109	<5.00E-04	0.623	n/a	n/a	n/a	n/a	4.67E-03	n/a	
S11V004208	A	7440-22-4	Silver	ug/g	109	<2.00E-03	0.0484	n/a	n/a	n/a	n/a	0.0187	n/a	B
S11V004208	A	7440-38-2	Arsenic	ug/g	94.1	<0.0420	3.67	n/a	n/a	n/a	n/a	0.392	n/a	B

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M5

Sample Depth: 54'-58'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004208		A	7440-43-9	Cadmium	ug/g	107	<6.00E-03	0.0959	n/a	n/a	n/a	n/a	0.0560	n/a	B
S11V004208		A	7439-92-1	Lead	ug/g	101	<0.0150	4.80	n/a	n/a	n/a	n/a	0.140	n/a	
S11V004208		A	7782-49-2	Selenium	ug/g	103	<0.135	<1.26	n/a	n/a	n/a	n/a	1.26	n/a	U
S11V004208		A	7440-28-0	Thallium	ug/g	101	<4.00E-03	0.0748	n/a	n/a	n/a	n/a	0.0374	n/a	B
S11V004209		S	14798-03-9	Ammonium	ug/g	94.9	0.492	3.46	3.24	3.35	6.69	98.4	0.476	n/a	CB
S11V004210		A	14133-76-7	Technetium-99	ug/g	107	<6.00E-05	<5.69E-04	n/a	n/a	n/a	n/a	5.69E-04	n/a	U
S11V004211		E	CM-243/244	Curium-243/244	uCi/g	n/a	<4.58E-08	<3.08E-08	n/a	n/a	n/a	n/a	3.08E-08	n/a	U
S11V004211		E	14596-10-2	Americium-241	uCi/g	103	<5.32E-08	<4.77E-08	n/a	n/a	n/a	n/a	4.77E-08	n/a	U
S11V004211		E	15510-73-3	Curium-242	uCi/g	n/a	<2.34E-08	<1.11E-08	n/a	n/a	n/a	n/a	1.11E-08	n/a	U
S11V004211		E	PU-239/240	Plutonium-239/240	uCi/g	107	<6.34E-08	<4.18E-08	n/a	n/a	n/a	n/a	4.18E-08	n/a	U
S11V004211		E	13981-16-3	Plutonium-238	uCi/g	n/a	<6.58E-08	<3.57E-08	n/a	n/a	n/a	n/a	3.57E-08	n/a	U
S11V004212		E	SR-89/90	Strontium-89/90	uCi/g	111	<4.70E-07	<5.02E-07	n/a	n/a	n/a	n/a	5.02E-07	n/a	U
S11V004213		E	13981-37-8	Nickel-63	uCi/g	102	<1.02E-05	<1.15E-05	n/a	n/a	n/a	n/a	1.15E-05	n/a	U
S11V004214		E	15758-45-9	Selenium-79	uCi/g	n/a	4.77E-06	7.42E-06	n/a	n/a	n/a	n/a	1.82E-06	61.144	BE
S11V004215		W	14762-75-5	Carbon-14	uCi/g	92.2	<4.26E-06	<2.71E-06	n/a	n/a	n/a	n/a	2.71E-06	n/a	U
S11V004215		W	10028-17-8	Tritium	uCi/g	99.3	<3.91E-06	<3.66E-06	n/a	n/a	n/a	n/a	3.66E-06	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M7

Sample Depth: 76'-78'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004242			%WATERA	%WATER-APD	%	n/a	n/a	3.240	n/a	n/a	n/a	n/a	0.01000	n/a	
S11V004242			57-12-5	Cyanide	ug/g	106	<0.0370	<0.480	<0.480	n/a	n/a	100	0.480	n/a	U
S11V004242			WT%SOLID	Weight percent solids	%	n/a	n/a	96.8	n/a	n/a	n/a	n/a	0.0100	n/a	
S11V004242			7439-97-6	Mercury	ug/g	93.4	<1.00E-04	<9.92E-03	n/a	n/a	n/a	n/a	9.92E-03	n/a	U
S11V004242			PH	pH	unitless	n/a	n/a	9.00	8.88	8.94	1.34	n/a	0.0100	n/a	
S11V004243			13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.53E-05	n/a	n/a	n/a	n/a	2.32E-06	4.25	
S11V004243			10198-40-0	Cobalt-60	uCi/g	98.8	<1.71E-07	<9.52E-08	n/a	n/a	n/a	n/a	9.52E-08	n/a	U
S11V004243			14234-35-6	Antimony-125	uCi/g	n/a	<4.59E-07	<2.08E-07	n/a	n/a	n/a	n/a	2.08E-07	n/a	U
S11V004243			10045-97-3	Cesium-137	uCi/g	101	<2.03E-07	<7.44E-08	n/a	n/a	n/a	n/a	7.44E-08	n/a	U
S11V004243			14683-23-9	Europium-152	uCi/g	n/a	<4.23E-07	<2.00E-07	n/a	n/a	n/a	n/a	2.00E-07	n/a	U
S11V004243			15585-10-1	Europium-154	uCi/g	n/a	<2.69E-07	<1.37E-07	n/a	n/a	n/a	n/a	1.37E-07	n/a	U
S11V004243			14391-16-3	Europium-155	uCi/g	n/a	<5.69E-07	<2.79E-07	n/a	n/a	n/a	n/a	2.79E-07	n/a	U
S11V004243			14913-50-9	Thallium-208	uCi/g	n/a	n/a	2.39E-07	n/a	n/a	n/a	n/a	1.01E-07	15.54	
S11V004243			15092-94-1	Lead-212	uCi/g	n/a	n/a	7.17E-07	n/a	n/a	n/a	n/a	1.44E-07	7.03	
S11V004243			14733-03-0	Bismuth-214	uCi/g	n/a	n/a	6.16E-07	n/a	n/a	n/a	n/a	1.95E-07	10.90	
S11V004243			15067-28-4	Lead-214	uCi/g	n/a	n/a	5.34E-07	n/a	n/a	n/a	n/a	1.94E-07	12.42	
S11V004243			14331-83-0	Actinium-228	uCi/g	n/a	n/a	7.04E-07	n/a	n/a	n/a	n/a	3.97E-07	13.03	
S11V004243			14274-82-9	Thorium-228	uCi/g	n/a	<8.56E-05	<4.34E-05	n/a	n/a	n/a	n/a	4.34E-05	n/a	U
S11V004243			15065-10-8	Thorium-234	uCi/g	n/a	<3.63E-06	<8.24E-06	n/a	n/a	n/a	n/a	8.24E-06	n/a	U
S11V004243			15046-84-1	Iodine-129	uCi/g	104	<2.15E-05	<2.04E-06	n/a	n/a	n/a	n/a	2.04E-06	n/a	U
S11V004245			CONDUCT	Conductivity	uMHO/cm	98.7	<1.00	189	n/a	n/a	n/a	n/a	1.00	n/a	
S11V004245		WV	14133-76-7	Technetium-99	ug/g	100	<6.00E-06	<5.80E-06	n/a	n/a	n/a	n/a	5.80E-06	n/a	U
S11V004247		A	7440-36-0	Antimony	ug/g	102	<2.00E-04	0.152	n/a	n/a	n/a	n/a	9.77E-03	n/a	
S11V004247		A	SN-117	Tin-117	ug/g	105	<1.00E-03	<0.0488	n/a	n/a	n/a	n/a	0.0488	n/a	U
S11V004247		A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	<9.77E-04	n/a	n/a	n/a	n/a	9.77E-04	n/a	U
S11V004248		O	120-82-1	1,2,4-Trichlorobenzene	ug/kg	82.8	<77.4	<74.9	n/a	n/a	n/a	80.5	74.9	n/a	U
S11V004248		O	95-50-1	1,2-Dichlorobenzene	ug/kg	n/a	<101	<97.4	n/a	n/a	n/a	n/a	97.4	n/a	U
S11V004248		O	106-46-7	1,4-Dichlorobenzene	ug/kg	81.8	<113	<110	n/a	n/a	n/a	78.7	110	n/a	U
S11V004248		O	121-14-2	2,4-Dinitrotoluene	ug/kg	101	<38.1	<36.9	n/a	n/a	n/a	98.3	36.9	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M7

Sample Depth: 76'-78'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004248		O	95-95-4	2,4,5-Trichlorophenol	ug/kg	n/a	<44.0	<42.6	n/a	n/a	n/a	n/a	42.6	n/a	U
S11V004248		O	88-06-2	2,4,6-Trichlorophenol	ug/kg	n/a	<49.5	<47.9	n/a	n/a	n/a	n/a	47.9	n/a	U
S11V004248		O	95-48-7	2-Methylphenol	ug/kg	n/a	<57.5	<55.6	n/a	n/a	n/a	n/a	55.6	n/a	U
S11V004248		O	88-75-5	2-Nitrophenol	ug/kg	n/a	<53.7	<52.0	n/a	n/a	n/a	n/a	52.0	n/a	U
S11V004248		O	65794-96-9	3 &4 Methylphenol	ug/kg	n/a	<51.4	<49.7	n/a	n/a	n/a	n/a	49.7	n/a	U
S11V004248		O	83-32-9	Acenaphthene	ug/kg	91.5	<17.6	<17.0	n/a	n/a	n/a	88.9	17.0	n/a	U
S11V004248		O	56-55-3	Benzo(a)anthracene	ug/kg	n/a	<37.8	<36.6	n/a	n/a	n/a	n/a	36.6	n/a	U
S11V004248		O	205-99-2	Benzo(b)fluoranthene	ug/kg	n/a	<48.9	<47.3	n/a	n/a	n/a	n/a	47.3	n/a	U
S11V004248		O	50-32-8	Benzo(a)pyrene	ug/kg	n/a	<41.2	<39.9	n/a	n/a	n/a	n/a	39.9	n/a	U
S11V004248		O	117-81-7	Bis(2-ethylhexyl) phthalate	ug/kg	n/a	<590	<571	n/a	n/a	n/a	n/a	571	n/a	U
S11V004248		O	207-08-9	Benzo(k)fluoranthene	ug/kg	n/a	<39.1	<37.8	n/a	n/a	n/a	n/a	37.8	n/a	U
S11V004248		O	85-68-7	Butylbenzylphthalate	ug/kg	n/a	<50.0	<48.4	n/a	n/a	n/a	n/a	48.4	n/a	U
S11V004248		O	59-50-7	4-Chloro-3-methylphenol	ug/kg	84.3	<43.2	<41.8	n/a	n/a	n/a	85.2	41.8	n/a	U
S11V004248		O	95-57-8	2-Chlorophenol	ug/kg	82.5	<66.5	<64.3	n/a	n/a	n/a	80.1	64.3	n/a	U
S11V004248		O	218-01-9	Chrysene	ug/kg	n/a	<81.4	<78.8	n/a	n/a	n/a	n/a	78.8	n/a	U
S11V004248		O	53-70-3	Dibenz[a,h]anthracene	ug/kg	n/a	<51.1	<49.4	n/a	n/a	n/a	n/a	49.4	n/a	U
S11V004248		O	84-74-2	Di-n-butylphthalate	ug/kg	n/a	<562	<544	n/a	n/a	n/a	n/a	544	n/a	U
S11V004248		O	117-84-0	Di-n-octylphthalate	ug/kg	n/a	<47.7	<46.2	n/a	n/a	n/a	n/a	46.2	n/a	U
S11V004248		O	621-64-7	N-Nitroso-di-n-dipropylamine	ug/kg	78.2	<58.1	<56.2	n/a	n/a	n/a	79.3	56.2	n/a	U
S11V004248		O	206-44-0	Fluoranthene	ug/kg	n/a	<35.4	<34.3	n/a	n/a	n/a	n/a	34.3	n/a	U
S11V004248		O	87-68-3	Hexachlorobutadiene	ug/kg	n/a	<69.7	<67.4	n/a	n/a	n/a	n/a	67.4	n/a	U
S11V004248		O	67-72-1	Hexachloroethane	ug/kg	n/a	<112	<108	n/a	n/a	n/a	n/a	108	n/a	U
S11V004248		O	193-39-5	Indeno(1,2,3-cd)pyrene	ug/kg	n/a	<51.0	<49.3	n/a	n/a	n/a	n/a	49.3	n/a	U
S11V004248		O	108-95-2	Phenol	ug/kg	83.9	<59.4	<57.5	n/a	n/a	n/a	82.5	57.5	n/a	U
S11V004248		O	91-20-3	Naphthalene	ug/kg	n/a	<62.6	<60.6	n/a	n/a	n/a	n/a	60.6	n/a	U
S11V004248		O	98-95-3	Nitrobenzene	ug/kg	n/a	<64.6	<62.5	n/a	n/a	n/a	n/a	62.5	n/a	U
S11V004248		O	100-02-7	4-Nitrophenol	ug/kg	102	<52.6	<50.9	n/a	n/a	n/a	103	50.9	n/a	U
S11V004248		O	87-86-5	Pentachlorophenol	ug/kg	90.0	<37.5	<36.3	n/a	n/a	n/a	90.9	36.3	n/a	U
S11V004248		O	129-00-0	Pyrene	ug/kg	97.2	<62.9	<60.9	n/a	n/a	n/a	99.6	60.9	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M7

Sample Depth: 76'-78'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004248		O	110-86-1	Pyridine	ug/kg	n/a	<65.0	<62.9	n/a	n/a	n/a	n/a	62.9	n/a	U
S11V004248		O	126-73-8	Tributyl phosphate	ug/kg	n/a	<108	<104	n/a	n/a	n/a	n/a	104	n/a	U
S11V004248		O	128-37-0	BHT	ug/kg	n/a	<236	<228	n/a	n/a	n/a	n/a	228	n/a	U
S11V004248		O	110-80-5	2-Ethoxyethanol	ug/kg	n/a	<182	<176	n/a	n/a	n/a	n/a	176	n/a	U
S11V004248		O	1319-77-3	Total Methylphenols	ug/kg	n/a	<107	<103	n/a	n/a	n/a	n/a	103	n/a	U
S11V004248		O	108-94-1	Cyclohexanone	ug/kg	n/a	<559	<541	n/a	n/a	n/a	n/a	541	n/a	U
S11V004248		O	59-89-2	N-Nitrosomorpholine	ug/kg	n/a	<191	<185	n/a	n/a	n/a	n/a	185	n/a	U
S11V004248		O	78-83-1	Isobutanol	ug/kg	n/a	<460	<445	n/a	n/a	n/a	n/a	445	n/a	U
S11V004249		W	16984-48-8	Fluoride	ug/g	103	<1.61E-03	0.798	n/a	n/a	n/a	n/a	0.0146	n/a	
S11V004249		W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0848	n/a	n/a	n/a	n/a	0.0848	n/a	U
S11V004249		W	71-50-1	Acetate	ug/g	103	<6.04E-03	0.404	n/a	n/a	n/a	n/a	0.0547	n/a	B
S11V004249		W	FORMATE	Formate	ug/g	103	0.0206	1.32	n/a	n/a	n/a	n/a	0.0423	n/a	B
S11V004249		W	16887-00-6	Chloride	ug/g	102	0.0207	0.905	n/a	n/a	n/a	n/a	0.0903	n/a	
S11V004249		W	14797-65-0	Nitrite	ug/g	102	0.0637	1.88	n/a	n/a	n/a	n/a	0.174	n/a	CB
S11V004249		W	14808-79-8	Sulfate	ug/g	105	0.0350	19.7	n/a	n/a	n/a	n/a	0.169	n/a	
S11V004249		W	338-70-5	Oxalate	ug/g	101	<0.0231	<0.209	n/a	n/a	n/a	n/a	0.209	n/a	U
S11V004249		W	24959-67-9	Bromide	ug/g	103	<0.0580	<0.525	n/a	n/a	n/a	n/a	0.525	n/a	U
S11V004249		W	14797-55-8	Nitrate	ug/g	102	<0.0208	4.77	n/a	n/a	n/a	n/a	0.188	n/a	
S11V004249		W	14265-44-2	Phosphate	ug/g	102	<0.0167	<0.151	n/a	n/a	n/a	n/a	0.151	n/a	U
S11V004250		A	7429-90-5	Aluminum	ug/g	91.6	<0.0300	6.59E+03	n/a	n/a	n/a	n/a	2.83	n/a	
S11V004250		A	7440-39-3	Barium	ug/g	96.7	<3.00E-03	70.0	n/a	n/a	n/a	n/a	0.283	n/a	
S11V004250		A	7440-41-7	Beryllium	ug/g	101	<1.00E-03	0.155	n/a	n/a	n/a	n/a	0.0944	n/a	B
S11V004250		A	7440-70-2	Calcium	ug/g	90.8	0.139	9.00E+03	n/a	n/a	n/a	n/a	4.72	n/a	
S11V004250		A	7440-45-1	Cerium	ug/g	98.7	<0.0300	16.5	n/a	n/a	n/a	n/a	2.83	n/a	B
S11V004250		A	7440-48-4	Cobalt	ug/g	92.1	<0.0100	5.99	n/a	n/a	n/a	n/a	0.944	n/a	B
S11V004250		A	7440-47-3	Chromium	ug/g	92.9	<5.00E-03	14.6	n/a	n/a	n/a	n/a	0.472	n/a	
S11V004250		A	7440-50-8	Copper	ug/g	97.0	<5.00E-03	9.31	n/a	n/a	n/a	n/a	0.472	n/a	
S11V004250		A	7439-89-6	Iron	ug/g	92.3	0.0102	1.59E+04	n/a	n/a	n/a	n/a	0.472	n/a	
S11V004250		A	7440-09-7	Potassium	ug/g	91.1	<0.500	950	n/a	n/a	n/a	n/a	47.2	n/a	

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M7

Sample Depth: 76'-78'

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004250	A	7439-91-0	Lanthanum	ug/g	95.2	<3.00E-03	8.60	n/a	n/a	n/a	n/a	0.283	n/a	
S11V004250	A	7439-93-2	Lithium	ug/g	103	<3.00E-03	9.49	n/a	n/a	n/a	n/a	0.283	n/a	
S11V004250	A	7439-95-4	Magnesium	ug/g	91.9	<0.0500	5.11E+03	n/a	n/a	n/a	n/a	4.72	n/a	
S11V004250	A	7439-96-5	Manganese	ug/g	91.9	<3.00E-03	321	n/a	n/a	n/a	n/a	0.283	n/a	
S11V004250	A	7439-98-7	Molybdenum	ug/g	92.0	<0.0200	<1.89	n/a	n/a	n/a	n/a	1.89	n/a	U
S11V004250	A	7440-23-5	Sodium	ug/g	100	<0.100	191	n/a	n/a	n/a	n/a	9.44	n/a	
S11V004250	A	7440-02-0	Nickel	ug/g	91.6	<0.0200	13.7	n/a	n/a	n/a	n/a	1.89	n/a	B
S11V004250	A	7723-14-0	Phosphorus	ug/g	95.2	<0.0500	522	n/a	n/a	n/a	n/a	4.72	n/a	
S11V004250	A	7440-10-0	Praseodymium	ug/g	103	<0.0100	2.24	n/a	n/a	n/a	n/a	0.944	n/a	B
S11V004250	A	7704-34-9	Sulfur	ug/g	99.5	0.239	59.5	n/a	n/a	n/a	n/a	9.44	n/a	CBN
S11V004250	A	7440-21-3	Silicon	ug/g	16.0	<0.0300	71.8	n/a	n/a	n/a	n/a	2.83	n/a	N
S11V004250	A	7440-24-6	Strontium	ug/g	95.7	<3.00E-03	31.4	n/a	n/a	n/a	n/a	0.283	n/a	N
S11V004250	A	7440-32-6	Titanium	ug/g	93.4	<5.00E-03	771	n/a	n/a	n/a	n/a	0.472	n/a	
S11V004250	A	7440-62-2	Vanadium	ug/g	94.1	<5.00E-03	31.4	n/a	n/a	n/a	n/a	0.472	n/a	
S11V004250	A	7440-65-5	Yttrium	ug/g	94.2	<2.00E-03	5.69	n/a	n/a	n/a	n/a	0.189	n/a	
S11V004250	A	7440-66-6	Zinc	ug/g	91.4	<5.00E-03	33.7	n/a	n/a	n/a	n/a	0.472	n/a	
S11V004250	A	7440-67-7	Zirconium	ug/g	92.4	<5.00E-03	5.98	n/a	n/a	n/a	n/a	0.472	n/a	N
S11V004250	A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<6.61E-05	n/a	n/a	n/a	n/a	6.61E-05	n/a	U
S11V004250	A	TH-232	Thorium-232	ug/g	109	<5.00E-04	3.53	n/a	n/a	n/a	n/a	4.72E-03	n/a	
S11V004250	A	13968-55-3	Uranium-233	ug/g	102	<2.00E-04	<1.89E-03	n/a	n/a	n/a	n/a	1.89E-03	n/a	U
S11V004250	A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	<4.72E-05	n/a	n/a	n/a	n/a	4.72E-05	n/a	U
S11V004250	A	15117-96-1	Uranium-235	ug/g	109	<1.00E-05	2.95E-03	n/a	n/a	n/a	n/a	9.44E-05	n/a	
S11V004250	A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<3.78E-05	n/a	n/a	n/a	n/a	3.78E-05	n/a	U
S11V004250	A	13994-20-2	Neptunium-237	ug/g	107	<1.00E-04	<9.44E-04	n/a	n/a	n/a	n/a	9.44E-04	n/a	U
S11V004250	A	U-238	Uranium-238	ug/g	109	<5.00E-04	0.434	n/a	n/a	n/a	n/a	4.72E-03	n/a	
S11V004250	A	7440-22-4	Silver	ug/g	109	<2.00E-03	0.0467	n/a	n/a	n/a	n/a	0.0189	n/a	B
S11V004250	A	7440-38-2	Arsenic	ug/g	94.1	<0.0420	3.56	n/a	n/a	n/a	n/a	0.397	n/a	B
S11V004250	A	7440-43-9	Cadmium	ug/g	107	<6.00E-03	0.0592	n/a	n/a	n/a	n/a	0.0566	n/a	B
S11V004250	A	7439-92-1	Lead	ug/g	101	<0.0150	3.74	n/a	n/a	n/a	n/a	0.142	n/a	

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M7

Sample Depth: 76'-78'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004250		A	7782-49-2	Selenium	ug/g	103	<0.135	<1.27	n/a	n/a	n/a	n/a	1.27	n/a	U
S11V004250		A	7440-28-0	Thallium	ug/g	101	<4.00E-03	0.0747	n/a	n/a	n/a	n/a	0.0378	n/a	B
S11V004251		S	14798-03-9	Ammonium	ug/g	95.7	<0.0120	<0.479	<0.479	n/a	n/a	98.3	0.479	n/a	U
S11V004252		A	14133-76-7	Technetium-99	ug/g	107	<6.00E-05	<5.53E-04	n/a	n/a	n/a	n/a	5.53E-04	n/a	U
S11V004253		E	CM-243/244	Curium-243/244	uCi/g	n/a	<4.58E-08	<4.74E-08	n/a	n/a	n/a	n/a	4.74E-08	n/a	U
S11V004253		E	14596-10-2	Americium-241	uCi/g	103	<5.32E-08	4.90E-08	n/a	n/a	n/a	n/a	2.98E-08	38.96	
S11V004253		E	15510-73-3	Curium-242	uCi/g	n/a	<2.34E-08	<2.02E-08	n/a	n/a	n/a	n/a	2.02E-08	n/a	U
S11V004253		E	PU-239/240	Plutonium-239/240	uCi/g	107	<6.34E-08	<2.89E-08	n/a	n/a	n/a	n/a	2.89E-08	n/a	U
S11V004253		E	13981-16-3	Plutonium-238	uCi/g	n/a	<6.58E-08	<2.28E-08	n/a	n/a	n/a	n/a	2.28E-08	n/a	U
S11V004254		E	SR-89/90	Strontium-89/90	uCi/g	111	<4.70E-07	<7.19E-07	n/a	n/a	n/a	n/a	7.19E-07	n/a	U
S11V004255		E	13981-37-8	Nickel-63	uCi/g	102	<1.02E-05	<1.03E-05	n/a	n/a	n/a	n/a	1.03E-05	n/a	U
S11V004256		E	15758-45-9	Selenium-79	uCi/g	n/a	4.77E-06	1.36E-05	n/a	n/a	n/a	n/a	1.90E-06	211.065	BE
S11V004257		W	14762-75-5	Carbon-14	uCi/g	92.2	<4.26E-06	2.73E-06	n/a	n/a	n/a	n/a	2.61E-06	64.755	
S11V004257		W	10028-17-8	Tritium	uCi/g	99.3	<3.91E-06	<2.60E-06	n/a	n/a	n/a	n/a	2.60E-06	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M8

Sample Depth: 118'-120'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004263			%WATERA	%WATER-APD	%	n/a	n/a	3.630	n/a	n/a	n/a	n/a	0.01000	n/a	
S11V004263			57-12-5	Cyanide	ug/g	105	<0.0370	<0.480	<0.480	n/a	n/a	103	0.480	n/a	U
S11V004263			WT%SOLID	Weight percent solids	%	n/a	n/a	96.4	n/a	n/a	n/a	n/a	0.0100	n/a	
S11V004263			7439-97-6	Mercury	ug/g	99.6	<1.00E-04	<8.16E-03	n/a	n/a	n/a	87.4	8.16E-03	n/a	U
S11V004263			PH	pH	unitless	n/a	n/a	8.87	8.67	8.77	2.28	n/a	0.0100	n/a	
S11V004264			13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.74E-05	n/a	n/a	n/a	n/a	2.29E-06	3.85	
S11V004264			10198-40-0	Cobalt-60	uCi/g	98.8	<1.71E-07	<9.36E-08	n/a	n/a	n/a	n/a	9.36E-08	n/a	U
S11V004264			14234-35-6	Antimony-125	uCi/g	n/a	<4.59E-07	<2.26E-07	n/a	n/a	n/a	n/a	2.26E-07	n/a	U
S11V004264			10045-97-3	Cesium-137	uCi/g	101	<2.03E-07	<8.00E-08	n/a	n/a	n/a	n/a	8.00E-08	n/a	U
S11V004264			14683-23-9	Europium-152	uCi/g	n/a	<4.23E-07	<1.97E-07	n/a	n/a	n/a	n/a	1.97E-07	n/a	U
S11V004264			15585-10-1	Europium-154	uCi/g	n/a	<2.69E-07	<1.39E-07	n/a	n/a	n/a	n/a	1.39E-07	n/a	U
S11V004264			14391-16-3	Europium-155	uCi/g	n/a	<5.69E-07	<2.69E-07	n/a	n/a	n/a	n/a	2.69E-07	n/a	U
S11V004264			14913-50-9	Thallium-208	uCi/g	n/a	n/a	2.37E-07	n/a	n/a	n/a	n/a	9.85E-08	15.39	
S11V004264			14913-49-6	Bismuth-212	uCi/g	n/a	n/a	<1.11E-06	n/a	n/a	n/a	n/a	1.11E-06	46.99	U
S11V004264			15092-94-1	Lead-212	uCi/g	n/a	n/a	5.07E-07	n/a	n/a	n/a	n/a	1.37E-07	9.19	
S11V004264			14733-03-0	Bismuth-214	uCi/g	n/a	n/a	6.68E-07	n/a	n/a	n/a	n/a	1.94E-07	10.56	
S11V004264			15067-28-4	Lead-214	uCi/g	n/a	n/a	5.15E-07	n/a	n/a	n/a	n/a	1.96E-07	13.26	
S11V004264			14331-83-0	Actinium-228	uCi/g	n/a	n/a	6.38E-07	n/a	n/a	n/a	n/a	3.55E-07	12.30	
S11V004264			14274-82-9	Thorium-228	uCi/g	n/a	<8.56E-05	<4.26E-05	n/a	n/a	n/a	n/a	4.26E-05	n/a	U
S11V004264			15065-10-8	Thorium-234	uCi/g	n/a	<3.63E-06	<6.00E-06	n/a	n/a	n/a	n/a	6.00E-06	n/a	U
S11V004264			15046-84-1	Iodine-129	uCi/g	104	<2.15E-05	<1.77E-07	n/a	n/a	n/a	n/a	1.77E-07	n/a	U
S11V004266			CONDUCT	Conductivity	uMHO/cm	95.7	0.348	194	191	193	1.40	n/a	0.0100	n/a	
S11V004266		WV	14133-76-7	Technetium-99	ug/g	99.8	<6.00E-06	<5.72E-06	<5.66E-06	n/a	n/a	103	5.72E-06	n/a	U
S11V004268		A	7440-36-0	Antimony	ug/g	110	<2.00E-04	0.162	0.161	0.161	0.762	99.0	2.00E-03	n/a	
S11V004268		A	SN-117	Tin-117	ug/g	105	<1.00E-03	0.0168	0.0185	0.0176	10.0	106	9.98E-03	n/a	
S11V004268		A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	3.69E-04	5.41E-04	4.55E-04	37.8	n/a	2.00E-04	n/a	E
S11V004269		O	120-82-1	1,2,4-Trichlorobenzene	ug/kg	77.4	<774	<77.2	n/a	n/a	n/a	78.0	77.2	n/a	U
S11V004269		O	95-50-1	1,2-Dichlorobenzene	ug/kg	n/a	<1.01E+03	<100	n/a	n/a	n/a	n/a	100	n/a	U
S11V004269		O	106-46-7	1,4-Dichlorobenzene	ug/kg	74.7	<1.13E+03	<113	n/a	n/a	n/a	72.1	113	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M8

Sample Depth: 118'-120'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004269		O	121-14-2	2,4-Dinitrotoluene	ug/kg	95.8	<381	<38.0	n/a	n/a	n/a	97.2	38.0	n/a	U
S11V004269		O	95-95-4	2,4,5-Trichlorophenol	ug/kg	n/a	<440	<43.9	n/a	n/a	n/a	n/a	43.9	n/a	U
S11V004269		O	88-06-2	2,4,6-Trichlorophenol	ug/kg	n/a	<495	<49.4	n/a	n/a	n/a	n/a	49.4	n/a	U
S11V004269		O	95-48-7	2-Methylphenol	ug/kg	n/a	<575	<57.4	n/a	n/a	n/a	n/a	57.4	n/a	U
S11V004269		O	88-75-5	2-Nitrophenol	ug/kg	n/a	<537	<53.6	n/a	n/a	n/a	n/a	53.6	n/a	U
S11V004269		O	65794-96-9	3 &4 Methylphenol	ug/kg	n/a	<514	<51.3	n/a	n/a	n/a	n/a	51.3	n/a	U
S11V004269		O	83-32-9	Acenaphthene	ug/kg	87.6	<176	<17.6	n/a	n/a	n/a	89.3	17.6	n/a	U
S11V004269		O	56-55-3	Benzo(a)anthracene	ug/kg	n/a	<378	<37.7	n/a	n/a	n/a	n/a	37.7	n/a	U
S11V004269		O	205-99-2	Benzo(b)fluoranthene	ug/kg	n/a	<489	<48.8	n/a	n/a	n/a	n/a	48.8	n/a	U
S11V004269		O	50-32-8	Benzo(a)pyrene	ug/kg	n/a	<412	<41.1	n/a	n/a	n/a	n/a	41.1	n/a	U
S11V004269		O	117-81-7	Bis(2-ethylhexyl) phthalate	ug/kg	n/a	<5.90E+03	<589	n/a	n/a	n/a	n/a	589	n/a	U
S11V004269		O	207-08-9	Benzo(k)fluoranthene	ug/kg	n/a	<391	<39.0	n/a	n/a	n/a	n/a	39.0	n/a	U
S11V004269		O	85-68-7	Butylbenzylphthalate	ug/kg	n/a	<500	<49.9	n/a	n/a	n/a	n/a	49.9	n/a	U
S11V004269		O	59-50-7	4-Chloro-3-methylphenol	ug/kg	80.6	<432	<43.1	n/a	n/a	n/a	85.6	43.1	n/a	U
S11V004269		O	95-57-8	2-Chlorophenol	ug/kg	78.7	<665	<66.4	n/a	n/a	n/a	80.0	66.4	n/a	U
S11V004269		O	218-01-9	Chrysene	ug/kg	n/a	<814	<81.2	n/a	n/a	n/a	n/a	81.2	n/a	U
S11V004269		O	53-70-3	Dibenz[a,h]anthracene	ug/kg	n/a	<511	<51.0	n/a	n/a	n/a	n/a	51.0	n/a	U
S11V004269		O	84-74-2	Di-n-butylphthalate	ug/kg	n/a	<5.62E+03	<561	n/a	n/a	n/a	n/a	561	n/a	U
S11V004269		O	117-84-0	Di-n-octylphthalate	ug/kg	n/a	<477	86.3	n/a	n/a	n/a	n/a	47.6	n/a	J
S11V004269		O	621-64-7	N-Nitroso-di-n-dipropylamine	ug/kg	78.6	<581	<58.0	n/a	n/a	n/a	78.1	58.0	n/a	U
S11V004269		O	206-44-0	Fluoranthene	ug/kg	n/a	<354	<35.3	n/a	n/a	n/a	n/a	35.3	n/a	U
S11V004269		O	87-68-3	Hexachlorobutadiene	ug/kg	n/a	<697	<69.6	n/a	n/a	n/a	n/a	69.6	n/a	U
S11V004269		O	67-72-1	Hexachloroethane	ug/kg	n/a	<1.12E+03	<112	n/a	n/a	n/a	n/a	112	n/a	U
S11V004269		O	193-39-5	Indeno(1,2,3-cd)pyrene	ug/kg	n/a	<510	<50.9	n/a	n/a	n/a	n/a	50.9	n/a	U
S11V004269		O	108-95-2	Phenol	ug/kg	81.4	<594	<59.3	n/a	n/a	n/a	83.4	59.3	n/a	U
S11V004269		O	91-20-3	Naphthalene	ug/kg	n/a	<626	<62.5	n/a	n/a	n/a	n/a	62.5	n/a	U
S11V004269		O	98-95-3	Nitrobenzene	ug/kg	n/a	<646	<64.5	n/a	n/a	n/a	n/a	64.5	n/a	U
S11V004269		O	100-02-7	4-Nitrophenol	ug/kg	96.2	<526	<52.5	n/a	n/a	n/a	98.2	52.5	n/a	U
S11V004269		O	87-86-5	Pentachlorophenol	ug/kg	92.7	<375	<37.4	n/a	n/a	n/a	95.5	37.4	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M8

Sample Depth: 118'-120'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004269		O	129-00-0	Pyrene	ug/kg	94.6	<629	<62.8	n/a	n/a	n/a	98.9	62.8	n/a	U
S11V004269		O	110-86-1	Pyridine	ug/kg	n/a	<650	<64.9	n/a	n/a	n/a	n/a	64.9	n/a	U
S11V004269		O	126-73-8	Tributyl phosphate	ug/kg	n/a	<1.08E+03	<108	n/a	n/a	n/a	n/a	108	n/a	U
S11V004269		O	128-37-0	BHT	ug/kg	n/a	<2.36E+03	<235	n/a	n/a	n/a	n/a	235	n/a	U
S11V004269		O	110-80-5	2-Ethoxyethanol	ug/kg	n/a	<1.82E+03	<182	n/a	n/a	n/a	n/a	182	n/a	U
S11V004269		O	1319-77-3	Total Methylphenols	ug/kg	n/a	<1.07E+03	<106	n/a	n/a	n/a	n/a	106	n/a	U
S11V004269		O	108-94-1	Cyclohexanone	ug/kg	n/a	<5.59E+03	<558	n/a	n/a	n/a	n/a	558	n/a	U
S11V004269		O	59-89-2	N-Nitrosomorpholine	ug/kg	n/a	<1.91E+03	<191	n/a	n/a	n/a	n/a	191	n/a	U
S11V004269		O	78-83-1	Isobutanol	ug/kg	n/a	<4.60E+03	<459	n/a	n/a	n/a	n/a	459	n/a	U
S11V004270		W	16984-48-8	Fluoride	ug/g	104	<1.61E-03	0.521	0.725	0.623	32.7	105	0.0160	n/a	M
S11V004270		W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0933	<0.0937	n/a	n/a	100	0.0933	n/a	U
S11V004270		W	71-50-1	Acetate	ug/g	105	<6.04E-03	<0.0602	0.313	n/a	n/a	104	0.0602	n/a	U
S11V004270		W	FORMATE	Formate	ug/g	103	<4.67E-03	0.166	0.261	0.213	44.6	102	0.0465	n/a	B
S11V004270		W	16887-00-6	Chloride	ug/g	104	<9.98E-03	1.12	1.11	1.11	1.12	103	0.0994	n/a	
S11V004270		W	14797-65-0	Nitrite	ug/g	103	0.0518	0.394	1.63	1.01	122	109	0.191	n/a	CB
S11V004270		W	14808-79-8	Sulfate	ug/g	105	<0.0187	38.3	40.3	39.3	5.22	93.4	0.186	n/a	
S11V004270		W	338-70-5	Oxalate	ug/g	101	<0.0231	<0.230	<0.231	n/a	n/a	99.7	0.230	n/a	U
S11V004270		W	24959-67-9	Bromide	ug/g	104	<0.0580	<0.578	<0.580	n/a	n/a	103	0.578	n/a	U
S11V004270		W	14797-55-8	Nitrate	ug/g	103	<0.0208	4.56	4.96	4.76	8.36	105	0.207	n/a	
S11V004270		W	14265-44-2	Phosphate	ug/g	103	<0.0167	<0.166	0.276	n/a	n/a	73.9	0.166	n/a	UN
S11V004271		A	7429-90-5	Aluminum	ug/g	88.6	<0.0300	6.05E+03	6.04E+03	6.04E+03	0.188	-101	1.48	n/a	
S11V004271		A	7440-42-8	Boron	ug/g	87.4	<0.0300	2.74	2.88	2.81	5.23	97.9	1.48	n/a	B
S11V004271		A	7440-39-3	Barium	ug/g	93.9	<3.00E-03	60.8	55.5	58.1	9.01	106	0.148	n/a	
S11V004271		A	7440-41-7	Beryllium	ug/g	96.2	<1.00E-03	0.143	0.150	0.147	4.81	96.8	0.0494	n/a	B
S11V004271		A	7440-70-2	Calcium	ug/g	84.4	0.0523	8.02E+03	7.96E+03	7.99E+03	0.780	646	2.47	n/a	
S11V004271		A	7440-45-1	Cerium	ug/g	96.7	<0.0300	21.1	18.0	19.5	15.7	92.9	1.48	n/a	
S11V004271		A	7440-48-4	Cobalt	ug/g	88.8	<0.0100	5.54	5.22	5.38	6.00	94.3	0.494	n/a	
S11V004271		A	7440-47-3	Chromium	ug/g	89.2	<5.00E-03	11.5	11.4	11.4	1.24	98.7	0.247	n/a	
S11V004271		A	7440-50-8	Copper	ug/g	94.4	<5.00E-03	8.78	7.79	8.29	12.0	101	0.247	n/a	

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

02 - Aug - 2011 16:30:19
DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20110264
Core Number: C8100
Customer Sample ID: B2C1M8
Sample Depth: 118'-120'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004271		A	7439-89-6	Iron	ug/g	88.2	<5.00E-03	1.52E+04	1.48E+04	1.50E+04	2.76	-3.54E+03	0.247	n/a	
S11V004271		A	7440-09-7	Potassium	ug/g	85.4	<0.500	796	854	825	6.96	81.5	24.7	n/a	
S11V004271		A	7439-91-0	Lanthanum	ug/g	93.6	<3.00E-03	9.40	8.00	8.70	16.1	93.3	0.148	n/a	
S11V004271		A	7439-93-2	Lithium	ug/g	104	<3.00E-03	7.90	8.31	8.11	5.09	98.5	0.148	n/a	
S11V004271		A	7439-95-4	Magnesium	ug/g	87.3	<0.0500	4.39E+03	4.47E+03	4.43E+03	1.91	103	2.47	n/a	
S11V004271		A	7439-96-5	Manganese	ug/g	88.3	<3.00E-03	254	242	248	4.80	84.0	0.148	n/a	
S11V004271		A	7439-98-7	Molybdenum	ug/g	87.5	<0.0200	<0.989	1.10	1.04	10.7	95.7	0.989	n/a	U
S11V004271		A	7440-23-5	Sodium	ug/g	102	<0.100	200	223	212	10.9	121	4.94	n/a	
S11V004271		A	7440-02-0	Nickel	ug/g	88.0	<0.0200	9.18	11.6	10.4	23.0	102	0.989	n/a	B
S11V004271		A	7723-14-0	Phosphorus	ug/g	88.4	<0.0500	531	482	507	9.58	-56.0	2.47	n/a	
S11V004271		A	7440-10-0	Praseodymium	ug/g	99.3	<0.0100	1.84	1.65	1.74	10.7	98.6	0.494	n/a	B
S11V004271		A	7704-34-9	Sulfur	ug/g	92.1	0.189	84.4	64.2	74.3	27.3	52.3	4.94	n/a	N
S11V004271		A	7440-21-3	Silicon	ug/g	78.3	<0.0300	145	130	138	10.9	99.6	1.48	n/a	
S11V004271		A	7440-31-5	Tin	ug/g	83.2	<0.0300	3.85	2.99	3.42	25.2	95.8	1.48	n/a	B
S11V004271		A	7440-24-6	Strontium	ug/g	93.7	<3.00E-03	27.5	29.7	28.6	7.91	97.2	0.148	n/a	
S11V004271		A	13494-80-9	Tellurium	ug/g	88.8	<0.100	5.98	<4.95	n/a	n/a	92.8	4.94	n/a	B
S11V004271		A	7440-32-6	Titanium	ug/g	89.7	<5.00E-03	887	810	849	9.15	-112	0.247	n/a	
S11V004271		A	7440-62-2	Vanadium	ug/g	91.1	<5.00E-03	31.7	30.1	30.9	5.23	92.5	0.247	n/a	
S11V004271		A	7440-65-5	Yttrium	ug/g	90.1	<2.00E-03	5.88	5.58	5.73	5.34	94.2	0.0989	n/a	
S11V004271		A	7440-66-6	Zinc	ug/g	87.3	<5.00E-03	32.1	30.7	31.4	4.54	93.0	0.247	n/a	
S11V004271		A	7440-67-7	Zirconium	ug/g	90.0	<5.00E-03	7.37	7.01	7.19	4.98	54.2	0.247	n/a	N
S11V004271		A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<6.92E-05	<6.93E-05	n/a	n/a	n/a	6.92E-05	n/a	U
S11V004271		A	TH-232	Thorium-232	ug/g	102	<5.00E-04	3.61	3.33	3.47	8.18	97.0	4.94E-03	n/a	
S11V004271		A	13968-55-3	Uranium-233	ug/g	95.7	<2.00E-04	<1.98E-03	<1.98E-03	n/a	n/a	93.7	1.98E-03	n/a	U
S11V004271		A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	<4.94E-05	<4.95E-05	n/a	n/a	n/a	4.94E-05	n/a	U
S11V004271		A	15117-96-1	Uranium-235	ug/g	100	<1.00E-05	3.48E-03	3.85E-03	3.66E-03	10.0	113	9.89E-05	n/a	
S11V004271		A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<3.96E-05	5.39E-05	n/a	n/a	n/a	3.96E-05	n/a	U
S11V004271		A	13994-20-2	Neptunium-237	ug/g	107	<1.00E-04	<9.89E-04	<9.90E-04	n/a	n/a	104	9.89E-04	n/a	U
S11V004271		A	U-238	Uranium-238	ug/g	101	<5.00E-04	0.507	0.545	0.526	7.22	103	4.94E-03	n/a	

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M8

Sample Depth: 118'-120'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004271		A	7440-22-4	Silver	ug/g	107	<2.00E-03	0.0489	0.0439	0.0464	10.7	106	0.0198	n/a	B
S11V004271		A	7440-38-2	Arsenic	ug/g	94.1	<0.0420	3.42	3.20	3.31	6.51	92.2	0.415	n/a	B
S11V004271		A	7440-43-9	Cadmium	ug/g	105	<6.00E-03	0.0629	<0.0594	n/a	n/a	107	0.0593	n/a	B
S11V004271		A	7439-92-1	Lead	ug/g	98.5	<0.0150	3.95	3.40	3.68	15.0	101	0.148	n/a	
S11V004271		A	7782-49-2	Selenium	ug/g	103	<0.135	<1.34	<1.34	n/a	n/a	105	1.34	n/a	U
S11V004271		A	7440-28-0	Thallium	ug/g	98.7	<4.00E-03	0.0662	0.0624	0.0643	5.95	104	0.0396	n/a	B
S11V004272		S	14798-03-9	Ammonium	ug/g	97.4	0.224	2.33	0.915	1.62	87.3	91.6	0.477	n/a	CB
S11V004273		A	14133-76-7	Technetium-99	ug/g	101	<6.00E-05	<5.97E-04	<5.96E-04	n/a	n/a	103	5.97E-04	n/a	U
S11V004274		E	CM-243/244	Curium-243/244	uCi/g	n/a	<4.58E-08	<5.11E-08	n/a	n/a	n/a	n/a	5.11E-08	n/a	U
S11V004274		E	14596-10-2	Americium-241	uCi/g	103	<5.32E-08	<3.17E-08	n/a	n/a	n/a	n/a	3.17E-08	n/a	U
S11V004274		E	15510-73-3	Curium-242	uCi/g	n/a	<2.34E-08	<3.55E-08	n/a	n/a	n/a	n/a	3.55E-08	n/a	U
S11V004274		E	PU-239/240	Plutonium-239/240	uCi/g	107	<6.34E-08	<3.73E-08	n/a	n/a	n/a	n/a	3.73E-08	n/a	U
S11V004274		E	13981-16-3	Plutonium-238	uCi/g	n/a	<6.58E-08	<3.23E-08	n/a	n/a	n/a	n/a	3.23E-08	n/a	U
S11V004275		E	SR-89/90	Strontium-89/90	uCi/g	111	<4.70E-07	<8.87E-07	n/a	n/a	n/a	n/a	8.87E-07	n/a	U
S11V004276		E	13981-37-8	Nickel-63	uCi/g	102	<1.02E-05	<5.81E-06	n/a	n/a	n/a	n/a	5.81E-06	n/a	U
S11V004277		E	15758-45-9	Selenium-79	uCi/g	n/a	4.77E-06	8.85E-06	n/a	n/a	n/a	n/a	1.55E-06	120.237	BE
S11V004278		W	14762-75-5	Carbon-14	uCi/g	92.2	<4.26E-06	<2.67E-06	n/a	n/a	n/a	n/a	2.67E-06	n/a	U
S11V004278		W	10028-17-8	Tritium	uCi/g	99.3	<3.91E-06	<2.66E-06	n/a	n/a	n/a	n/a	2.66E-06	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M9

Sample Depth: 168.6'-170.6'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004284			%WATERA	%WATER-APD	%	n/a	n/a	4.320	n/a	n/a	n/a	n/a	0.01000	n/a	
S11V004284			57-12-5	Cyanide	ug/g	105	<0.0370	<0.480	n/a	n/a	n/a	n/a	0.480	n/a	U
S11V004284			WT%SOLID	Weight percent solids	%	n/a	n/a	95.7	n/a	n/a	n/a	n/a	0.0100	n/a	
S11V004284			7439-97-6	Mercury	ug/g	99.6	<1.00E-04	<8.12E-03	n/a	n/a	n/a	n/a	8.12E-03	n/a	U
S11V004284			PH	pH	unitless	n/a	n/a	8.94	n/a	n/a	n/a	n/a	0.0100	n/a	
S11V004285			13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.41E-05	n/a	n/a	n/a	n/a	2.38E-06	4.21	
S11V004285			10198-40-0	Cobalt-60	uCi/g	98.8	<1.71E-07	<7.95E-08	n/a	n/a	n/a	n/a	7.95E-08	n/a	U
S11V004285			14234-35-6	Antimony-125	uCi/g	n/a	<4.59E-07	<2.30E-07	n/a	n/a	n/a	n/a	2.30E-07	n/a	U
S11V004285			10045-97-3	Cesium-137	uCi/g	101	<2.03E-07	<7.95E-08	n/a	n/a	n/a	n/a	7.95E-08	n/a	U
S11V004285			14683-23-9	Europium-152	uCi/g	n/a	<4.23E-07	<2.02E-07	n/a	n/a	n/a	n/a	2.02E-07	n/a	U
S11V004285			15585-10-1	Europium-154	uCi/g	n/a	<2.69E-07	<1.22E-07	n/a	n/a	n/a	n/a	1.22E-07	n/a	U
S11V004285			14391-16-3	Europium-155	uCi/g	n/a	<5.69E-07	<2.67E-07	n/a	n/a	n/a	n/a	2.67E-07	n/a	U
S11V004285			14913-50-9	Thallium-208	uCi/g	n/a	n/a	2.80E-07	n/a	n/a	n/a	n/a	1.02E-07	13.51	
S11V004285			15092-94-1	Lead-212	uCi/g	n/a	n/a	6.84E-07	n/a	n/a	n/a	n/a	1.51E-07	7.97	
S11V004285			14733-03-0	Bismuth-214	uCi/g	n/a	n/a	6.56E-07	n/a	n/a	n/a	n/a	2.14E-07	12.03	
S11V004285			15067-28-4	Lead-214	uCi/g	n/a	n/a	6.23E-07	n/a	n/a	n/a	n/a	1.93E-07	9.24	
S11V004285			14331-83-0	Actinium-228	uCi/g	n/a	n/a	8.55E-07	n/a	n/a	n/a	n/a	4.06E-07	13.01	
S11V004285			14274-82-9	Thorium-228	uCi/g	n/a	<8.56E-05	<4.38E-05	n/a	n/a	n/a	n/a	4.38E-05	n/a	U
S11V004285			15065-10-8	Thorium-234	uCi/g	n/a	<3.63E-06	<6.48E-06	n/a	n/a	n/a	n/a	6.48E-06	n/a	U
S11V004285			15046-84-1	Iodine-129	uCi/g	104	<2.15E-05	<1.80E-06	n/a	n/a	n/a	n/a	1.80E-06	n/a	U
S11V004287			CONDUCT	Conductivity	uMHO/cm	98.5	<1.00	353	347	350	1.71	n/a	1.00	n/a	
S11V004287		WV	14133-76-7	Technetium-99	ug/g	99.8	<6.00E-06	<5.81E-06	n/a	n/a	n/a	n/a	5.81E-06	n/a	U
S11V004289		A	7440-36-0	Antimony	ug/g	110	<2.00E-04	0.241	n/a	n/a	n/a	n/a	1.98E-03	n/a	
S11V004289		A	SN-117	Tin-117	ug/g	105	<1.00E-03	0.0179	n/a	n/a	n/a	n/a	9.88E-03	n/a	
S11V004289		A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	4.17E-04	n/a	n/a	n/a	n/a	1.98E-04	n/a	E
S11V004290		O	120-82-1	1,2,4-Trichlorobenzene	ug/kg	77.4	<774	<77.1	n/a	n/a	n/a	n/a	77.1	n/a	U
S11V004290		O	95-50-1	1,2-Dichlorobenzene	ug/kg	n/a	<1.01E+03	<100	n/a	n/a	n/a	n/a	100	n/a	U
S11V004290		O	106-46-7	1,4-Dichlorobenzene	ug/kg	74.7	<1.13E+03	<113	n/a	n/a	n/a	n/a	113	n/a	U
S11V004290		O	121-14-2	2,4-Dinitrotoluene	ug/kg	95.8	<381	<38.0	n/a	n/a	n/a	n/a	38.0	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M9

Sample Depth: 168.6'-170.6'

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004290	O	95-95-4	2,4,5-Trichlorophenol	ug/kg	n/a	<440	<43.9	n/a	n/a	n/a	n/a	43.9	n/a	U
S11V004290	O	88-06-2	2,4,6-Trichlorophenol	ug/kg	n/a	<495	<49.3	n/a	n/a	n/a	n/a	49.3	n/a	U
S11V004290	O	95-48-7	2-Methylphenol	ug/kg	n/a	<575	<57.3	n/a	n/a	n/a	n/a	57.3	n/a	U
S11V004290	O	88-75-5	2-Nitrophenol	ug/kg	n/a	<537	<53.5	n/a	n/a	n/a	n/a	53.5	n/a	U
S11V004290	O	65794-96-9	3 &4 Methylphenol	ug/kg	n/a	<514	<51.2	n/a	n/a	n/a	n/a	51.2	n/a	U
S11V004290	O	83-32-9	Acenaphthene	ug/kg	87.6	<176	<17.5	n/a	n/a	n/a	n/a	17.5	n/a	U
S11V004290	O	56-55-3	Benzo(a)anthracene	ug/kg	n/a	<378	<37.7	n/a	n/a	n/a	n/a	37.7	n/a	U
S11V004290	O	205-99-2	Benzo(b)fluoranthene	ug/kg	n/a	<489	<48.7	n/a	n/a	n/a	n/a	48.7	n/a	U
S11V004290	O	50-32-8	Benzo(a)pyrene	ug/kg	n/a	<412	<41.1	n/a	n/a	n/a	n/a	41.1	n/a	U
S11V004290	O	117-81-7	Bis(2-ethylhexyl) phthalate	ug/kg	n/a	<5.90E+03	<588	n/a	n/a	n/a	n/a	588	n/a	U
S11V004290	O	207-08-9	Benzo(k)fluoranthene	ug/kg	n/a	<391	<39.0	n/a	n/a	n/a	n/a	39.0	n/a	U
S11V004290	O	85-68-7	Butylbenzylphthalate	ug/kg	n/a	<500	80.8	n/a	n/a	n/a	n/a	49.8	n/a	J
S11V004290	O	59-50-7	4-Chloro-3-methylphenol	ug/kg	80.6	<432	<43.1	n/a	n/a	n/a	n/a	43.1	n/a	U
S11V004290	O	95-57-8	2-Chlorophenol	ug/kg	78.7	<665	<66.3	n/a	n/a	n/a	n/a	66.3	n/a	U
S11V004290	O	218-01-9	Chrysene	ug/kg	n/a	<814	<81.1	n/a	n/a	n/a	n/a	81.1	n/a	U
S11V004290	O	53-70-3	Dibenz[a,h]anthracene	ug/kg	n/a	<511	<50.9	n/a	n/a	n/a	n/a	50.9	n/a	U
S11V004290	O	84-74-2	Di-n-butylphthalate	ug/kg	n/a	<5.62E+03	<560	n/a	n/a	n/a	n/a	560	n/a	U
S11V004290	O	117-84-0	Di-n-octylphthalate	ug/kg	n/a	<477	79.0	n/a	n/a	n/a	n/a	47.5	n/a	J
S11V004290	O	621-64-7	N-Nitroso-di-n-dipropylamine	ug/kg	78.6	<581	<57.9	n/a	n/a	n/a	n/a	57.9	n/a	U
S11V004290	O	206-44-0	Fluoranthene	ug/kg	n/a	<354	<35.3	n/a	n/a	n/a	n/a	35.3	n/a	U
S11V004290	O	87-68-3	Hexachlorobutadiene	ug/kg	n/a	<697	<69.5	n/a	n/a	n/a	n/a	69.5	n/a	U
S11V004290	O	67-72-1	Hexachloroethane	ug/kg	n/a	<1.12E+03	<111	n/a	n/a	n/a	n/a	111	n/a	U
S11V004290	O	193-39-5	Indeno(1,2,3-cd)pyrene	ug/kg	n/a	<510	<50.8	n/a	n/a	n/a	n/a	50.8	n/a	U
S11V004290	O	108-95-2	Phenol	ug/kg	81.4	<594	<59.2	n/a	n/a	n/a	n/a	59.2	n/a	U
S11V004290	O	91-20-3	Naphthalene	ug/kg	n/a	<626	<62.4	n/a	n/a	n/a	n/a	62.4	n/a	U
S11V004290	O	98-95-3	Nitrobenzene	ug/kg	n/a	<646	<64.4	n/a	n/a	n/a	n/a	64.4	n/a	U
S11V004290	O	100-02-7	4-Nitrophenol	ug/kg	96.2	<526	<52.4	n/a	n/a	n/a	n/a	52.4	n/a	U
S11V004290	O	87-86-5	Pentachlorophenol	ug/kg	92.7	<375	<37.4	n/a	n/a	n/a	n/a	37.4	n/a	U
S11V004290	O	129-00-0	Pyrene	ug/kg	94.6	<629	<62.7	n/a	n/a	n/a	n/a	62.7	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M9

Sample Depth: 168.6'-170.6'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004290		O	110-86-1	Pyridine	ug/kg	n/a	<650	<64.8	n/a	n/a	n/a	n/a	64.8	n/a	U
S11V004290		O	126-73-8	Tributyl phosphate	ug/kg	n/a	<1.08E+03	<107	n/a	n/a	n/a	n/a	107	n/a	U
S11V004290		O	128-37-0	BHT	ug/kg	n/a	<2.36E+03	<235	n/a	n/a	n/a	n/a	235	n/a	U
S11V004290		O	110-80-5	2-Ethoxyethanol	ug/kg	n/a	<1.82E+03	<182	n/a	n/a	n/a	n/a	182	n/a	U
S11V004290		O	1319-77-3	Total Methylphenols	ug/kg	n/a	<1.07E+03	<106	n/a	n/a	n/a	n/a	106	n/a	U
S11V004290		O	108-94-1	Cyclohexanone	ug/kg	n/a	<5.59E+03	<557	n/a	n/a	n/a	n/a	557	n/a	U
S11V004290		O	59-89-2	N-Nitrosomorpholine	ug/kg	n/a	<1.91E+03	<191	n/a	n/a	n/a	n/a	191	n/a	U
S11V004290		O	78-83-1	Isobutanol	ug/kg	n/a	<4.60E+03	<459	n/a	n/a	n/a	n/a	459	n/a	U
S11V004291		W	16984-48-8	Fluoride	ug/g	104	<1.61E-03	1.88	n/a	n/a	n/a	n/a	0.0156	n/a	M
S11V004291		W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0908	n/a	n/a	n/a	n/a	0.0908	n/a	U
S11V004291		W	71-50-1	Acetate	ug/g	105	<6.04E-03	0.245	n/a	n/a	n/a	n/a	0.0585	n/a	B
S11V004291		W	FORMATE	Formate	ug/g	103	<4.67E-03	0.248	n/a	n/a	n/a	n/a	0.0453	n/a	B
S11V004291		W	16887-00-6	Chloride	ug/g	104	<9.98E-03	2.48	n/a	n/a	n/a	n/a	0.0967	n/a	
S11V004291		W	14797-65-0	Nitrite	ug/g	103	0.0518	2.65	n/a	n/a	n/a	n/a	0.186	n/a	
S11V004291		W	14808-79-8	Sulfate	ug/g	105	<0.0187	117	n/a	n/a	n/a	n/a	0.181	n/a	
S11V004291		W	338-70-5	Oxalate	ug/g	101	<0.0231	<0.224	n/a	n/a	n/a	n/a	0.224	n/a	U
S11V004291		W	24959-67-9	Bromide	ug/g	104	<0.0580	<0.562	n/a	n/a	n/a	n/a	0.562	n/a	U
S11V004291		W	14797-55-8	Nitrate	ug/g	103	<0.0208	8.54	n/a	n/a	n/a	n/a	0.202	n/a	
S11V004291		W	14265-44-2	Phosphate	ug/g	103	<0.0167	0.552	n/a	n/a	n/a	n/a	0.162	n/a	BN
S11V004292		A	7429-90-5	Aluminum	ug/g	88.6	<0.0300	6.65E+03	n/a	n/a	n/a	n/a	1.50	n/a	
S11V004292		A	7440-42-8	Boron	ug/g	87.4	<0.0300	2.83	n/a	n/a	n/a	n/a	1.50	n/a	B
S11V004292		A	7440-39-3	Barium	ug/g	93.9	<3.00E-03	63.5	n/a	n/a	n/a	n/a	0.150	n/a	
S11V004292		A	7440-41-7	Beryllium	ug/g	96.2	<1.00E-03	0.164	n/a	n/a	n/a	n/a	0.0499	n/a	B
S11V004292		A	7440-70-2	Calcium	ug/g	84.4	0.0523	8.51E+03	n/a	n/a	n/a	n/a	2.49	n/a	
S11V004292		A	7440-45-1	Cerium	ug/g	96.7	<0.0300	17.9	n/a	n/a	n/a	n/a	1.50	n/a	
S11V004292		A	7440-48-4	Cobalt	ug/g	88.8	<0.0100	4.50	n/a	n/a	n/a	n/a	0.499	n/a	B
S11V004292		A	7440-47-3	Chromium	ug/g	89.2	<5.00E-03	14.3	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004292		A	7440-50-8	Copper	ug/g	94.4	<5.00E-03	9.22	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004292		A	7439-89-6	Iron	ug/g	88.2	<5.00E-03	1.46E+04	n/a	n/a	n/a	n/a	0.249	n/a	

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264
Core Number: C8100
Customer Sample ID: B2C1M9
Sample Depth: 168.6'-170.6'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004292		A	7440-09-7	Potassium	ug/g	85.4	<0.500	1.41E+03	n/a	n/a	n/a	n/a	24.9	n/a	
S11V004292		A	7439-91-0	Lanthanum	ug/g	93.6	<3.00E-03	8.47	n/a	n/a	n/a	n/a	0.150	n/a	
S11V004292		A	7439-93-2	Lithium	ug/g	104	<3.00E-03	10.3	n/a	n/a	n/a	n/a	0.150	n/a	
S11V004292		A	7439-95-4	Magnesium	ug/g	87.3	<0.0500	4.76E+03	n/a	n/a	n/a	n/a	2.49	n/a	
S11V004292		A	7439-96-5	Manganese	ug/g	88.3	<3.00E-03	273	n/a	n/a	n/a	n/a	0.150	n/a	
S11V004292		A	7439-98-7	Molybdenum	ug/g	87.5	<0.0200	<0.997	n/a	n/a	n/a	n/a	0.997	n/a	U
S11V004292		A	7440-23-5	Sodium	ug/g	102	<0.100	223	n/a	n/a	n/a	n/a	4.99	n/a	
S11V004292		A	7440-02-0	Nickel	ug/g	88.0	<0.0200	11.3	n/a	n/a	n/a	n/a	0.997	n/a	
S11V004292		A	7723-14-0	Phosphorus	ug/g	88.4	<0.0500	457	n/a	n/a	n/a	n/a	2.49	n/a	
S11V004292		A	7440-10-0	Praseodymium	ug/g	99.3	<0.0100	1.66	n/a	n/a	n/a	n/a	0.499	n/a	B
S11V004292		A	7704-34-9	Sulfur	ug/g	92.1	0.189	69.8	n/a	n/a	n/a	n/a	4.99	n/a	N
S11V004292		A	7440-21-3	Silicon	ug/g	78.3	<0.0300	147	n/a	n/a	n/a	n/a	1.50	n/a	
S11V004292		A	7440-31-5	Tin	ug/g	83.2	<0.0300	2.02	n/a	n/a	n/a	n/a	1.50	n/a	B
S11V004292		A	7440-24-6	Strontium	ug/g	93.7	<3.00E-03	32.7	n/a	n/a	n/a	n/a	0.150	n/a	
S11V004292		A	7440-32-6	Titanium	ug/g	89.7	<5.00E-03	788	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004292		A	7440-62-2	Vanadium	ug/g	91.1	<5.00E-03	30.2	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004292		A	7440-65-5	Yttrium	ug/g	90.1	<2.00E-03	5.24	n/a	n/a	n/a	n/a	0.0997	n/a	
S11V004292		A	7440-66-6	Zinc	ug/g	87.3	<5.00E-03	31.8	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004292		A	7440-67-7	Zirconium	ug/g	90.0	<5.00E-03	6.16	n/a	n/a	n/a	n/a	0.249	n/a	N
S11V004292		A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<6.98E-05	n/a	n/a	n/a	n/a	6.98E-05	n/a	U
S11V004292		A	TH-232	Thorium-232	ug/g	102	<5.00E-04	3.89	n/a	n/a	n/a	n/a	4.99E-03	n/a	
S11V004292		A	13968-55-3	Uranium-233	ug/g	95.7	<2.00E-04	<1.99E-03	n/a	n/a	n/a	n/a	1.99E-03	n/a	U
S11V004292		A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	<4.99E-05	n/a	n/a	n/a	n/a	4.99E-05	n/a	U
S11V004292		A	15117-96-1	Uranium-235	ug/g	100	<1.00E-05	4.18E-03	n/a	n/a	n/a	n/a	9.97E-05	n/a	
S11V004292		A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<3.99E-05	n/a	n/a	n/a	n/a	3.99E-05	n/a	U
S11V004292		A	13994-20-2	Neptunium-237	ug/g	107	<1.00E-04	<9.97E-04	n/a	n/a	n/a	n/a	9.97E-04	n/a	U
S11V004292		A	U-238	Uranium-238	ug/g	101	<5.00E-04	0.568	n/a	n/a	n/a	n/a	4.99E-03	n/a	
S11V004292		A	7440-22-4	Silver	ug/g	107	<2.00E-03	0.0451	n/a	n/a	n/a	n/a	0.0199	n/a	B
S11V004292		A	7440-38-2	Arsenic	ug/g	94.1	<0.0420	3.85	n/a	n/a	n/a	n/a	0.419	n/a	B

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M9

Sample Depth: 168.6'-170.6'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004292		A	7440-43-9	Cadmium	ug/g	105	<6.00E-03	0.0666	n/a	n/a	n/a	n/a	0.0598	n/a	B
S11V004292		A	7439-92-1	Lead	ug/g	98.5	<0.0150	4.19	n/a	n/a	n/a	n/a	0.150	n/a	
S11V004292		A	7782-49-2	Selenium	ug/g	103	<0.135	<1.35	n/a	n/a	n/a	n/a	1.35	n/a	U
S11V004292		A	7440-28-0	Thallium	ug/g	98.7	<4.00E-03	0.0807	n/a	n/a	n/a	n/a	0.0399	n/a	B
S11V004293		S	14798-03-9	Ammonium	ug/g	97.4	0.224	1.22	n/a	n/a	n/a	n/a	0.477	n/a	CB
S11V004294		A	14133-76-7	Technetium-99	ug/g	101	<6.00E-05	<5.98E-04	n/a	n/a	n/a	n/a	5.98E-04	n/a	U
S11V004295		E	CM-243/244	Curium-243/244	uCi/g	n/a	<4.58E-08	<4.32E-08	n/a	n/a	n/a	n/a	4.32E-08	n/a	U
S11V004295		E	14596-10-2	Americium-241	uCi/g	103	<5.32E-08	<3.44E-08	n/a	n/a	n/a	n/a	3.44E-08	n/a	U
S11V004295		E	15510-73-3	Curium-242	uCi/g	n/a	<2.34E-08	<2.28E-08	n/a	n/a	n/a	n/a	2.28E-08	n/a	U
S11V004295		E	PU-239/240	Plutonium-239/240	uCi/g	107	<6.34E-08	<3.27E-08	n/a	n/a	n/a	n/a	3.27E-08	n/a	U
S11V004295		E	13981-16-3	Plutonium-238	uCi/g	n/a	<6.58E-08	<2.94E-08	n/a	n/a	n/a	n/a	2.94E-08	n/a	U
S11V004296		E	SR-89/90	Strontium-89/90	uCi/g	111	<4.70E-07	<2.58E-07	n/a	n/a	n/a	n/a	2.58E-07	n/a	U
S11V004297		E	13981-37-8	Nickel-63	uCi/g	102	<1.02E-05	<5.60E-06	n/a	n/a	n/a	n/a	5.60E-06	n/a	U
S11V004298		E	15758-45-9	Selenium-79	uCi/g	n/a	4.77E-06	6.11E-06	n/a	n/a	n/a	n/a	2.35E-06	54.058	BE
S11V004299		W	14762-75-5	Carbon-14	uCi/g	92.2	<4.26E-06	<2.70E-06	n/a	n/a	n/a	n/a	2.70E-06	n/a	U
S11V004299		W	10028-17-8	Tritium	uCi/g	99.3	<3.91E-06	<2.66E-06	n/a	n/a	n/a	n/a	2.66E-06	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1N0

Sample Depth: 202'-204'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004314			%WATERA	%WATER-APD	%	n/a	n/a	2.520	n/a	n/a	n/a	n/a	0.01000	n/a	
S11V004314			57-12-5	Cyanide	ug/g	105	<0.0370	<0.480	n/a	n/a	n/a	n/a	0.480	n/a	U
S11V004314			WT%SOLID	Weight percent solids	%	n/a	n/a	97.5	n/a	n/a	n/a	n/a	0.0100	n/a	
S11V004314			7439-97-6	Mercury	ug/g	95.0	<1.00E-04	<9.65E-03	n/a	n/a	n/a	94.8	9.65E-03	n/a	U
S11V004314			PH	pH	unitless	n/a	n/a	8.76	n/a	n/a	n/a	n/a	0.0100	n/a	
S11V004315			13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.02E-05	n/a	n/a	n/a	n/a	2.08E-06	5.02	
S11V004315			10198-40-0	Cobalt-60	uCi/g	98.8	<1.71E-07	<8.18E-08	n/a	n/a	n/a	n/a	8.18E-08	n/a	U
S11V004315			14234-35-6	Antimony-125	uCi/g	n/a	<4.59E-07	<1.98E-07	n/a	n/a	n/a	n/a	1.98E-07	n/a	U
S11V004315			10045-97-3	Cesium-137	uCi/g	101	<2.03E-07	<6.86E-08	n/a	n/a	n/a	n/a	6.86E-08	n/a	U
S11V004315			14683-23-9	Europium-152	uCi/g	n/a	<4.23E-07	<1.83E-07	n/a	n/a	n/a	n/a	1.83E-07	n/a	U
S11V004315			15585-10-1	Europium-154	uCi/g	n/a	<2.69E-07	<1.28E-07	n/a	n/a	n/a	n/a	1.28E-07	n/a	U
S11V004315			14391-16-3	Europium-155	uCi/g	n/a	<5.69E-07	<2.40E-07	n/a	n/a	n/a	n/a	2.40E-07	n/a	U
S11V004315			14913-50-9	Thallium-208	uCi/g	n/a	n/a	2.48E-07	n/a	n/a	n/a	n/a	8.95E-08	13.76	
S11V004315			15092-94-1	Lead-212	uCi/g	n/a	n/a	4.83E-07	n/a	n/a	n/a	n/a	1.26E-07	9.02	
S11V004315			14733-03-0	Bismuth-214	uCi/g	n/a	n/a	6.29E-07	n/a	n/a	n/a	n/a	1.76E-07	10.68	
S11V004315			14331-83-0	Actinium-228	uCi/g	n/a	n/a	6.71E-07	n/a	n/a	n/a	n/a	3.33E-07	12.93	
S11V004315			14274-82-9	Thorium-228	uCi/g	n/a	<8.56E-05	<2.75E-05	n/a	n/a	n/a	n/a	2.75E-05	n/a	U
S11V004315			15065-10-8	Thorium-234	uCi/g	n/a	<3.63E-06	<6.36E-06	n/a	n/a	n/a	n/a	6.36E-06	n/a	U
S11V004315			15046-84-1	Iodine-129	uCi/g	104	<2.15E-05	<1.80E-06	n/a	n/a	n/a	n/a	1.80E-06	n/a	U
S11V004316			CONDUCT	Conductivity	uMHO/cm	95.7	0.348	286	n/a	n/a	n/a	n/a	0.0100	n/a	
S11V004316		WV	14133-76-7	Technetium-99	ug/g	99.8	<6.00E-06	5.40E-05	n/a	n/a	n/a	n/a	5.57E-06	n/a	
S11V004318		A	7440-36-0	Antimony	ug/g	110	<2.00E-04	0.130	n/a	n/a	n/a	n/a	1.98E-03	n/a	
S11V004318		A	SN-117	Tin-117	ug/g	105	<1.00E-03	0.0209	n/a	n/a	n/a	n/a	9.92E-03	n/a	
S11V004318		A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	7.06E-04	n/a	n/a	n/a	n/a	1.98E-04	n/a	E
S11V004319		O	120-82-1	1,2,4-Trichlorobenzene	ug/kg	77.4	<774	<75.4	n/a	n/a	n/a	n/a	75.4	n/a	U
S11V004319		O	95-50-1	1,2-Dichlorobenzene	ug/kg	n/a	<1.01E+03	<98.2	n/a	n/a	n/a	n/a	98.2	n/a	U
S11V004319		O	106-46-7	1,4-Dichlorobenzene	ug/kg	74.7	<1.13E+03	<110	n/a	n/a	n/a	n/a	110	n/a	U
S11V004319		O	121-14-2	2,4-Dinitrotoluene	ug/kg	95.8	<381	<37.1	n/a	n/a	n/a	n/a	37.1	n/a	U
S11V004319		O	95-95-4	2,4,5-Trichlorophenol	ug/kg	n/a	<440	<42.9	n/a	n/a	n/a	n/a	42.9	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264
Core Number: C8100
Customer Sample ID: B2C1N0
Sample Depth: 202'-204'

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004319	O	88-06-2	2,4,6-Trichlorophenol	ug/kg	n/a	<495	<48.2	n/a	n/a	n/a	n/a	48.2	n/a	U
S11V004319	O	95-48-7	2-Methylphenol	ug/kg	n/a	<575	<56.0	n/a	n/a	n/a	n/a	56.0	n/a	U
S11V004319	O	88-75-5	2-Nitrophenol	ug/kg	n/a	<537	<52.3	n/a	n/a	n/a	n/a	52.3	n/a	U
S11V004319	O	65794-96-9	3 &4 Methylphenol	ug/kg	n/a	<514	<50.1	n/a	n/a	n/a	n/a	50.1	n/a	U
S11V004319	O	83-32-9	Acenaphthene	ug/kg	87.6	<176	<17.2	n/a	n/a	n/a	n/a	17.2	n/a	U
S11V004319	O	56-55-3	Benzo(a)anthracene	ug/kg	n/a	<378	<36.8	n/a	n/a	n/a	n/a	36.8	n/a	U
S11V004319	O	205-99-2	Benzo(b)fluoranthene	ug/kg	n/a	<489	<47.7	n/a	n/a	n/a	n/a	47.7	n/a	U
S11V004319	O	50-32-8	Benzo(a)pyrene	ug/kg	n/a	<412	<40.2	n/a	n/a	n/a	n/a	40.2	n/a	U
S11V004319	O	117-81-7	Bis(2-ethylhexyl) phthalate	ug/kg	n/a	<5.90E+03	<575	n/a	n/a	n/a	n/a	575	n/a	U
S11V004319	O	207-08-9	Benzo(k)fluoranthene	ug/kg	n/a	<391	<38.1	n/a	n/a	n/a	n/a	38.1	n/a	U
S11V004319	O	85-68-7	Butylbenzylphthalate	ug/kg	n/a	<500	85.5	n/a	n/a	n/a	n/a	48.7	n/a	J
S11V004319	O	59-50-7	4-Chloro-3-methylphenol	ug/kg	80.6	<432	<42.1	n/a	n/a	n/a	n/a	42.1	n/a	U
S11V004319	O	95-57-8	2-Chlorophenol	ug/kg	78.7	<665	<64.8	n/a	n/a	n/a	n/a	64.8	n/a	U
S11V004319	O	218-01-9	Chrysene	ug/kg	n/a	<814	<79.3	n/a	n/a	n/a	n/a	79.3	n/a	U
S11V004319	O	53-70-3	Dibenz[a,h]anthracene	ug/kg	n/a	<511	<49.8	n/a	n/a	n/a	n/a	49.8	n/a	U
S11V004319	O	84-74-2	Di-n-butylphthalate	ug/kg	n/a	<5.62E+03	<548	n/a	n/a	n/a	n/a	548	n/a	U
S11V004319	O	117-84-0	Di-n-octylphthalate	ug/kg	n/a	<477	80.0	n/a	n/a	n/a	n/a	46.5	n/a	J
S11V004319	O	621-64-7	N-Nitroso-di-n-dipropylamine	ug/kg	78.6	<581	<56.6	n/a	n/a	n/a	n/a	56.6	n/a	U
S11V004319	O	206-44-0	Fluoranthene	ug/kg	n/a	<354	<34.5	n/a	n/a	n/a	n/a	34.5	n/a	U
S11V004319	O	87-68-3	Hexachlorobutadiene	ug/kg	n/a	<697	<67.9	n/a	n/a	n/a	n/a	67.9	n/a	U
S11V004319	O	67-72-1	Hexachloroethane	ug/kg	n/a	<1.12E+03	<109	n/a	n/a	n/a	n/a	109	n/a	U
S11V004319	O	193-39-5	Indeno(1,2,3-cd)pyrene	ug/kg	n/a	<510	<49.7	n/a	n/a	n/a	n/a	49.7	n/a	U
S11V004319	O	108-95-2	Phenol	ug/kg	81.4	<594	<57.9	n/a	n/a	n/a	n/a	57.9	n/a	U
S11V004319	O	91-20-3	Naphthalene	ug/kg	n/a	<626	<61.0	n/a	n/a	n/a	n/a	61.0	n/a	U
S11V004319	O	98-95-3	Nitrobenzene	ug/kg	n/a	<646	<63.0	n/a	n/a	n/a	n/a	63.0	n/a	U
S11V004319	O	100-02-7	4-Nitrophenol	ug/kg	96.2	<526	<51.3	n/a	n/a	n/a	n/a	51.3	n/a	U
S11V004319	O	87-86-5	Pentachlorophenol	ug/kg	92.7	<375	<36.6	n/a	n/a	n/a	n/a	36.6	n/a	U
S11V004319	O	129-00-0	Pyrene	ug/kg	94.6	<629	<61.3	n/a	n/a	n/a	n/a	61.3	n/a	U
S11V004319	O	110-86-1	Pyridine	ug/kg	n/a	<650	<63.4	n/a	n/a	n/a	n/a	63.4	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1N0

Sample Depth: 202'-204'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004319		O	126-73-8	Tributyl phosphate	ug/kg	n/a	<1.08E+03	<105	n/a	n/a	n/a	n/a	105	n/a	U
S11V004319		O	128-37-0	BHT	ug/kg	n/a	<2.36E+03	<230	n/a	n/a	n/a	n/a	230	n/a	U
S11V004319		O	110-80-5	2-Ethoxyethanol	ug/kg	n/a	<1.82E+03	<178	n/a	n/a	n/a	n/a	178	n/a	U
S11V004319		O	1319-77-3	Total Methylphenols	ug/kg	n/a	<1.07E+03	<104	n/a	n/a	n/a	n/a	104	n/a	U
S11V004319		O	108-94-1	Cyclohexanone	ug/kg	n/a	<5.59E+03	<545	n/a	n/a	n/a	n/a	545	n/a	U
S11V004319		O	59-89-2	N-Nitrosomorpholine	ug/kg	n/a	<1.91E+03	<186	n/a	n/a	n/a	n/a	186	n/a	U
S11V004319		O	78-83-1	Isobutanol	ug/kg	n/a	<4.60E+03	<449	n/a	n/a	n/a	n/a	449	n/a	U
S11V004320		W	16984-48-8	Fluoride	ug/g	104	<1.61E-03	1.13	n/a	n/a	n/a	n/a	0.0161	n/a	M
S11V004320		W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0935	n/a	n/a	n/a	n/a	0.0935	n/a	U
S11V004320		W	71-50-1	Acetate	ug/g	105	<6.04E-03	0.296	n/a	n/a	n/a	n/a	0.0603	n/a	B
S11V004320		W	FORMATE	Formate	ug/g	103	<4.67E-03	0.355	n/a	n/a	n/a	n/a	0.0466	n/a	B
S11V004320		W	16887-00-6	Chloride	ug/g	104	<9.98E-03	7.08	n/a	n/a	n/a	n/a	0.0996	n/a	
S11V004320		W	14797-65-0	Nitrite	ug/g	103	0.0518	1.61	n/a	n/a	n/a	n/a	0.192	n/a	CB
S11V004320		W	14808-79-8	Sulfate	ug/g	105	<0.0187	80.1	n/a	n/a	n/a	n/a	0.187	n/a	
S11V004320		W	338-70-5	Oxalate	ug/g	101	<0.0231	0.279	n/a	n/a	n/a	n/a	0.231	n/a	B
S11V004320		W	24959-67-9	Bromide	ug/g	104	<0.0580	<0.579	n/a	n/a	n/a	n/a	0.579	n/a	U
S11V004320		W	14797-55-8	Nitrate	ug/g	103	<0.0208	18.8	n/a	n/a	n/a	n/a	0.208	n/a	
S11V004320		W	14265-44-2	Phosphate	ug/g	103	<0.0167	0.603	n/a	n/a	n/a	n/a	0.167	n/a	BN
S11V004321		A	7429-90-5	Aluminum	ug/g	88.6	<0.0300	5.74E+03	n/a	n/a	n/a	n/a	1.49	n/a	
S11V004321		A	7440-42-8	Boron	ug/g	87.4	<0.0300	3.00	n/a	n/a	n/a	n/a	1.49	n/a	B
S11V004321		A	7440-39-3	Barium	ug/g	93.9	<3.00E-03	55.4	n/a	n/a	n/a	n/a	0.149	n/a	
S11V004321		A	7440-41-7	Beryllium	ug/g	96.2	<1.00E-03	0.114	n/a	n/a	n/a	n/a	0.0498	n/a	B
S11V004321		A	7440-70-2	Calcium	ug/g	84.4	0.0523	6.46E+03	n/a	n/a	n/a	n/a	2.49	n/a	
S11V004321		A	7440-45-1	Cerium	ug/g	96.7	<0.0300	17.1	n/a	n/a	n/a	n/a	1.49	n/a	
S11V004321		A	7440-48-4	Cobalt	ug/g	88.8	<0.0100	5.51	n/a	n/a	n/a	n/a	0.498	n/a	
S11V004321		A	7440-47-3	Chromium	ug/g	89.2	<5.00E-03	14.2	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004321		A	7440-50-8	Copper	ug/g	94.4	<5.00E-03	11.1	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004321		A	7439-89-6	Iron	ug/g	88.2	<5.00E-03	1.59E+04	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004321		A	7440-09-7	Potassium	ug/g	85.4	<0.500	988	n/a	n/a	n/a	n/a	24.9	n/a	

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1N0

Sample Depth: 202'-204'

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004321	A	7439-91-0	Lanthanum	ug/g	93.6	<3.00E-03	7.97	n/a	n/a	n/a	n/a	0.149	n/a	
S11V004321	A	7439-93-2	Lithium	ug/g	104	<3.00E-03	7.33	n/a	n/a	n/a	n/a	0.149	n/a	
S11V004321	A	7439-95-4	Magnesium	ug/g	87.3	<0.0500	4.10E+03	n/a	n/a	n/a	n/a	2.49	n/a	
S11V004321	A	7439-96-5	Manganese	ug/g	88.3	<3.00E-03	231	n/a	n/a	n/a	n/a	0.149	n/a	
S11V004321	A	7439-98-7	Molybdenum	ug/g	87.5	<0.0200	<0.996	n/a	n/a	n/a	n/a	0.996	n/a	U
S11V004321	A	7440-23-5	Sodium	ug/g	102	<0.100	280	n/a	n/a	n/a	n/a	4.98	n/a	
S11V004321	A	7440-02-0	Nickel	ug/g	88.0	<0.0200	11.4	n/a	n/a	n/a	n/a	0.996	n/a	
S11V004321	A	7723-14-0	Phosphorus	ug/g	88.4	<0.0500	609	n/a	n/a	n/a	n/a	2.49	n/a	
S11V004321	A	7440-10-0	Praseodymium	ug/g	99.3	<0.0100	1.67	n/a	n/a	n/a	n/a	0.498	n/a	B
S11V004321	A	7704-34-9	Sulfur	ug/g	92.1	0.189	71.0	n/a	n/a	n/a	n/a	4.98	n/a	N
S11V004321	A	7440-21-3	Silicon	ug/g	78.3	<0.0300	139	n/a	n/a	n/a	n/a	1.49	n/a	
S11V004321	A	7440-31-5	Tin	ug/g	83.2	<0.0300	3.81	n/a	n/a	n/a	n/a	1.49	n/a	B
S11V004321	A	7440-24-6	Strontium	ug/g	93.7	<3.00E-03	26.1	n/a	n/a	n/a	n/a	0.149	n/a	
S11V004321	A	7440-25-7	Tantalum	ug/g	64.7	<0.0500	6.75	n/a	n/a	n/a	n/a	2.49	n/a	B
S11V004321	A	7440-32-6	Titanium	ug/g	89.7	<5.00E-03	1.14E+03	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004321	A	7440-62-2	Vanadium	ug/g	91.1	<5.00E-03	39.0	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004321	A	7440-65-5	Yttrium	ug/g	90.1	<2.00E-03	6.76	n/a	n/a	n/a	n/a	0.0996	n/a	
S11V004321	A	7440-66-6	Zinc	ug/g	87.3	<5.00E-03	32.2	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004321	A	7440-67-7	Zirconium	ug/g	90.0	<5.00E-03	8.52	n/a	n/a	n/a	n/a	0.249	n/a	N
S11V004321	A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<6.97E-05	n/a	n/a	n/a	n/a	6.97E-05	n/a	U
S11V004321	A	TH-232	Thorium-232	ug/g	102	<5.00E-04	2.47	n/a	n/a	n/a	n/a	4.98E-03	n/a	
S11V004321	A	13968-55-3	Uranium-233	ug/g	95.7	<2.00E-04	<1.99E-03	n/a	n/a	n/a	n/a	1.99E-03	n/a	U
S11V004321	A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	<4.98E-05	n/a	n/a	n/a	n/a	4.98E-05	n/a	U
S11V004321	A	15117-96-1	Uranium-235	ug/g	100	<1.00E-05	3.34E-03	n/a	n/a	n/a	n/a	9.96E-05	n/a	
S11V004321	A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<3.99E-05	n/a	n/a	n/a	n/a	3.99E-05	n/a	U
S11V004321	A	13994-20-2	Neptunium-237	ug/g	107	<1.00E-04	<9.96E-04	n/a	n/a	n/a	n/a	9.96E-04	n/a	U
S11V004321	A	U-238	Uranium-238	ug/g	101	<5.00E-04	0.436	n/a	n/a	n/a	n/a	4.98E-03	n/a	
S11V004321	A	7440-22-4	Silver	ug/g	107	<2.00E-03	0.0508	n/a	n/a	n/a	n/a	0.0199	n/a	B
S11V004321	A	7440-38-2	Arsenic	ug/g	94.1	<0.0420	2.67	n/a	n/a	n/a	n/a	0.418	n/a	B

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1N0

Sample Depth: 202'-204'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004321		A	7440-43-9	Cadmium	ug/g	105	<6.00E-03	0.0704	n/a	n/a	n/a	n/a	0.0598	n/a	B
S11V004321		A	7439-92-1	Lead	ug/g	98.5	<0.0150	2.91	n/a	n/a	n/a	n/a	0.149	n/a	
S11V004321		A	7782-49-2	Selenium	ug/g	103	<0.135	<1.34	n/a	n/a	n/a	n/a	1.34	n/a	U
S11V004321		A	7440-28-0	Thallium	ug/g	98.7	<4.00E-03	0.0559	n/a	n/a	n/a	n/a	0.0399	n/a	B
S11V004322		S	14798-03-9	Ammonium	ug/g	97.4	0.224	<0.474	n/a	n/a	n/a	n/a	0.474	n/a	U
S11V004323		A	14133-76-7	Technetium-99	ug/g	101	<6.00E-05	<5.95E-04	n/a	n/a	n/a	n/a	5.95E-04	n/a	U
S11V004324		E	CM-243/244	Curium-243/244	uCi/g	n/a	<4.58E-08	<3.76E-08	n/a	n/a	n/a	n/a	3.76E-08	n/a	U
S11V004324		E	14596-10-2	Americium-241	uCi/g	103	<5.32E-08	<4.22E-08	n/a	n/a	n/a	n/a	4.22E-08	n/a	U
S11V004324		E	15510-73-3	Curium-242	uCi/g	n/a	<2.34E-08	<1.09E-08	n/a	n/a	n/a	n/a	1.09E-08	n/a	U
S11V004324		E	PU-239/240	Plutonium-239/240	uCi/g	107	<6.34E-08	<2.26E-08	n/a	n/a	n/a	n/a	2.26E-08	n/a	U
S11V004324		E	13981-16-3	Plutonium-238	uCi/g	n/a	<6.58E-08	<2.16E-08	n/a	n/a	n/a	n/a	2.16E-08	n/a	U
S11V004325		E	SR-89/90	Strontium-89/90	uCi/g	111	<4.70E-07	<2.47E-07	n/a	n/a	n/a	n/a	2.47E-07	n/a	U
S11V004326		E	13981-37-8	Nickel-63	uCi/g	102	<1.02E-05	<5.53E-06	n/a	n/a	n/a	n/a	5.53E-06	n/a	U
S11V004327		E	15758-45-9	Selenium-79	uCi/g	n/a	4.77E-06	6.62E-06	n/a	n/a	n/a	n/a	1.83E-06	45.996	BE
S11V004328		W	14762-75-5	Carbon-14	uCi/g	92.2	<4.26E-06	<2.89E-06	n/a	n/a	n/a	n/a	2.89E-06	n/a	U
S11V004328		W	10028-17-8	Tritium	uCi/g	99.3	<3.91E-06	<2.68E-06	n/a	n/a	n/a	n/a	2.68E-06	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1N1

Sample Depth: 222.8'-224.8'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004334			%WATERA	%WATER-APD	%	n/a	n/a	3.870	n/a	n/a	n/a	n/a	0.01000	n/a	
S11V004334			57-12-5	Cyanide	ug/g	97.9	<0.0370	<0.479	<0.480	n/a	n/a	98.0	0.479	n/a	U
S11V004334			WT%SOLID	Weight percent solids	%	n/a	n/a	96.1	n/a	n/a	n/a	n/a	0.0100	n/a	
S11V004334			7439-97-6	Mercury	ug/g	95.0	<1.00E-04	<9.97E-03	n/a	n/a	n/a	n/a	9.97E-03	n/a	U
S11V004334			PH	pH	unitless	n/a	n/a	8.75	8.72	8.74	0.343	n/a	0.0100	n/a	
S11V004335			13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.34E-05	n/a	n/a	n/a	n/a	2.16E-06	4.68	
S11V004335			10198-40-0	Cobalt-60	uCi/g	98.8	<1.71E-07	<8.58E-08	n/a	n/a	n/a	n/a	8.58E-08	n/a	U
S11V004335			14234-35-6	Antimony-125	uCi/g	n/a	<4.59E-07	<2.02E-07	n/a	n/a	n/a	n/a	2.02E-07	n/a	U
S11V004335			10045-97-3	Cesium-137	uCi/g	101	<2.03E-07	<6.60E-08	n/a	n/a	n/a	n/a	6.60E-08	n/a	U
S11V004335			14683-23-9	Europium-152	uCi/g	n/a	<4.23E-07	<1.87E-07	n/a	n/a	n/a	n/a	1.87E-07	n/a	U
S11V004335			15585-10-1	Europium-154	uCi/g	n/a	<2.69E-07	<1.31E-07	n/a	n/a	n/a	n/a	1.31E-07	n/a	U
S11V004335			14391-16-3	Europium-155	uCi/g	n/a	<5.69E-07	<2.49E-07	n/a	n/a	n/a	n/a	2.49E-07	n/a	U
S11V004335			14913-50-9	Thallium-208	uCi/g	n/a	n/a	2.07E-07	n/a	n/a	n/a	n/a	8.95E-08	15.47	
S11V004335			15092-94-1	Lead-212	uCi/g	n/a	n/a	5.67E-07	n/a	n/a	n/a	n/a	1.19E-07	6.51	
S11V004335			14733-03-0	Bismuth-214	uCi/g	n/a	n/a	4.13E-07	n/a	n/a	n/a	n/a	1.90E-07	17.34	
S11V004335			15067-28-4	Lead-214	uCi/g	n/a	n/a	4.09E-07	n/a	n/a	n/a	n/a	1.63E-07	11.50	
S11V004335			13982-63-3	Radium-226	uCi/g	n/a	n/a	<1.39E-06	n/a	n/a	n/a	n/a	1.39E-06	40.38	U
S11V004335			14331-83-0	Actinium-228	uCi/g	n/a	n/a	5.26E-07	n/a	n/a	n/a	n/a	3.37E-07	14.29	
S11V004335			14274-82-9	Thorium-228	uCi/g	n/a	<8.56E-05	<3.92E-05	n/a	n/a	n/a	n/a	3.92E-05	n/a	U
S11V004335			15065-10-8	Thorium-234	uCi/g	n/a	<3.63E-06	<4.16E-06	n/a	n/a	n/a	n/a	4.16E-06	n/a	U
S11V004335			15046-84-1	Iodine-129	uCi/g	104	<2.15E-05	<1.84E-06	n/a	n/a	n/a	n/a	1.84E-06	n/a	U
S11V004336			CONDUCT	Conductivity	uMHO/cm	98.5	<1.00	370	n/a	n/a	n/a	n/a	1.00	n/a	
S11V004336		WV	14133-76-7	Technetium-99	ug/g	99.8	<6.00E-06	<5.76E-06	n/a	n/a	n/a	n/a	5.76E-06	n/a	U
S11V004338		A	7440-36-0	Antimony	ug/g	110	<2.00E-04	0.121	n/a	n/a	n/a	n/a	1.99E-03	n/a	
S11V004338		A	SN-117	Tin-117	ug/g	105	<1.00E-03	0.0324	n/a	n/a	n/a	n/a	9.96E-03	n/a	
S11V004338		A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	3.92E-04	n/a	n/a	n/a	n/a	1.99E-04	n/a	E
S11V004339		O	120-82-1	1,2,4-Trichlorobenzene	ug/kg	75.0	<77.4	<72.2	n/a	n/a	n/a	75.6	72.2	n/a	U
S11V004339		O	95-50-1	1,2-Dichlorobenzene	ug/kg	n/a	<101	<93.9	n/a	n/a	n/a	n/a	93.9	n/a	U
S11V004339		O	106-46-7	1,4-Dichlorobenzene	ug/kg	71.9	<113	<106	n/a	n/a	n/a	69.4	106	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1N1

Sample Depth: 222.8'-224.8'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004339		O	121-14-2	2,4-Dinitrotoluene	ug/kg	95.7	<38.1	<35.5	n/a	n/a	n/a	96.0	35.5	n/a	U
S11V004339		O	95-95-4	2,4,5-Trichlorophenol	ug/kg	n/a	<44.0	<41.0	n/a	n/a	n/a	n/a	41.0	n/a	U
S11V004339		O	88-06-2	2,4,6-Trichlorophenol	ug/kg	n/a	<49.5	<46.2	n/a	n/a	n/a	n/a	46.2	n/a	U
S11V004339		O	95-48-7	2-Methylphenol	ug/kg	n/a	<57.5	<53.6	n/a	n/a	n/a	n/a	53.6	n/a	U
S11V004339		O	88-75-5	2-Nitrophenol	ug/kg	n/a	<53.7	<50.1	n/a	n/a	n/a	n/a	50.1	n/a	U
S11V004339		O	65794-96-9	3 &4 Methylphenol	ug/kg	n/a	<51.4	<47.9	n/a	n/a	n/a	n/a	47.9	n/a	U
S11V004339		O	83-32-9	Acenaphthene	ug/kg	84.9	<17.6	<16.4	n/a	n/a	n/a	87.3	16.4	n/a	U
S11V004339		O	56-55-3	Benzo(a)anthracene	ug/kg	n/a	<37.8	<35.3	n/a	n/a	n/a	n/a	35.3	n/a	U
S11V004339		O	205-99-2	Benzo(b)fluoranthene	ug/kg	n/a	<48.9	<45.6	n/a	n/a	n/a	n/a	45.6	n/a	U
S11V004339		O	50-32-8	Benzo(a)pyrene	ug/kg	n/a	<41.2	<38.4	n/a	n/a	n/a	n/a	38.4	n/a	U
S11V004339		O	117-81-7	Bis(2-ethylhexyl) phthalate	ug/kg	n/a	<590	<551	n/a	n/a	n/a	n/a	551	n/a	U
S11V004339		O	207-08-9	Benzo(k)fluoranthene	ug/kg	n/a	<39.1	<36.5	n/a	n/a	n/a	n/a	36.5	n/a	U
S11V004339		O	85-68-7	Butylbenzylphthalate	ug/kg	n/a	<50.0	<46.6	n/a	n/a	n/a	n/a	46.6	n/a	U
S11V004339		O	59-50-7	4-Chloro-3-methylphenol	ug/kg	79.5	<43.2	<40.3	n/a	n/a	n/a	84.3	40.3	n/a	U
S11V004339		O	95-57-8	2-Chlorophenol	ug/kg	77.0	<66.5	<62.0	n/a	n/a	n/a	78.2	62.0	n/a	U
S11V004339		O	218-01-9	Chrysene	ug/kg	n/a	<81.4	<75.9	n/a	n/a	n/a	n/a	75.9	n/a	U
S11V004339		O	53-70-3	Dibenz[a,h]anthracene	ug/kg	n/a	<51.1	<47.7	n/a	n/a	n/a	n/a	47.7	n/a	U
S11V004339		O	84-74-2	Di-n-butylphthalate	ug/kg	n/a	<562	<524	n/a	n/a	n/a	n/a	524	n/a	U
S11V004339		O	117-84-0	Di-n-octylphthalate	ug/kg	n/a	<47.7	<44.5	n/a	n/a	n/a	n/a	44.5	n/a	U
S11V004339		O	621-64-7	N-Nitroso-di-n-dipropylamine	ug/kg	76.7	<58.1	<54.2	n/a	n/a	n/a	74.8	54.2	n/a	U
S11V004339		O	206-44-0	Fluoranthene	ug/kg	n/a	<35.4	<33.0	n/a	n/a	n/a	n/a	33.0	n/a	U
S11V004339		O	87-68-3	Hexachlorobutadiene	ug/kg	n/a	<69.7	<65.0	n/a	n/a	n/a	n/a	65.0	n/a	U
S11V004339		O	67-72-1	Hexachloroethane	ug/kg	n/a	<112	<104	n/a	n/a	n/a	n/a	104	n/a	U
S11V004339		O	193-39-5	Indeno(1,2,3-cd)pyrene	ug/kg	n/a	<51.0	<47.6	n/a	n/a	n/a	n/a	47.6	n/a	U
S11V004339		O	108-95-2	Phenol	ug/kg	79.6	<59.4	<55.4	n/a	n/a	n/a	80.9	55.4	n/a	U
S11V004339		O	91-20-3	Naphthalene	ug/kg	n/a	<62.6	<58.4	n/a	n/a	n/a	n/a	58.4	n/a	U
S11V004339		O	98-95-3	Nitrobenzene	ug/kg	n/a	<64.6	<60.3	n/a	n/a	n/a	n/a	60.3	n/a	U
S11V004339		O	100-02-7	4-Nitrophenol	ug/kg	90.4	<52.6	<49.1	n/a	n/a	n/a	94.5	49.1	n/a	U
S11V004339		O	87-86-5	Pentachlorophenol	ug/kg	89.1	<37.5	<35.0	n/a	n/a	n/a	91.1	35.0	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1N1

Sample Depth: 222.8'-224.8'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004339		O	129-00-0	Pyrene	ug/kg	103	<62.9	<58.7	n/a	n/a	n/a	95.5	58.7	n/a	U
S11V004339		O	110-86-1	Pyridine	ug/kg	n/a	<65.0	<60.6	n/a	n/a	n/a	n/a	60.6	n/a	U
S11V004339		O	126-73-8	Tributyl phosphate	ug/kg	n/a	<108	<101	n/a	n/a	n/a	n/a	101	n/a	U
S11V004339		O	128-37-0	BHT	ug/kg	n/a	<236	<220	n/a	n/a	n/a	n/a	220	n/a	U
S11V004339		O	110-80-5	2-Ethoxyethanol	ug/kg	n/a	<182	<170	n/a	n/a	n/a	n/a	170	n/a	U
S11V004339		O	1319-77-3	Total Methylphenols	ug/kg	n/a	<107	<99.4	n/a	n/a	n/a	n/a	99.4	n/a	U
S11V004339		O	108-94-1	Cyclohexanone	ug/kg	n/a	<559	<522	n/a	n/a	n/a	n/a	522	n/a	U
S11V004339		O	59-89-2	N-Nitrosomorpholine	ug/kg	n/a	<191	<178	n/a	n/a	n/a	n/a	178	n/a	U
S11V004339		O	78-83-1	Isobutanol	ug/kg	n/a	n/a	<429	n/a	n/a	n/a	n/a	429	n/a	U
S11V004340		W	16984-48-8	Fluoride	ug/g	104	<1.61E-03	1.14	n/a	n/a	n/a	n/a	0.0157	n/a	M
S11V004340		W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0913	n/a	n/a	n/a	n/a	0.0913	n/a	U
S11V004340		W	71-50-1	Acetate	ug/g	105	<6.04E-03	0.494	n/a	n/a	n/a	n/a	0.0589	n/a	B
S11V004340		W	FORMATE	Formate	ug/g	103	<4.67E-03	0.270	n/a	n/a	n/a	n/a	0.0455	n/a	B
S11V004340		W	16887-00-6	Chloride	ug/g	104	<9.98E-03	14.0	n/a	n/a	n/a	n/a	0.0973	n/a	
S11V004340		W	14797-65-0	Nitrite	ug/g	103	0.0518	0.435	n/a	n/a	n/a	n/a	0.187	n/a	CB
S11V004340		W	14808-79-8	Sulfate	ug/g	105	<0.0187	95.8	n/a	n/a	n/a	n/a	0.182	n/a	
S11V004340		W	338-70-5	Oxalate	ug/g	101	<0.0231	<0.225	n/a	n/a	n/a	n/a	0.225	n/a	U
S11V004340		W	24959-67-9	Bromide	ug/g	104	<0.0580	<0.565	n/a	n/a	n/a	n/a	0.565	n/a	U
S11V004340		W	14797-55-8	Nitrate	ug/g	103	<0.0208	7.59	n/a	n/a	n/a	n/a	0.203	n/a	
S11V004340		W	14265-44-2	Phosphate	ug/g	103	<0.0167	<0.163	n/a	n/a	n/a	n/a	0.163	n/a	UN
S11V004341		A	7429-90-5	Aluminum	ug/g	88.6	<0.0300	6.38E+03	n/a	n/a	n/a	n/a	1.50	n/a	
S11V004341		A	7440-42-8	Boron	ug/g	87.4	<0.0300	3.46	n/a	n/a	n/a	n/a	1.50	n/a	B
S11V004341		A	7440-39-3	Barium	ug/g	93.9	<3.00E-03	60.0	n/a	n/a	n/a	n/a	0.150	n/a	
S11V004341		A	7440-41-7	Beryllium	ug/g	96.2	<1.00E-03	0.119	n/a	n/a	n/a	n/a	0.0499	n/a	B
S11V004341		A	7440-69-9	Bismuth	ug/g	87.5	<0.100	7.23	n/a	n/a	n/a	n/a	4.99	n/a	B
S11V004341		A	7440-70-2	Calcium	ug/g	84.4	0.0523	5.71E+03	n/a	n/a	n/a	n/a	2.49	n/a	
S11V004341		A	7440-45-1	Cerium	ug/g	96.7	<0.0300	16.8	n/a	n/a	n/a	n/a	1.50	n/a	
S11V004341		A	7440-48-4	Cobalt	ug/g	88.8	<0.0100	5.80	n/a	n/a	n/a	n/a	0.499	n/a	
S11V004341		A	7440-47-3	Chromium	ug/g	89.2	<5.00E-03	27.4	n/a	n/a	n/a	n/a	0.249	n/a	

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264
Core Number: C8100
Customer Sample ID: B2C1N1
Sample Depth: 222.8'-224.8'

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004341	A	7440-50-8	Copper	ug/g	94.4	<5.00E-03	13.7	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004341	A	7439-89-6	Iron	ug/g	88.2	<5.00E-03	1.80E+04	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004341	A	7440-09-7	Potassium	ug/g	85.4	<0.500	1.10E+03	n/a	n/a	n/a	n/a	24.9	n/a	
S11V004341	A	7439-91-0	Lanthanum	ug/g	93.6	<3.00E-03	7.85	n/a	n/a	n/a	n/a	0.150	n/a	
S11V004341	A	7439-93-2	Lithium	ug/g	104	<3.00E-03	7.12	n/a	n/a	n/a	n/a	0.150	n/a	
S11V004341	A	7439-95-4	Magnesium	ug/g	87.3	<0.0500	4.17E+03	n/a	n/a	n/a	n/a	2.49	n/a	
S11V004341	A	7439-96-5	Manganese	ug/g	88.3	<3.00E-03	239	n/a	n/a	n/a	n/a	0.150	n/a	
S11V004341	A	7439-98-7	Molybdenum	ug/g	87.5	<0.0200	3.58	n/a	n/a	n/a	n/a	0.997	n/a	B
S11V004341	A	7440-23-5	Sodium	ug/g	102	<0.100	505	n/a	n/a	n/a	n/a	4.99	n/a	
S11V004341	A	7440-02-0	Nickel	ug/g	88.0	<0.0200	16.5	n/a	n/a	n/a	n/a	0.997	n/a	
S11V004341	A	7723-14-0	Phosphorus	ug/g	88.4	<0.0500	563	n/a	n/a	n/a	n/a	2.49	n/a	
S11V004341	A	7440-10-0	Praseodymium	ug/g	99.3	<0.0100	1.74	n/a	n/a	n/a	n/a	0.499	n/a	B
S11V004341	A	7704-34-9	Sulfur	ug/g	92.1	0.189	84.6	n/a	n/a	n/a	n/a	4.99	n/a	N
S11V004341	A	7440-21-3	Silicon	ug/g	78.3	<0.0300	147	n/a	n/a	n/a	n/a	1.50	n/a	
S11V004341	A	7440-31-5	Tin	ug/g	83.2	<0.0300	5.49	n/a	n/a	n/a	n/a	1.50	n/a	B
S11V004341	A	7440-24-6	Strontium	ug/g	93.7	<3.00E-03	27.7	n/a	n/a	n/a	n/a	0.150	n/a	
S11V004341	A	7440-25-7	Tantalum	ug/g	64.7	<0.0500	5.41	n/a	n/a	n/a	n/a	2.49	n/a	B
S11V004341	A	7440-32-6	Titanium	ug/g	89.7	<5.00E-03	1.30E+03	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004341	A	7440-62-2	Vanadium	ug/g	91.1	<5.00E-03	46.6	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004341	A	7440-65-5	Yttrium	ug/g	90.1	<2.00E-03	6.79	n/a	n/a	n/a	n/a	0.0997	n/a	
S11V004341	A	7440-66-6	Zinc	ug/g	87.3	<5.00E-03	31.5	n/a	n/a	n/a	n/a	0.249	n/a	
S11V004341	A	7440-67-7	Zirconium	ug/g	90.0	<5.00E-03	9.18	n/a	n/a	n/a	n/a	0.249	n/a	N
S11V004341	A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<6.98E-05	n/a	n/a	n/a	n/a	6.98E-05	n/a	U
S11V004341	A	TH-232	Thorium-232	ug/g	102	<5.00E-04	2.35	n/a	n/a	n/a	n/a	4.99E-03	n/a	
S11V004341	A	13968-55-3	Uranium-233	ug/g	95.7	<2.00E-04	<1.99E-03	n/a	n/a	n/a	n/a	1.99E-03	n/a	U
S11V004341	A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	<4.99E-05	n/a	n/a	n/a	n/a	4.99E-05	n/a	U
S11V004341	A	15117-96-1	Uranium-235	ug/g	100	<1.00E-05	3.20E-03	n/a	n/a	n/a	n/a	9.97E-05	n/a	
S11V004341	A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<3.99E-05	n/a	n/a	n/a	n/a	3.99E-05	n/a	U
S11V004341	A	13994-20-2	Neptunium-237	ug/g	107	<1.00E-04	<9.97E-04	n/a	n/a	n/a	n/a	9.97E-04	n/a	U

NA = Not Analyzed, ND = Not Detected

E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Data Summary Report

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1N1

Sample Depth: 222.8'-224.8'

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S11V004341		A	U-238	Uranium-238	ug/g	101	<5.00E-04	0.480	n/a	n/a	n/a	n/a	4.99E-03	n/a	
S11V004341		A	7440-22-4	Silver	ug/g	107	<2.00E-03	0.0507	n/a	n/a	n/a	n/a	0.0199	n/a	B
S11V004341		A	7440-38-2	Arsenic	ug/g	94.1	<0.0420	2.16	n/a	n/a	n/a	n/a	0.419	n/a	B
S11V004341		A	7440-43-9	Cadmium	ug/g	105	<6.00E-03	0.0780	n/a	n/a	n/a	n/a	0.0598	n/a	B
S11V004341		A	7439-92-1	Lead	ug/g	98.5	<0.0150	2.55	n/a	n/a	n/a	n/a	0.150	n/a	
S11V004341		A	7782-49-2	Selenium	ug/g	103	<0.135	<1.35	n/a	n/a	n/a	n/a	1.35	n/a	U
S11V004341		A	7440-28-0	Thallium	ug/g	98.7	<4.00E-03	0.0608	n/a	n/a	n/a	n/a	0.0399	n/a	B
S11V004342		S	14798-03-9	Ammonium	ug/g	97.1	<0.120	6.69	5.17	5.93	25.7	95.4	0.482	n/a	
S11V004343		A	14133-76-7	Technetium-99	ug/g	101	<6.00E-05	<5.94E-04	n/a	n/a	n/a	n/a	5.94E-04	n/a	U
S11V004344		E	CM-243/244	Curium-243/244	uCi/g	n/a	<4.58E-08	<3.45E-08	n/a	n/a	n/a	n/a	3.45E-08	n/a	U
S11V004344		E	14596-10-2	Americium-241	uCi/g	103	<5.32E-08	<4.24E-08	n/a	n/a	n/a	n/a	4.24E-08	n/a	U
S11V004344		E	15510-73-3	Curium-242	uCi/g	n/a	<2.34E-08	<1.01E-08	n/a	n/a	n/a	n/a	1.01E-08	n/a	U
S11V004344		E	PU-239/240	Plutonium-239/240	uCi/g	107	<6.34E-08	4.39E-08	n/a	n/a	n/a	n/a	3.03E-08	44.7	
S11V004344		E	13981-16-3	Plutonium-238	uCi/g	n/a	<6.58E-08	<2.88E-08	n/a	n/a	n/a	n/a	2.88E-08	n/a	U
S11V004345		E	SR-89/90	Strontium-89/90	uCi/g	111	<4.70E-07	<7.35E-07	n/a	n/a	n/a	n/a	7.35E-07	n/a	U
S11V004346		E	13981-37-8	Nickel-63	uCi/g	102	<1.02E-05	<5.03E-06	n/a	n/a	n/a	n/a	5.03E-06	n/a	U
S11V004347		E	15758-45-9	Selenium-79	uCi/g	n/a	4.77E-06	1.40E-05	n/a	n/a	n/a	n/a	1.96E-06	2785.151	BE
S11V004348		W	14762-75-5	Carbon-14	uCi/g	92.2	<4.26E-06	<2.65E-06	n/a	n/a	n/a	n/a	2.65E-06	n/a	U
S11V004348		W	10028-17-8	Tritium	uCi/g	99.3	<3.91E-06	<2.61E-06	n/a	n/a	n/a	n/a	2.61E-06	n/a	U

NA = Not Analyzed, ND = Not Detected

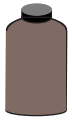
E - Estimated by Interference
J - Estimated
U - Less Than Detection Limit
B - Estimated
B - Blank Contamination
C - Blank Contamination
N - MS/MSD Outside Range
M - RPD Outside Range
T - MS/MSD Outside Range

Attachment 2

SAMPLE BREAKDOWN DIAGRAM

Vadose Zone: C Farm 2011-C8100
Core No.: C8100
Group 20110261(222S)
Group 20110263 (Offsite)

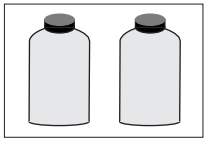
Segment No. Equipment Blank
Customer ID: B2B1N6



S11V004090
SVOA
S11V004195
PCB

S11V004091
MS Fiss Prod, Actinides
ICP-Metals
Mercury

S11V004092
Iodine-129
Tritium
Carbon-14



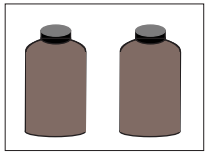
S11V004093
GEA
Am-241, Iso Cm
Strontium-90
Iso Pu
Nickel-63
Selenium-79

S11V004094
IC - Anions/Org Acids
pH

S11V004095
Cyanide-Water

S11V004096
Ammonium

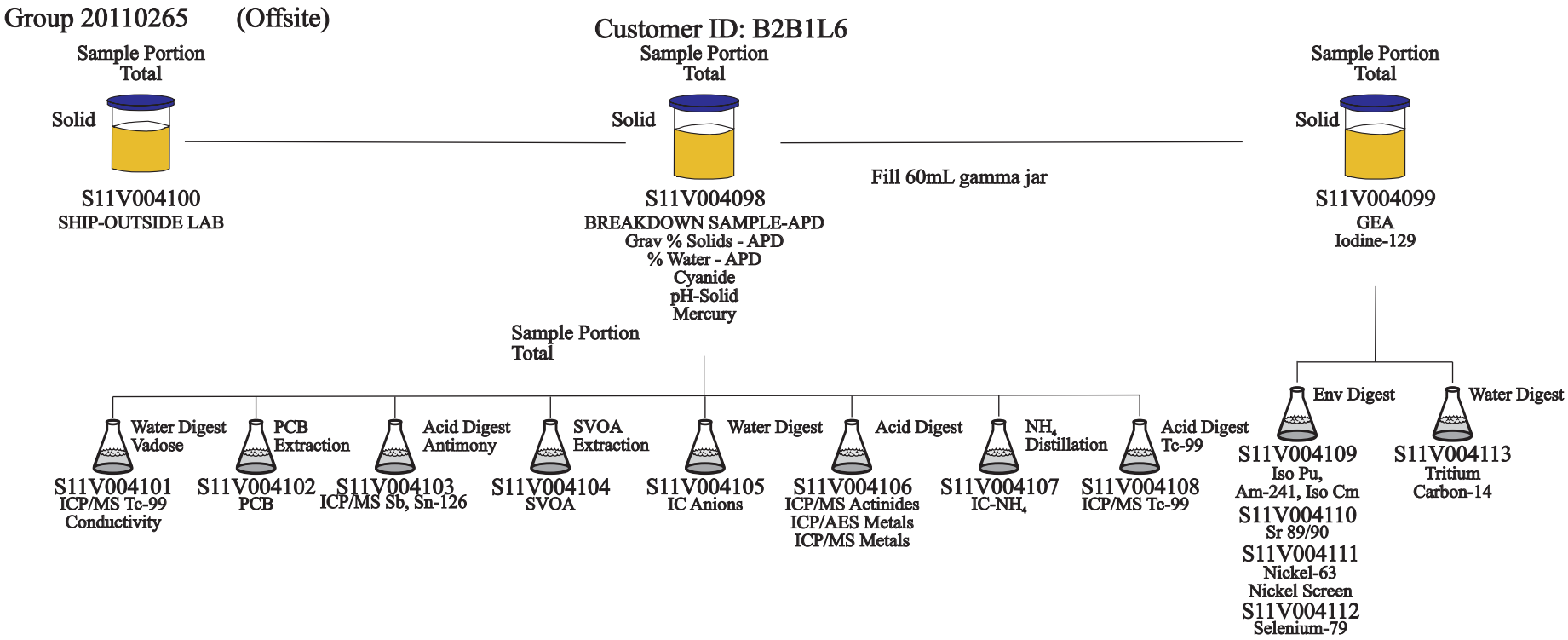
Group 20110263 Offsite Liquid)



S11V004097
SHIP - OUTSIDE LAB
(Pesticides)

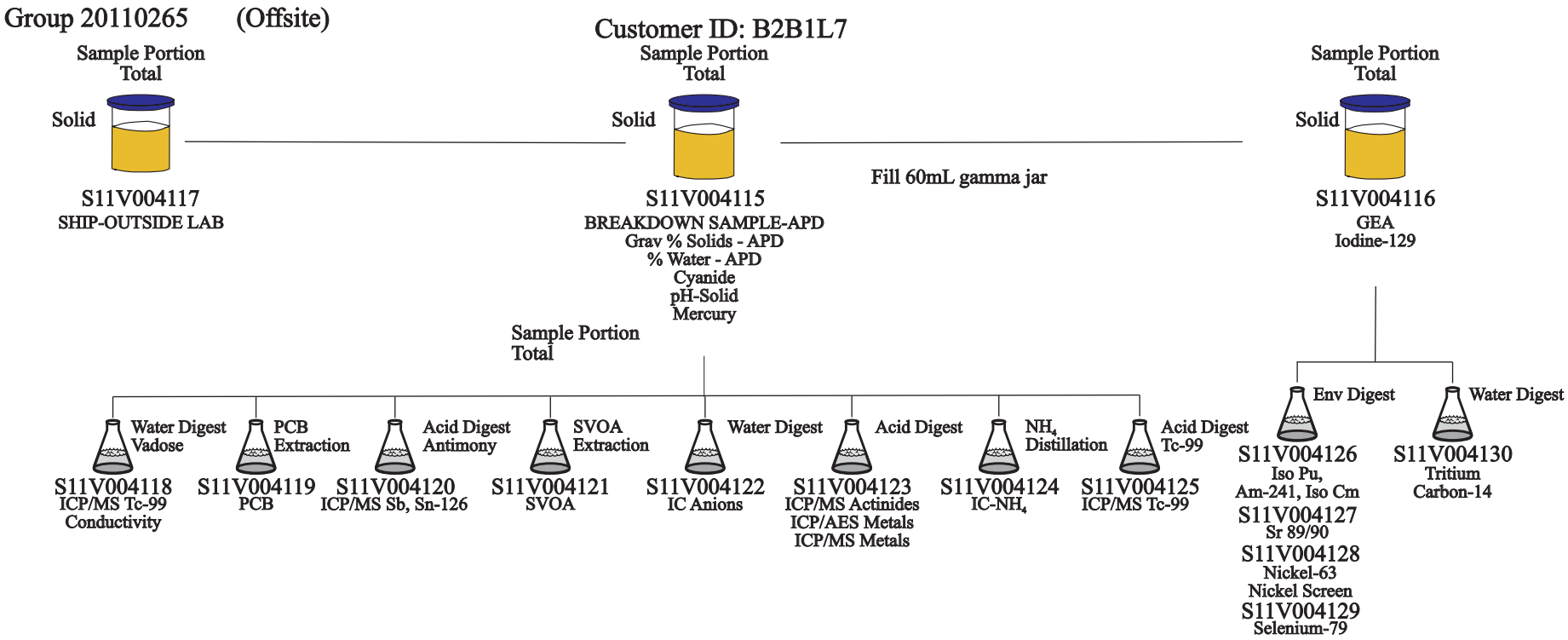
Vadose Zone: C Farm 2011-C8100
Core No.: C8100
Group 20110264 (222S)
Group 20110265 (Offsite)

Sample Depth: Surface
Segment No: Surface



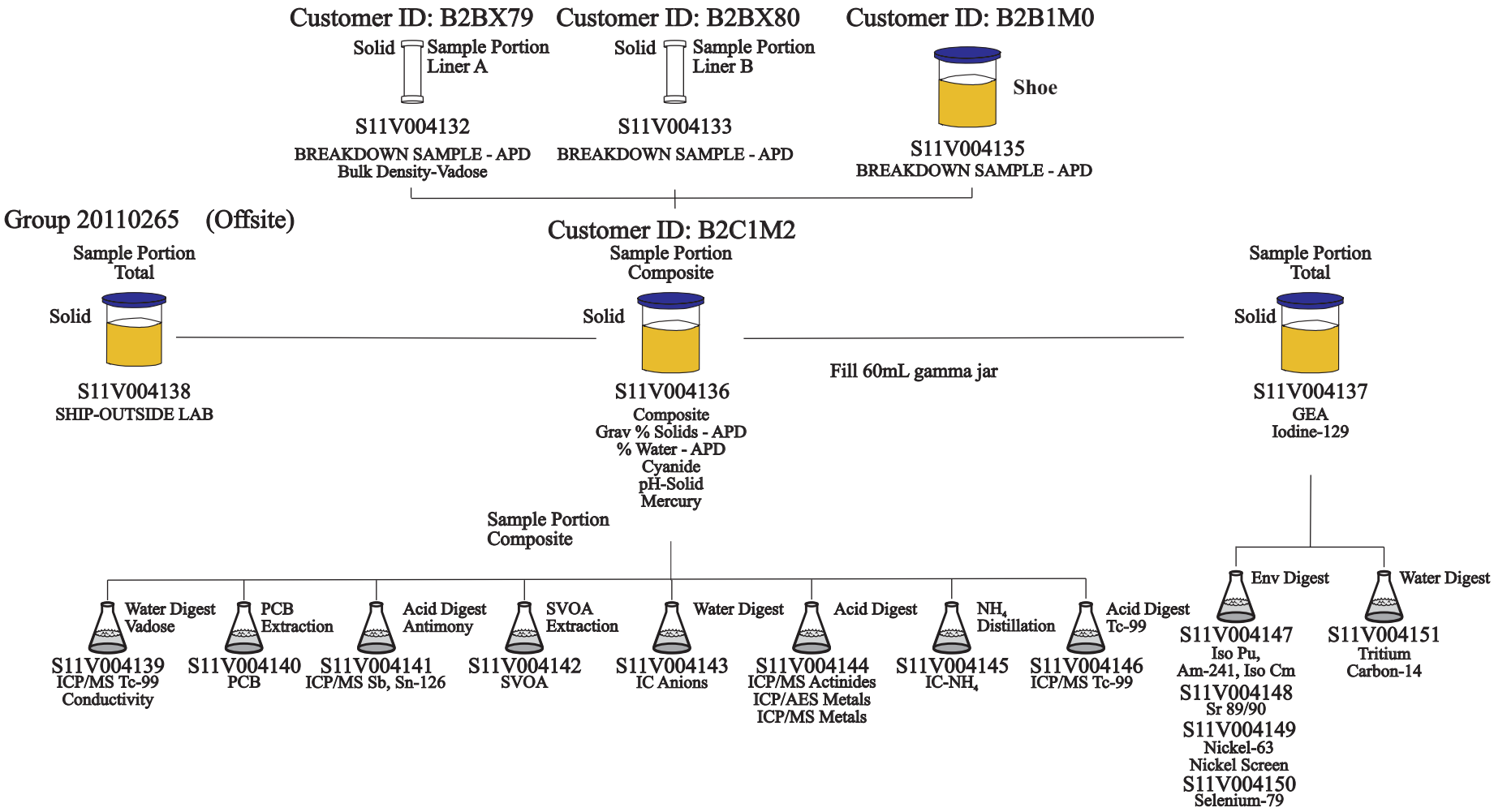
Vadose Zone: C Farm 2011-C8100
Core No.: C8100
Group 20110264 (222S)
Group 20110265 (Offsite)

Sample Depth: Surface Dup
Segment No: Surface Dup



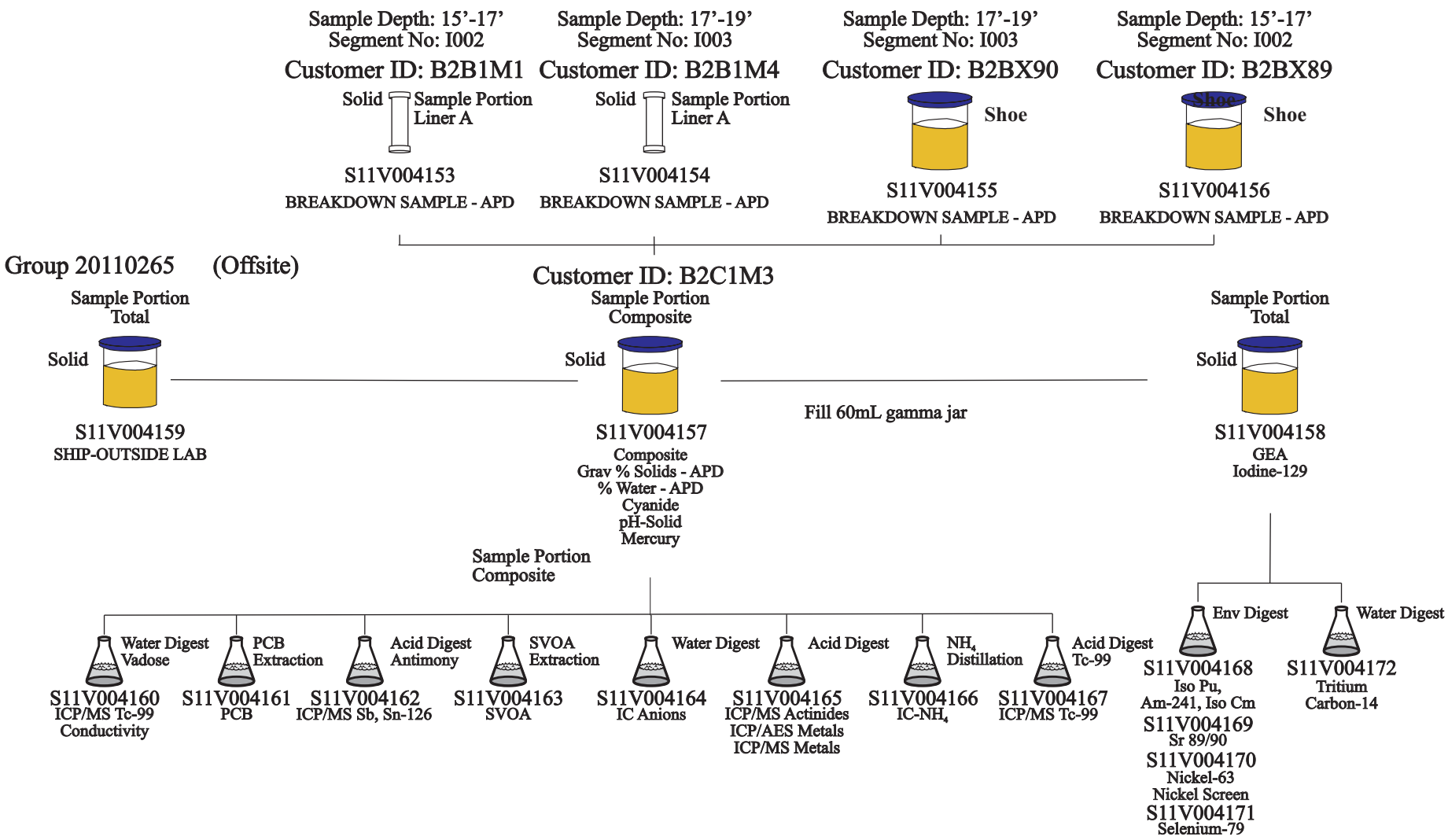
Vadose Zone: C Farm 2011-C8100
Core No.: C8100
Group 20110264 (222S)
Group 20110265 (Offsite)

Sample Depth: 5.7'-7.7'
Segment No: I00I



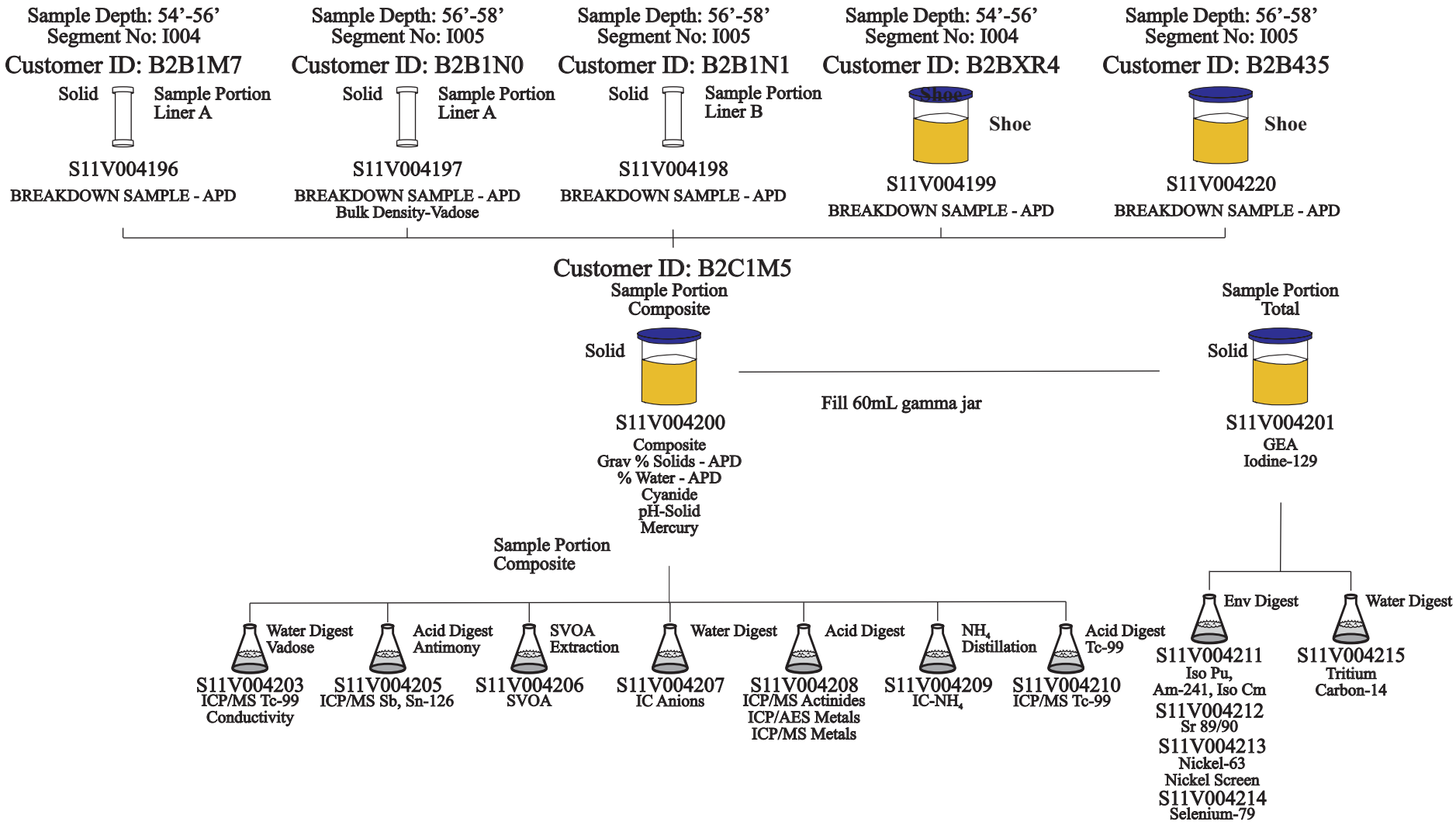
Vadose Zone: C Farm 2011-C8100
Core No.: C8100
Group 20110264 (222S)
Group 20110265 (Offsite)

Sample Depth: 15'-19'
Segment No: I002+I003



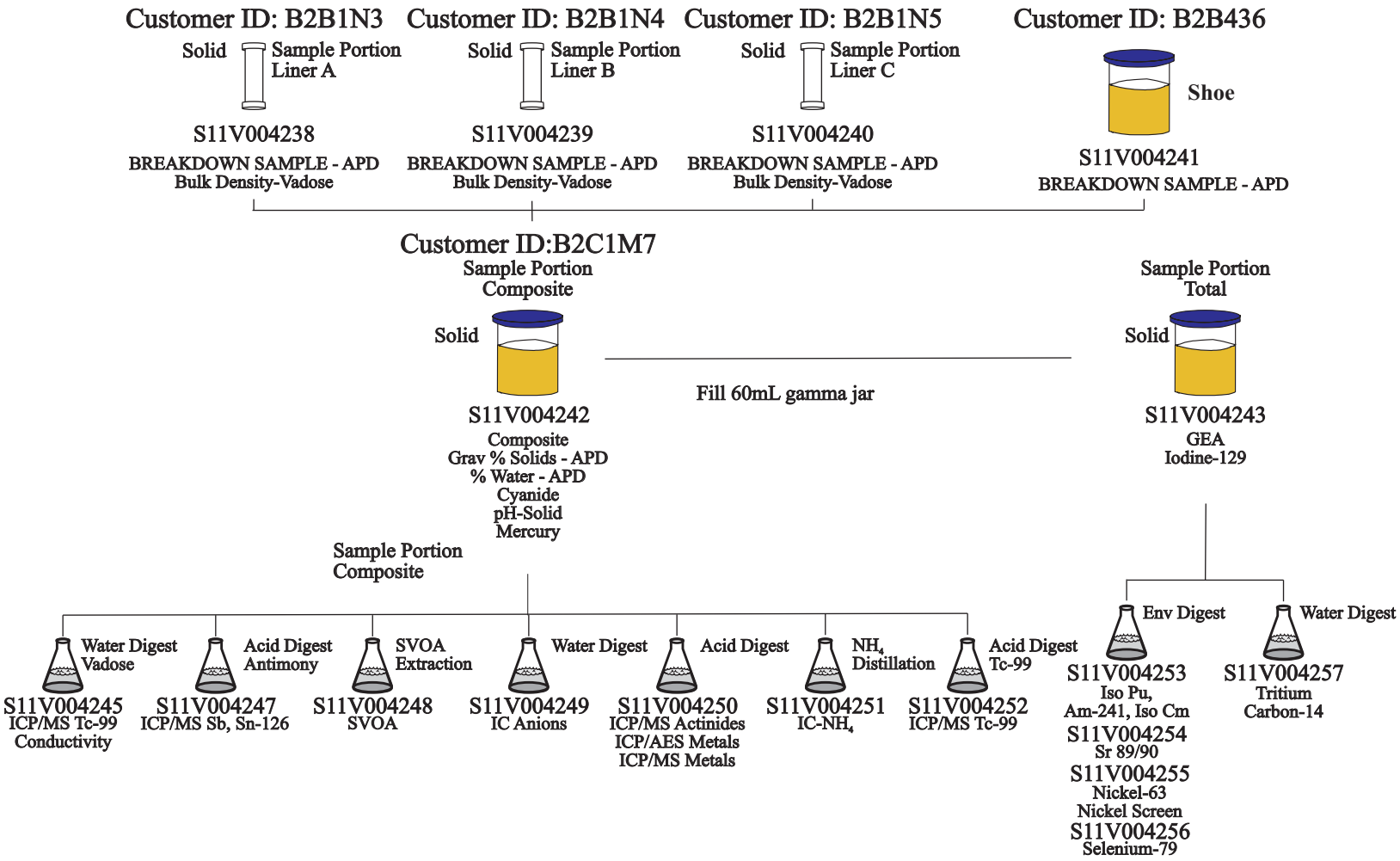
Vadose Zone: C Farm 2011-C8100
Core No.: C8100
Group 20110264 (222S)

Sample Depth: 54' - 58'
Segment No: I004+I005



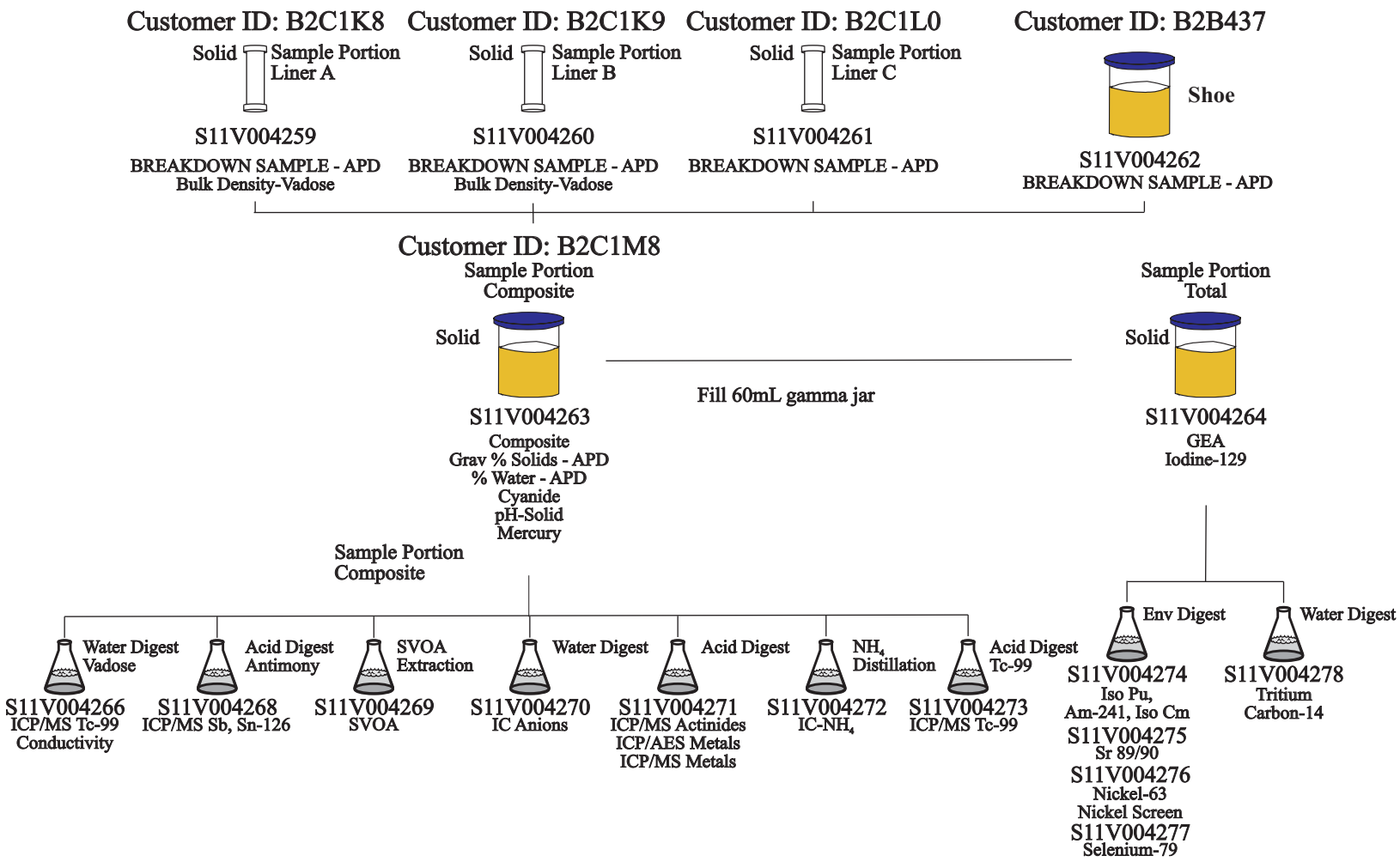
Vadose Zone: C Farm 2011-C8100
Core No.: C8100
Group 20110264 (222S)

Sample Depth: 76' - 78'
Segment No: I006



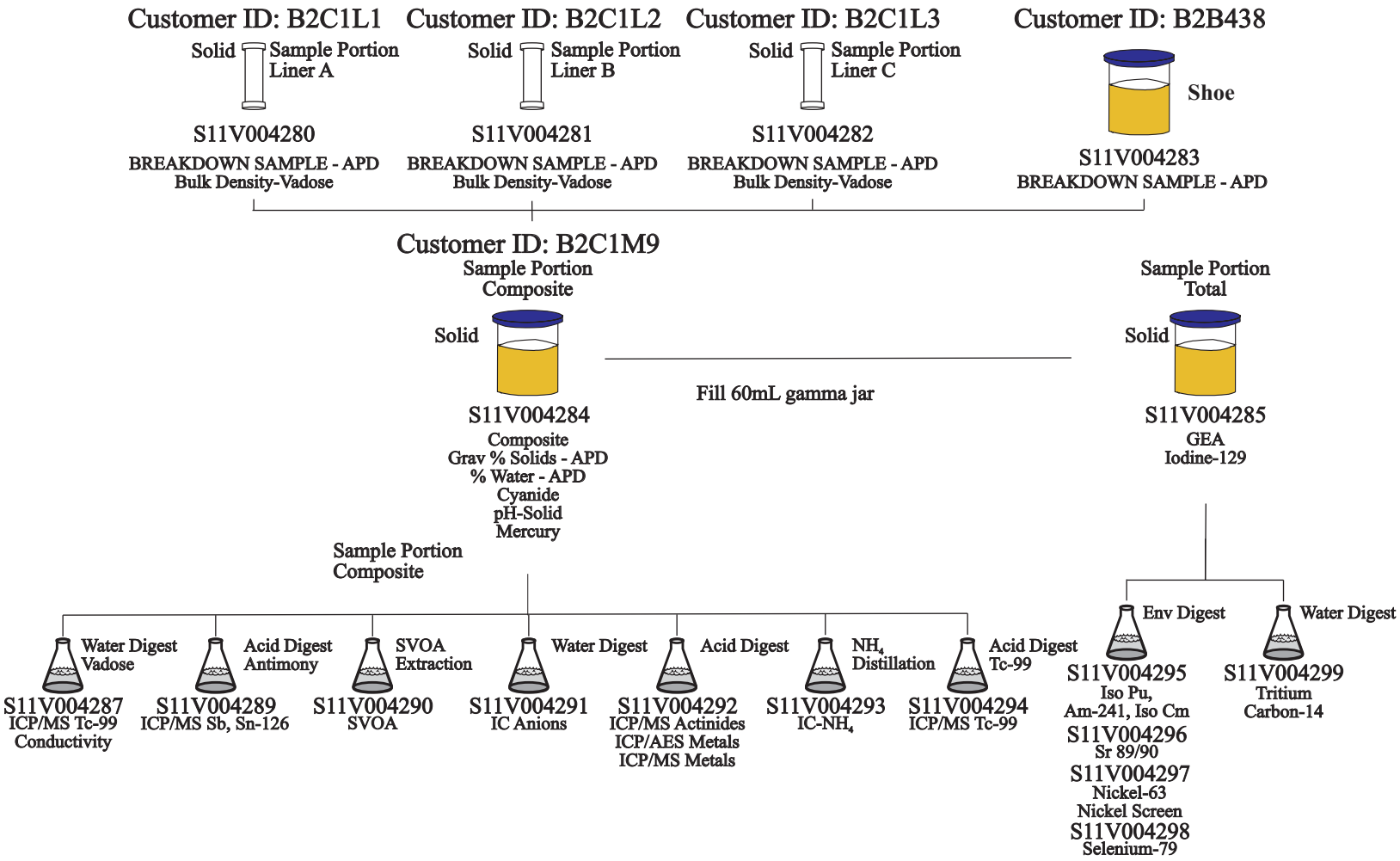
Vadose Zone: C Farm 2011-C8100
Core No.: C8100
Group 20110264 (222S)

Sample Depth: 118' - 120'
Segment No: I007



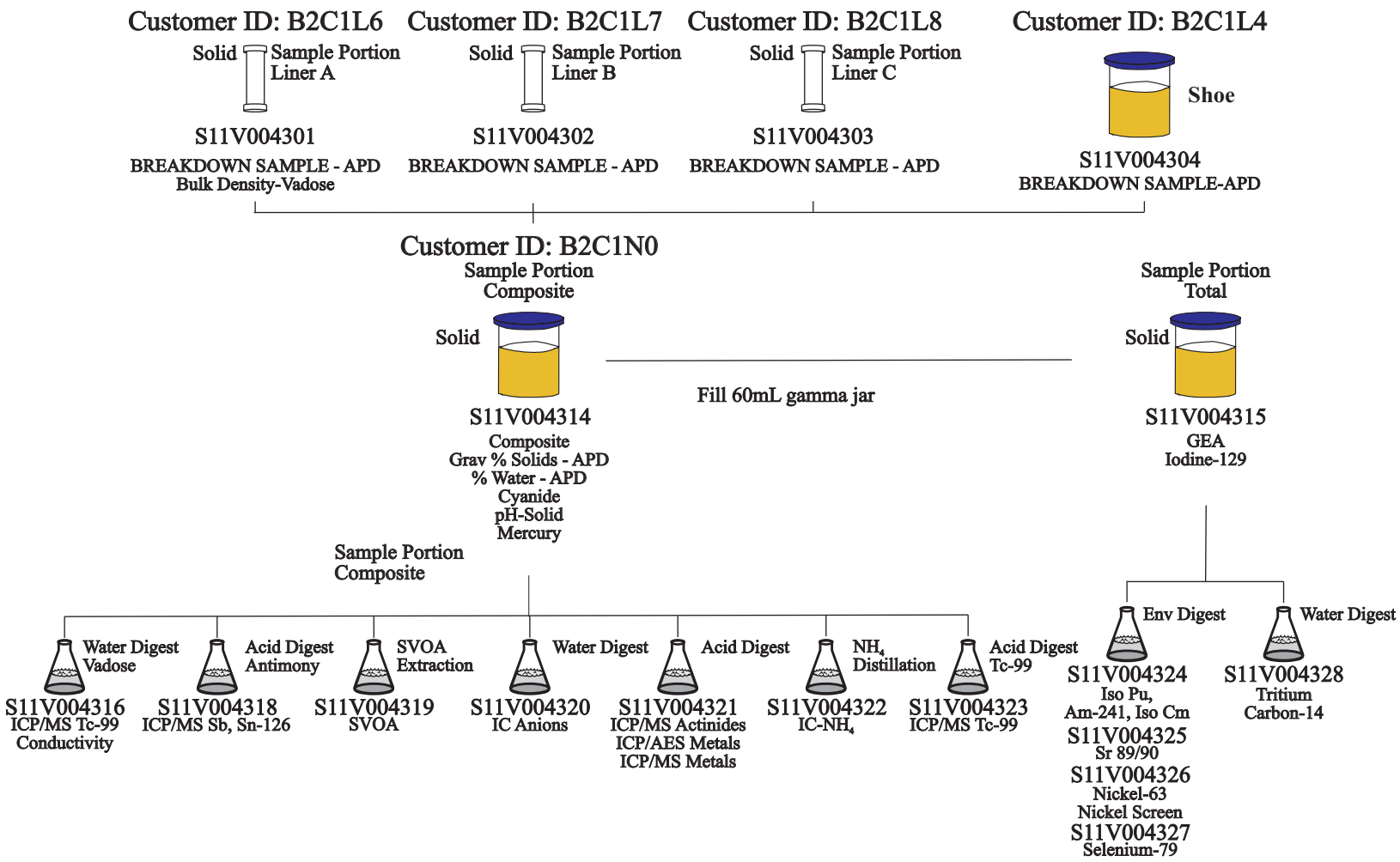
Vadose Zone: C Farm 2011-C8100
Core No.: C8100
Group 20110264 (222S)

Sample Depth: 168.6' - 170.6'
Segment No: I008



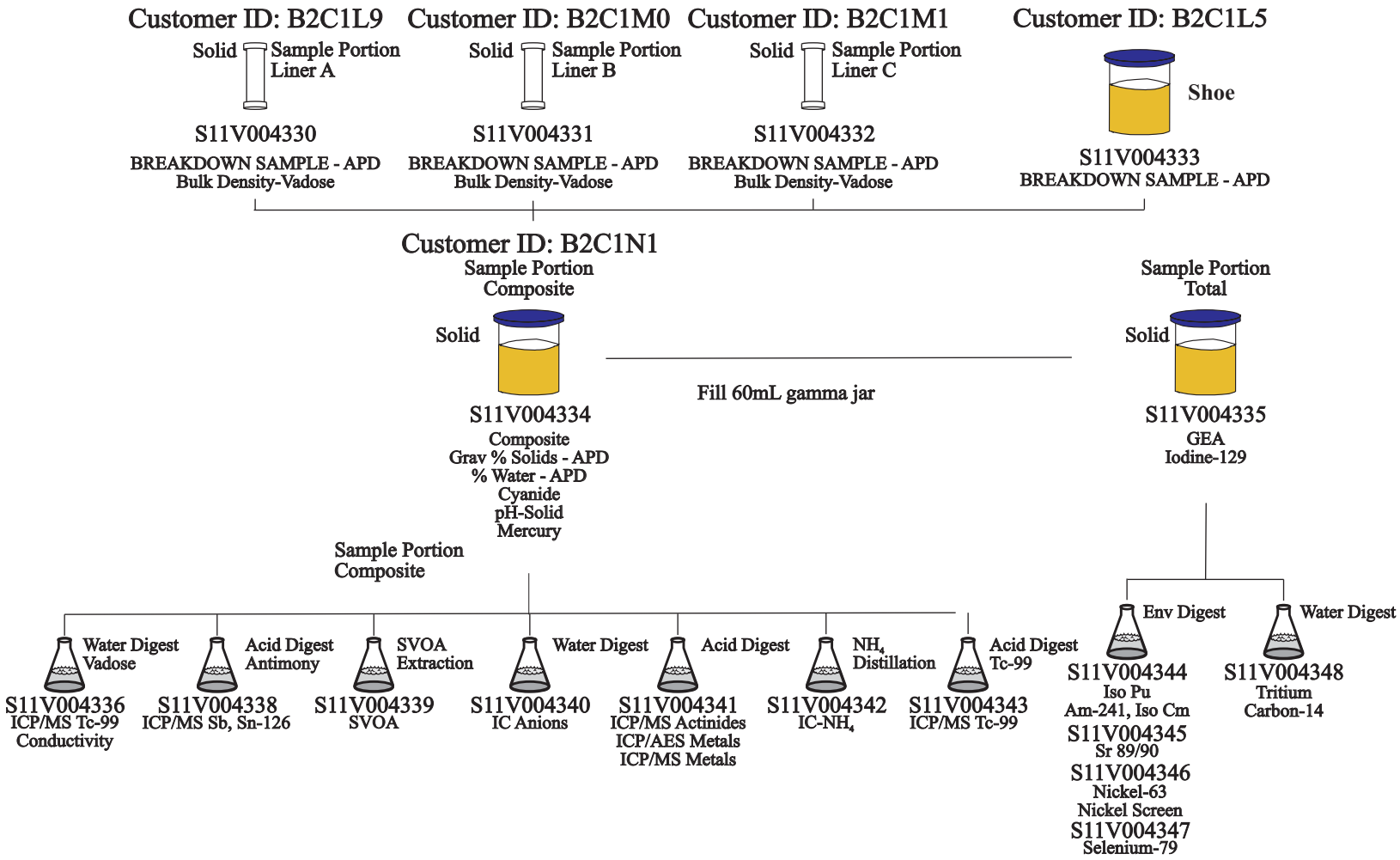
Vadose Zone: C Farm 2011-C8100
Core No.: C8100
Group 20110264 (222S)

Sample Depth: 202' - 204'
Segment No: I009



Vadose Zone: C Farm 2011-C8100
Core No.: C8100
Group 20110264 (222S)

Sample Depth: 222.8' - 224.8'
Segment No: I010



Attachment 3

HOLDING TIME REPORT

Holding Time Report: Cyanide

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004098	B2B1L6	SW846-9014	SW846-9010C	02/24/2011 08:26	02/24/2011 09:20		03/11/2011 14:50	Y
S11V004115	B2B1L7	SW846-9014	SW846-9010C	02/24/2011 08:26	02/24/2011 09:20		03/11/2011 14:50	Y
S11V004136	B2C1M2	SW846-9014	SW846-9010C	02/25/2011 11:55	02/25/2011 12:40		03/11/2011 14:50	N
S11V004157	B2C1M3	SW846-9014	SW846-9010C	03/01/2011 13:35	03/01/2011 14:20		03/14/2011 15:30	N
S11V004200	B2C1M5	SW846-9014	SW846-9010C	03/03/2011 10:30	03/03/2011 11:40		03/14/2011 15:30	N
S11V004242	B2C1M7	SW846-9014	SW846-9010C	03/10/2011 12:00	03/10/2011 12:40		03/22/2011 15:00	N
S11V004263	B2C1M8	SW846-9014	SW846-9010C	03/21/2011 09:35	03/21/2011 10:15		03/30/2011 13:25	N
S11V004284	B2C1M9	SW846-9014	SW846-9010C	03/23/2011 11:00	03/23/2011 11:30		03/30/2011 13:25	N
S11V004314	B2C1N0	SW846-9014	SW846-9010C	03/24/2011 13:37	03/24/2011 14:40		03/30/2011 13:25	N
S11V004334	B2C1N1	SW846-9014	SW846-9010C	04/04/2011 10:20	04/04/2011 11:00		04/06/2011 14:30	N
S11V004095	B2B1N6	SW846-9014	SW846-9010C	03/14/2011 09:05	03/14/2011 10:10		03/24/2011 13:01	N

Holding Time Report: Conductivity

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004101	B2B1L6	SW-846 9050A	Vadose Water Digest	02/24/2011 08:26	02/24/2011 09:20		03/18/2011 15:30	N
S11V004118	B2B1L7	SW-846 9050A	Vadose Water Digest	02/24/2011 08:26	02/24/2011 09:20		03/18/2011 15:30	N
S11V004139	B2C1M2	SW-846 9050A	Vadose Water Digest	02/25/2011 11:55	02/25/2011 12:40		03/18/2011 15:30	N
S11V004160	B2C1M3	SW-846 9050A	Vadose Water Digest	03/01/2011 13:35	03/01/2011 14:20		03/18/2011 15:30	N
S11V004203	B2C1M5	SW-846 9050A	Vadose Water Digest	03/03/2011 10:30	03/03/2011 11:40		03/18/2011 15:30	N
S11V004245	B2C1M7	SW-846 9050A	Vadose Water Digest	03/10/2011 12:00	03/10/2011 12:40		03/18/2011 15:30	N
S11V004266	B2C1M8	SW-846 9050A	Vadose Water Digest	03/21/2011 09:35	03/21/2011 10:15		04/06/2011 15:00	N
S11V004287	B2C1M9	SW-846 9050A	Vadose Water Digest	03/23/2011 11:00	03/23/2011 11:30		04/06/2011 15:00	N
S11V004316	B2C1N0	SW-846 9050A	Vadose Water Digest	03/24/2011 13:37	03/24/2011 14:40		04/06/2011 15:00	N
S11V004336	B2C1N1	SW-846 9050A	Vadose Water Digest	04/04/2011 10:20	04/04/2011 11:00		04/06/2011 15:00	N

Holding Time Report: pH

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004094	B2B1N6	SW-846 9040C	N/A	03/14/2011 09:05	03/14/2011 10:10		03/14/2011 14:35	N
S11V004098	B2B1L6	SW-846 9045D	N/A	02/24/2011 08:26	02/24/2011 09:20		03/01/2011 10:45	N
S11V004115	B2B1L7	SW-846 9045D	N/A	02/24/2011 08:26	02/24/2011 09:20		03/01/2011 10:45	N
S11V004136	B2C1M2	SW-846 9045D	N/A	02/25/2011 11:55	02/25/2011 12:40		03/01/2011 10:45	N
S11V004157	B2C1M3	SW-846 9045D	N/A	03/01/2011 13:35	03/01/2011 14:20		03/07/2011 14:55	N
S11V004200	B2C1M5	SW-846 9045D	N/A	03/03/2011 10:30	03/03/2011 11:40		03/08/2011 15:55	N
S11V004242	B2C1M7	SW-846 9045D	N/A	03/10/2011 12:00	03/10/2011 12:40		03/14/2011 15:45	N
S11V004263	B2C1M8	SW-846 9045D	N/A	03/21/2011 09:35	03/21/2011 10:15		03/25/2011 11:09	N
S11V004284	B2C1M9	SW-846 9045D	N/A	03/23/2011 11:00	03/23/2011 11:30		03/25/2011 11:09	N
S11V004314	B2C1N0	SW-846 9045D	N/A	03/24/2011 13:37	03/24/2011 14:40		03/25/2011 11:09	N
S11V004334	B2C1N1	SW-846 9045D	N/A	04/04/2011 10:20	04/04/2011 11:00		04/05/2011 14:07	N

Holding Time Report: Mercury

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004091	B2B1N6	SW-846 7470A	SW-846 7470A	03/14/2011 09:05	03/14/2011 10:10		03/25/2011 14:39	N
S11V004098	B2B1L6	SW-846 7471A	SW-846 7471A	02/24/2011 08:26	02/24/2011 09:20		03/11/2011 14:18	N
S11V004115	B2B1L7	SW-846 7471A	SW-846 7471A	02/24/2011 08:26	02/24/2011 09:20		03/11/2011 14:18	N
S11V004136	B2C1M2	SW-846 7471A	SW-846 7471A	02/25/2011 11:55	02/25/2011 12:40		03/11/2011 14:18	N
S11V004157	B2C1M3	SW-846 7471A	SW-846 7471A	03/01/2011 13:35	03/01/2011 14:20		03/11/2011 14:18	N
S11V004200	B2C1M5	SW-846 7470A	SW-846 7470A	03/03/2011 10:30	03/03/2011 11:40		03/11/2011 14:18	N
S11V004242	B2C1M7	SW-846 7471A	SW-846 7471A	03/10/2011 12:00	03/10/2011 12:40		03/11/2011 14:18	N
S11V004263	B2C1M8	SW-846 7471A	SW-846 7471A	03/21/2011 09:35	03/21/2011 10:15		03/25/2011 14:39	N
S11V004284	B2C1M9	SW-846 7471A	SW-846 7471A	03/23/2011 11:00	03/23/2011 11:30		03/25/2011 14:39	N
S11V004314	B2C1N0	SW-846 7471A	SW-846 7471A	03/24/2011 13:37	03/24/2011 14:40		04/13/2011 11:54	N
S11V004334	B2C1N1	SW-846 7471A	SW-846 7471A	04/04/2011 10:20	04/04/2011 11:00		04/13/2011 11:54	N
S11V004714	B2B1N7	SW-846 7471A	SW-846 7471A					N

Holding Time Report: Ammonium by IC

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004096	B2B1N6	EPA-300.7	Distillation	03/14/2011 09:05	03/14/2011 10:10	03/15/2011 10:38	03/15/2011 15:42	N
S11V004107	B2B1L6	EPA-300.7	Distillation	02/24/2011 08:26	02/24/2011 09:20	02/25/2011 10:08	03/01/2011 11:59	N
S11V004124	B2B1L7	EPA-300.7	Distillation	02/24/2011 08:26	02/24/2011 09:20	02/25/2011 10:08	03/01/2011 13:07	N
S11V004145	B2C1M2	EPA-300.7	Distillation	02/25/2011 11:55	02/25/2011 12:40	02/28/2011 14:30	03/01/2011 16:49	N
S11V004166	B2C1M3	EPA-300.7	Distillation	03/01/2011 13:35	03/01/2011 14:20	03/03/2011 14:51	03/04/2011 23:13	N
S11V004209	B2C1M5	EPA-300.7	Distillation	03/03/2011 10:30	03/03/2011 11:40	03/08/2011 13:00	03/08/2011 16:49	N
S11V004251	B2C1M7	EPA-300.7	Distillation	03/10/2011 12:00	03/10/2011 12:40	03/15/2011 10:40	03/15/2011 14:34	N
S11V004272	B2C1M8	EPA-300.7	Distillation	03/21/2011 09:35	03/21/2011 10:15	03/25/2011 10:30	03/25/2011 17:53	N
S11V004293	B2C1M9	EPA-300.7	Distillation	03/23/2011 11:00	03/23/2011 11:30	03/25/2011 10:30	03/25/2011 19:35	N
S11V004322	B2C1N0	EPA-300.7	Distillation	03/24/2011 13:37	03/24/2011 14:40	03/25/2011 10:30	03/25/2011 19:52	N
S11V004342	B2C1N1	EPA-300.7	Distillation	04/04/2011 10:20	04/04/2011 11:00	04/06/2011 13:15	04/06/2011 17:12	N

Holding Time Report: Anions by IC

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004094	B2B1N6	SW-846 9056A	N/A	03/14/2011 09:05	03/14/2011 10:10		03/14/2011 18:47	N
S11V004105	B2B1L6	SW-846 9056A	Water Digest	02/24/2011 08:26	02/24/2011 09:20	03/25/2011 14:00	03/26/2011 02:28	N
S11V004122	B2B1L7	SW-846 9056A	Water Digest	02/24/2011 08:26	02/24/2011 09:20	03/25/2011 14:00	03/26/2011 04:36	N
S11V004143	B2C1M2	SW-846 9056A	Water Digest	02/25/2011 11:55	02/25/2011 12:40	03/25/2011 14:00	03/26/2011 05:08	N
S11V004164	B2C1M3	SW-846 9056A	Water Digest	03/01/2011 13:35	03/01/2011 14:20	03/25/2011 14:00	03/26/2011 05:40	N
S11V004207	B2C1M5	SW-846 9056A	Water Digest	03/03/2011 10:30	03/03/2011 11:40	03/25/2011 14:00	03/26/2011 06:12	N
S11V004249	B2C1M7	SW-846 9056A	Water Digest	03/10/2011 12:00	03/10/2011 12:40	03/25/2011 14:00	03/26/2011 06:44	N
S11V004270	B2C1M8	SW-846 9056A	Water Digest	03/21/2011 09:35	03/21/2011 10:15	04/06/2011 14:00	04/06/2011 19:45	N
S11V004291	B2C1M9	SW-846 9056A	Water Digest	03/23/2011 11:00	03/23/2011 11:30	04/06/2011 14:00	04/06/2011 21:53	N
S11V004320	B2C1N0	SW-846 9056A	Water Digest	03/24/2011 13:37	03/24/2011 14:40	04/06/2011 14:00	04/06/2011 22:25	N
S11V004340	B2C1N1	SW-846 9056A	Water Digest	04/04/2011 10:20	04/04/2011 11:00	04/06/2011 14:00	04/06/2011 22:57	N

Holding Time Report: Metals by ICPAES

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004091	B2B1N6	SW-846 6010C	N/A	03/14/2011 09:05	03/14/2011 10:10		03/28/2011 14:51	N
S11V004106	B2B1L6	SW-846 6010C	SW-846 3050B	02/24/2011 08:26	02/24/2011 09:20	04/04/2011 16:00	05/09/2011 10:20	N
S11V004123	B2B1L7	SW-846 6010C	SW-846 3050B	02/24/2011 08:26	02/24/2011 09:20	04/04/2011 16:00	05/09/2011 13:19	N
S11V004144	B2C1M2	SW-846 6010C	SW-846 3050B	02/25/2011 11:55	02/25/2011 12:40	04/04/2011 16:00	05/09/2011 13:21	N
S11V004165	B2C1M3	SW-846 6010C	SW-846 3050B	03/01/2011 13:35	03/01/2011 14:20	04/04/2011 16:00	05/09/2011 13:24	N
S11V004208	B2C1M5	SW-846 6010C	SW-846 3050B	03/03/2011 10:30	03/03/2011 11:40	04/04/2011 16:00	05/09/2011 13:27	N
S11V004250	B2C1M7	SW-846 6010C	SW-846 3050B	03/10/2011 12:00	03/10/2011 12:40	04/04/2011 16:00	05/09/2011 13:29	N
S11V004271	B2C1M8	SW-846 6010C	SW-846 3050B	03/21/2011 09:35	03/21/2011 10:15	04/08/2011 14:20	04/12/2011 11:08	N
S11V004292	B2C1M9	SW-846 6010C	SW-846 3050B	03/23/2011 11:00	03/23/2011 11:30	04/08/2011 14:20	04/12/2011 13:51	N
S11V004321	B2C1N0	SW-846 6010C	SW-846 3050B	03/24/2011 13:37	03/24/2011 14:40	04/08/2011 14:20	04/12/2011 13:54	N
S11V004341	B2C1N1	SW-846 6010C	SW-846 3050B	04/04/2011 10:20	04/04/2011 11:00	04/08/2011 14:20	04/12/2011 13:59	N

Holding Time Report: Radiological Isotopes and Metals by ICP/MS

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004091	B2B1N6	Actinides	N/A	03/14/2011 09:05	03/14/2011 10:10		04/06/2011 20:38	N
S11V004106	B2B1L6	Actinides	SW-846 3050B	02/24/2011 08:26	02/24/2011 09:20	04/04/2011 16:00	04/06/2011 17:51	N
S11V004123	B2B1L7	Actinides	SW-846 3050B	02/24/2011 08:26	02/24/2011 09:20	04/04/2011 16:00	04/06/2011 18:03	N
S11V004144	B2C1M2	Actinides	SW-846 3050B	02/25/2011 11:55	02/25/2011 12:40	04/04/2011 16:00	04/06/2011 18:10	N
S11V004165	B2C1M3	Actinides	SW-846 3050B	03/01/2011 13:35	03/01/2011 14:20	04/04/2011 16:00	04/06/2011 18:16	N
S11V004208	B2C1M5	Actinides	SW-846 3050B	03/03/2011 10:30	03/03/2011 11:40	04/04/2011 16:00	04/06/2011 18:22	N
S11V004250	B2C1M7	Actinides	SW-846 3050B	03/10/2011 12:00	03/10/2011 12:40	04/04/2011 16:00	04/06/2011 18:29	N
S11V004271	B2C1M8	Actinides	SW-846 3050B	03/21/2011 09:35	03/21/2011 10:15	04/08/2011 14:20	04/08/2011 16:52	N
S11V004292	B2C1M9	Actinides	SW-846 3050B	03/23/2011 11:00	03/23/2011 11:30	04/08/2011 14:20	04/08/2011 17:04	N
S11V004321	B2C1N0	Actinides	SW-846 3050B	03/24/2011 13:37	03/24/2011 14:40	04/08/2011 14:20	04/08/2011 17:11	N
S11V004341	B2C1N1	Actinides	SW-846 3050B	04/04/2011 10:20	04/04/2011 11:00	04/08/2011 14:20	04/08/2011 17:17	N
S11V004103	B2B1L6	SW-846 6020A, Sb-126	SW-846 3050B	02/24/2011 08:26	02/24/2011 09:20	03/29/2011 15:00	04/08/2011 11:37	N
S11V004103	B2B1L6	SW-846 6020A, Sb-126	SW-846 3050B	02/24/2011 08:26	02/24/2011 09:20	03/29/2011 15:00	04/08/2011 11:37	N
S11V004120	B2B1L7	SW-846 6020A, Sb-126	SW-846 3050B	02/24/2011 08:26	02/24/2011 09:20	03/29/2011 15:00	04/08/2011 11:48	N
S11V004120	B2B1L7	SW-846 6020A, Sb-126	SW-846 3050B	02/24/2011 08:26	02/24/2011 09:20	03/29/2011 15:00	04/08/2011 11:48	N
S11V004141	B2C1M2	SW-846 6020A, Sb-126	SW-846 3050B	02/25/2011 11:55	02/25/2011 12:40	03/29/2011 15:00	04/08/2011 11:53	N
S11V004162	B2C1M3	SW-846 6020A, Sb-126	SW-846 3050B	03/01/2011 13:35	03/01/2011 14:20	03/29/2011 15:00	04/08/2011 11:59	N
S11V004205	B2C1M5	SW-846 6020A, Sb-126	SW-846 3050B	03/03/2011 10:30	03/03/2011 11:40	03/29/2011 15:00	04/08/2011 12:04	N
S11V004247	B2C1M7	SW-846 6020A, Sb-126	SW-846 3050B	03/10/2011 12:00	03/10/2011 12:40	03/29/2011 15:00	04/08/2011 12:10	N
S11V004268	B2C1M8	SW-846 6020A, Sb-126	SW-846 3050B	03/21/2011 09:35	03/21/2011 10:15	04/07/2011 03:00	04/08/2011 12:48	N
S11V004289	B2C1M9	SW-846 6020A, Sb-126	SW-846 3050B	03/23/2011 11:00	03/23/2011 11:30	04/07/2011 03:00	04/08/2011 12:59	N
S11V004318	B2C1N0	SW-846 6020A, Sb-126	SW-846 3050B	03/24/2011 13:37	03/24/2011 14:40	04/07/2011 03:00	04/08/2011 13:04	N
S11V004338	B2C1N1	SW-846 6020A, Sb-126	SW-846 3050B	04/04/2011 10:20	04/04/2011 11:00	04/07/2011 03:00	04/08/2011 13:10	N
S11V004091	B2B1N6	Tc-99, Sn-126	N/A	03/14/2011 09:05	03/14/2011 10:10		04/07/2011 12:15	N
S11V004091	B2B1N6	Tc-99, Sn-126	N/A	03/14/2011 09:05	03/14/2011 10:10		04/26/2011 19:20	N
S11V004106	B2B1L6	SW-846 6020A	SW-846 3050B	02/24/2011 08:26	02/24/2011 09:20	04/04/2011 16:00	04/13/2011 12:27	N
S11V004106	B2B1L6	SW-846 6020A	SW-846 3050B	02/24/2011 08:26	02/24/2011 09:20	04/04/2011 16:00	04/13/2011 11:19	N
S11V004123	B2B1L7	SW-846 6020A	SW-846 3050B	02/24/2011 08:26	02/24/2011 09:20	04/04/2011 16:00	04/13/2011 12:40	N
S11V004123	B2B1L7	SW-846 6020A	SW-846 3050B	02/24/2011 08:26	02/24/2011 09:20	04/04/2011 16:00	04/13/2011 11:33	N
S11V004144	B2C1M2	SW-846 6020A	SW-846 3050B	02/25/2011 11:55	02/25/2011 12:40	04/04/2011 16:00	04/13/2011 12:45	N
S11V004144	B2C1M2	SW-846 6020A	SW-846 3050B	02/25/2011 11:55	02/25/2011 12:40	04/04/2011 16:00	04/13/2011 11:39	N
S11V004165	B2C1M3	SW-846 6020A	SW-846 3050B	03/01/2011 13:35	03/01/2011 14:20	04/04/2011 16:00	04/13/2011 12:50	N
S11V004165	B2C1M3	SW-846 6020A	SW-846 3050B	03/01/2011 13:35	03/01/2011 14:20	04/04/2011 16:00	04/13/2011 11:45	N
S11V004208	B2C1M5	SW-846 6020A	SW-846 3050B	03/03/2011 10:30	03/03/2011 11:40	04/04/2011 16:00	04/13/2011 12:55	N

Holding Time Report: Radiological Isotopes and Metals by ICP/MS

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004208	B2C1M5	SW-846 6020A	SW-846 3050B	03/03/2011 10:30	03/03/2011 11:40	04/04/2011 16:00	04/13/2011 11:51	N
S11V004250	B2C1M7	SW-846 6020A	SW-846 3050B	03/10/2011 12:00	03/10/2011 12:40	04/04/2011 16:00	04/13/2011 13:00	N
S11V004250	B2C1M7	SW-846 6020A	SW-846 3050B	03/10/2011 12:00	03/10/2011 12:40	04/04/2011 16:00	04/13/2011 11:57	N
S11V004271	B2C1M8	SW-846 6020A	SW-846 3050B	03/21/2011 09:35	03/21/2011 10:15	04/08/2011 14:20	04/13/2011 14:28	N
S11V004271	B2C1M8	SW-846 6020A	SW-846 3050B	03/21/2011 09:35	03/21/2011 10:15	04/08/2011 14:20	04/13/2011 13:18	N
S11V004292	B2C1M9	SW-846 6020A	SW-846 3050B	03/23/2011 11:00	03/23/2011 11:30	04/08/2011 14:20	04/13/2011 14:38	N
S11V004292	B2C1M9	SW-846 6020A	SW-846 3050B	03/23/2011 11:00	03/23/2011 11:30	04/08/2011 14:20	04/13/2011 13:30	N
S11V004321	B2C1N0	SW-846 6020A	SW-846 3050B	03/24/2011 13:37	03/24/2011 14:40	04/08/2011 14:20	04/13/2011 14:43	N
S11V004321	B2C1N0	SW-846 6020A	SW-846 3050B	03/24/2011 13:37	03/24/2011 14:40	04/08/2011 14:20	04/13/2011 13:36	N
S11V004341	B2C1N1	SW-846 6020A	SW-846 3050B	04/04/2011 10:20	04/04/2011 11:00	04/08/2011 14:20	04/13/2011 14:48	N
S11V004341	B2C1N1	SW-846 6020A	SW-846 3050B	04/04/2011 10:20	04/04/2011 11:00	04/08/2011 14:20	04/13/2011 13:42	N
S11V004108	B2B1L6	MS TC-99	SW-846 3050B	02/24/2011 08:26	02/24/2011 09:20	03/31/2011 14:30	04/07/2011 16:03	N
S11V004125	B2B1L7	MS TC-99	SW-846 3050B	02/24/2011 08:26	02/24/2011 09:20	03/31/2011 14:30	04/07/2011 16:26	N
S11V004146	B2C1M2	MS TC-99	SW-846 3050B	02/25/2011 11:55	02/25/2011 12:40	03/31/2011 14:30	04/07/2011 16:30	N
S11V004167	B2C1M3	MS TC-99	SW-846 3050B	03/01/2011 13:35	03/01/2011 14:20	03/31/2011 14:30	04/07/2011 16:35	N
S11V004210	B2C1M5	MS TC-99	SW-846 3050B	03/03/2011 10:30	03/03/2011 11:40	03/31/2011 14:30	04/07/2011 16:40	N
S11V004252	B2C1M7	MS TC-99	SW-846 3050B	03/10/2011 12:00	03/10/2011 12:40	03/31/2011 14:30	04/07/2011 16:44	N
S11V004273	B2C1M8	MS TC-99	SW-846 3050B	03/21/2011 09:35	03/21/2011 10:15	04/06/2011 04:00	04/07/2011 15:04	N
S11V004294	B2C1M9	MS TC-99	SW-846 3050B	03/23/2011 11:00	03/23/2011 11:30	04/06/2011 04:00	04/07/2011 15:27	N
S11V004323	B2C1N0	MS TC-99	SW-846 3050B	03/24/2011 13:37	03/24/2011 14:40	04/06/2011 04:00	04/07/2011 15:31	N
S11V004343	B2C1N1	MS TC-99	SW-846 3050B	04/04/2011 10:20	04/04/2011 11:00	04/06/2011 04:00	04/07/2011 15:36	N
S11V004101	B2B1L6	MS TC-99	Vadose Water Digest	02/24/2011 08:26	02/24/2011 09:20	03/18/2011 15:00	04/07/2011 12:43	N
S11V004118	B2B1L7	MS TC-99	Vadose Water Digest	02/24/2011 08:26	02/24/2011 09:20	03/18/2011 15:00	04/07/2011 13:15	N
S11V004139	B2C1M2	MS TC-99	Vadose Water Digest	02/25/2011 11:55	02/25/2011 12:40	03/18/2011 15:00	04/07/2011 13:19	N
S11V004160	B2C1M3	MS TC-99	Vadose Water Digest	03/01/2011 13:35	03/01/2011 14:20	03/18/2011 15:00	04/07/2011 13:24	N
S11V004203	B2C1M5	MS TC-99	Vadose Water Digest	03/03/2011 10:30	03/03/2011 11:40	03/18/2011 15:00	04/07/2011 13:28	N
S11V004245	B2C1M7	MS TC-99	Vadose Water Digest	03/10/2011 12:00	03/10/2011 12:40	03/18/2011 15:00	04/07/2011 13:33	N
S11V004266	B2C1M8	MS TC-99	Vadose Water Digest	03/21/2011 09:35	03/21/2011 10:15	04/06/2011 01:45	04/07/2011 13:56	N
S11V004287	B2C1M9	MS TC-99	Vadose Water Digest	03/23/2011 11:00	03/23/2011 11:30	04/06/2011 01:45	04/07/2011 14:28	N
S11V004316	B2C1N0	MS TC-99	Vadose Water Digest	03/24/2011 13:37	03/24/2011 14:40	04/06/2011 01:45	04/07/2011 14:32	N
S11V004336	B2C1N1	MS TC-99	Vadose Water Digest	04/04/2011 10:20	04/04/2011 11:00	04/06/2011 01:45	04/07/2011 14:37	N

Holding Time Report: GEA

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004093	B2B1N6	GEA	N/A	03/14/2011 09:05	03/14/2011 10:10		03/30/2011 12:52	N
S11V004099	B2B1L6	GEA	N/A	02/24/2011 08:26	02/24/2011 09:20		05/04/2011 09:19	N
S11V004116	B2B1L7	GEA	N/A	02/24/2011 08:26	02/24/2011 09:20		05/05/2011 18:20	N
S11V004137	B2C1M2	GEA	N/A	02/25/2011 11:55	02/25/2011 12:40		05/06/2011 10:01	N
S11V004158	B2C1M3	GEA	N/A	03/01/2011 13:35	03/01/2011 14:20		05/08/2011 02:19	N
S11V004201	B2C1M5	GEA	N/A	03/03/2011 10:30	03/03/2011 11:40		05/08/2011 15:01	N
S11V004243	B2C1M7	GEA	N/A	03/10/2011 12:00	03/10/2011 12:40		05/09/2011 03:56	N
S11V004264	B2C1M8	GEA	N/A	03/21/2011 09:35	03/21/2011 10:15		05/09/2011 16:21	N
S11V004285	B2C1M9	GEA	N/A	03/23/2011 11:00	03/23/2011 11:30		05/10/2011 10:46	N
S11V004315	B2C1N0	GEA	N/A	03/24/2011 13:37	03/24/2011 14:40		05/11/2011 00:50	N
S11V004335	B2C1N1	GEA	N/A	04/04/2011 10:20	04/04/2011 11:00		05/12/2011 01:21	N

Holding Time Report: Strontium-89/90 by GPC

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004093	B2B1N6	Strontium-89/90/GPC	Separation	03/14/2011 09:05	03/14/2011 10:10		03/17/2011 15:30	N
S11V004110	B2B1L6	Strontium-89/90/GPC	Acid Digest/Separation	02/24/2011 08:26	02/24/2011 09:20	05/12/2011 21:40	05/13/2011 16:30	N
S11V004127	B2B1L7	Strontium-89/90/GPC	Acid Digest/Separation	02/24/2011 08:26	02/24/2011 09:20	05/12/2011 21:40	05/13/2011 16:30	N
S11V004148	B2C1M2	Strontium-89/90/GPC	Acid Digest/Separation	02/25/2011 11:55	02/25/2011 12:40	05/12/2011 21:40	05/13/2011 16:30	N
S11V004169	B2C1M3	Strontium-89/90/GPC	Acid Digest/Separation	03/01/2011 13:35	03/01/2011 14:20	05/12/2011 21:40	05/13/2011 16:30	N
S11V004212	B2C1M5	Strontium-89/90/GPC	Acid Digest/Separation	03/03/2011 10:30	03/03/2011 11:40	05/12/2011 21:40	05/13/2011 16:30	N
S11V004254	B2C1M7	Strontium-89/90/GPC	Acid Digest/Separation	03/10/2011 12:00	03/10/2011 12:40	05/12/2011 21:40	05/13/2011 16:30	N
S11V004275	B2C1M8	Strontium-89/90/GPC	Acid Digest/Separation	03/21/2011 09:35	03/21/2011 10:15	05/12/2011 21:40	05/13/2011 16:30	N
S11V004296	B2C1M9	Strontium-89/90/GPC	Acid Digest/Separation	03/23/2011 11:00	03/23/2011 11:30	05/12/2011 21:40	05/13/2011 16:30	N
S11V004325	B2C1N0	Strontium-89/90/GPC	Acid Digest/Separation	03/24/2011 13:37	03/24/2011 14:40	05/12/2011 21:40	05/13/2011 16:30	N
S11V004345	B2C1N1	Strontium-89/90/GPC	Acid Digest/Separation	04/04/2011 10:20	04/04/2011 11:00	05/12/2011 21:40	05/13/2011 16:30	N

Holding Time Report: Tritium by LSC

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004092	B2B1N6	Tritium/LSC	Separation	03/14/2011 09:05	03/14/2011 10:10		05/24/2011 16:55	N
S11V004113	B2B1L6	Tritium/LSC	Water Digest/Separation	02/24/2011 08:26	02/24/2011 09:20	05/13/2011 10:52	05/13/2011 17:35	N
S11V004130	B2B1L7	Tritium/LSC	Water Digest/Separation	02/24/2011 08:26	02/24/2011 09:20	05/13/2011 10:52	05/13/2011 17:35	N
S11V004151	B2C1M2	Tritium/LSC	Water Digest/Separation	02/25/2011 11:55	02/25/2011 12:40	05/13/2011 10:52	05/13/2011 17:35	N
S11V004172	B2C1M3	Tritium/LSC	Water Digest/Separation	03/01/2011 13:35	03/01/2011 14:20	05/13/2011 10:52	05/13/2011 17:35	N
S11V004215	B2C1M5	Tritium/LSC	Water Digest/Separation	03/03/2011 10:30	03/03/2011 11:40	05/13/2011 10:52	05/13/2011 17:35	N
S11V004257	B2C1M7	Tritium/LSC	Water Digest/Separation	03/10/2011 12:00	03/10/2011 12:40	05/13/2011 10:52	05/13/2011 17:35	N
S11V004278	B2C1M8	Tritium/LSC	Water Digest/Separation	03/21/2011 09:35	03/21/2011 10:15	05/13/2011 10:52	05/13/2011 17:35	N
S11V004299	B2C1M9	Tritium/LSC	Water Digest/Separation	03/23/2011 11:00	03/23/2011 11:30	05/13/2011 10:52	05/13/2011 17:35	N
S11V004328	B2C1N0	Tritium/LSC	Water Digest/Separation	03/24/2011 13:37	03/24/2011 14:40	05/13/2011 10:52	05/13/2011 17:35	N
S11V004348	B2C1N1	Tritium/LSC	Water Digest/Separation	04/04/2011 10:20	04/04/2011 11:00	05/13/2011 10:52	05/13/2011 17:35	N

Holding Time Report: Selenium-79 by LSC

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004093	B2B1N6	Selenium-79/LSC	Separation	03/14/2011 09:05	03/14/2011 10:10		03/22/2011 10:45	N
S11V004112	B2B1L6	Selenium-79/LSC	Acid Digest/Separation	02/24/2011 08:26	02/24/2011 09:20	05/16/2011 10:20	05/19/2011 10:20	N
S11V004129	B2B1L7	Selenium-79/LSC	Acid Digest/Separation	02/24/2011 08:26	02/24/2011 09:20	05/16/2011 10:20	05/19/2011 10:20	N
S11V004150	B2C1M2	Selenium-79/LSC	Acid Digest/Separation	02/25/2011 11:55	02/25/2011 12:40	05/16/2011 10:20	05/19/2011 10:20	N
S11V004171	B2C1M3	Selenium-79/LSC	Acid Digest/Separation	03/01/2011 13:35	03/01/2011 14:20	05/16/2011 10:20	05/19/2011 10:20	N
S11V004214	B2C1M5	Selenium-79/LSC	Acid Digest/Separation	03/03/2011 10:30	03/03/2011 11:40	05/16/2011 10:20	05/19/2011 10:20	N
S11V004256	B2C1M7	Selenium-79/LSC	Acid Digest/Separation	03/10/2011 12:00	03/10/2011 12:40	05/16/2011 10:20	05/19/2011 10:20	N
S11V004277	B2C1M8	Selenium-79/LSC	Acid Digest/Separation	03/21/2011 09:35	03/21/2011 10:15	05/16/2011 10:20	05/19/2011 10:20	N
S11V004298	B2C1M9	Selenium-79/LSC	Acid Digest/Separation	03/23/2011 11:00	03/23/2011 11:30	05/16/2011 10:20	05/19/2011 10:20	N
S11V004327	B2C1N0	Selenium-79/LSC	Acid Digest/Separation	03/24/2011 13:37	03/24/2011 14:40	05/16/2011 10:20	05/19/2011 10:20	N
S11V004347	B2C1N1	Selenium-79/LSC	Acid Digest/Separation	04/04/2011 10:20	04/04/2011 11:00	05/16/2011 10:20	05/19/2011 10:20	N

Holding Time Report: Carbon-14 by LSC

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004092	B2B1N6	Carbon-14/LSC	N/A	03/14/2011 09:05	03/14/2011 10:10		05/27/2011 11:25	N
S11V004113	B2B1L6	Carbon-14/LSC	Water Digest/Separation	02/24/2011 08:26	02/24/2011 09:20	05/13/2011 10:52	05/24/2011 22:18	N
S11V004130	B2B1L7	Carbon-14/LSC	Water Digest/Separation	02/24/2011 08:26	02/24/2011 09:20	05/13/2011 10:52	05/24/2011 22:18	N
S11V004151	B2C1M2	Carbon-14/LSC	Water Digest/Separation	02/25/2011 11:55	02/25/2011 12:40	05/13/2011 10:52	05/24/2011 22:18	N
S11V004172	B2C1M3	Carbon-14/LSC	Water Digest/Separation	03/01/2011 13:35	03/01/2011 14:20	05/13/2011 10:52	05/24/2011 22:18	N
S11V004215	B2C1M5	Carbon-14/LSC	Water Digest/Separation	03/03/2011 10:30	03/03/2011 11:40	05/13/2011 10:52	05/24/2011 22:18	N
S11V004257	B2C1M7	Carbon-14/LSC	Water Digest/Separation	03/10/2011 12:00	03/10/2011 12:40	05/13/2011 10:52	05/24/2011 22:18	N
S11V004278	B2C1M8	Carbon-14/LSC	Water Digest/Separation	03/21/2011 09:35	03/21/2011 10:15	05/13/2011 10:52	05/24/2011 22:18	N
S11V004299	B2C1M9	Carbon-14/LSC	Water Digest/Separation	03/23/2011 11:00	03/23/2011 11:30	05/13/2011 10:52	05/24/2011 22:18	N
S11V004328	B2C1N0	Carbon-14/LSC	Water Digest/Separation	03/24/2011 13:37	03/24/2011 14:40	05/13/2011 10:52	05/24/2011 22:18	N
S11V004348	B2C1N1	Carbon-14/LSC	Water Digest/Separation	04/04/2011 10:20	04/04/2011 11:00	05/13/2011 10:52	05/24/2011 22:18	N
S11V004099	B2B1L6	Carbon-14/LSC	Separation	02/24/2011 08:26	02/24/2011 09:20		06/01/2011 10:00	N
S11V004116	B2B1L7	Carbon-14/LSC	Separation	02/24/2011 08:26	02/24/2011 09:20		06/06/2011 15:00	N
S11V004137	B2C1M2	Carbon-14/LSC	Separation	02/25/2011 11:55	02/25/2011 12:40		06/01/2011 10:00	N
S11V004158	B2C1M3	Carbon-14/LSC	Separation	03/01/2011 13:35	03/01/2011 14:20		06/01/2011 10:00	N
S11V004201	B2C1M5	Carbon-14/LSC	Separation	03/03/2011 10:30	03/03/2011 11:40		06/01/2011 10:00	N
S11V004243	B2C1M7	Carbon-14/LSC	Separation	03/10/2011 12:00	03/10/2011 12:40		06/01/2011 10:00	N
S11V004264	B2C1M8	Carbon-14/LSC	Separation	03/21/2011 09:35	03/21/2011 10:15		06/01/2011 10:00	N
S11V004285	B2C1M9	Carbon-14/LSC	Separation	03/23/2011 11:00	03/23/2011 11:30		06/01/2011 10:00	N
S11V004315	B2C1N0	Carbon-14/LSC	Separation	03/24/2011 13:37	03/24/2011 14:40		06/01/2011 10:00	N
S11V004335	B2C1N1	Carbon-14/LSC	Separation	04/04/2011 10:20	04/04/2011 11:00		06/01/2011 10:00	N

Holding Time Report: Nickel-63 by LSC

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004093	B2B1N6	Nickel-63/LSC	Separation	03/14/2011 09:05	03/14/2011 10:10		03/23/2011 15:30	N
S11V004111	B2B1L6	Nickel-63/LSC	Acid Digest/Separation	02/24/2011 08:26	02/24/2011 09:20	05/18/2011 08:59	05/20/2011 23:07	N
S11V004128	B2B1L7	Nickel-63/LSC	Acid Digest/Separation	02/24/2011 08:26	02/24/2011 09:20	05/18/2011 08:59	05/20/2011 23:07	N
S11V004149	B2C1M2	Nickel-63/LSC	Acid Digest/Separation	02/25/2011 11:55	02/25/2011 12:40	05/18/2011 08:59	05/20/2011 23:07	N
S11V004170	B2C1M3	Nickel-63/LSC	Acid Digest/Separation	03/01/2011 13:35	03/01/2011 14:20	05/18/2011 08:59	05/20/2011 23:07	N
S11V004213	B2C1M5	Nickel-63/LSC	Acid Digest/Separation	03/03/2011 10:30	03/03/2011 11:40	05/18/2011 08:59	05/20/2011 23:07	N
S11V004255	B2C1M7	Nickel-63/LSC	Acid Digest/Separation	03/10/2011 12:00	03/10/2011 12:40	05/18/2011 08:59	05/20/2011 23:07	N
S11V004276	B2C1M8	Nickel-63/LSC	Acid Digest/Separation	03/21/2011 09:35	03/21/2011 10:15	05/18/2011 08:59	05/20/2011 23:07	N
S11V004297	B2C1M9	Nickel-63/LSC	Acid Digest/Separation	03/23/2011 11:00	03/23/2011 11:30	05/18/2011 08:59	05/20/2011 23:07	N
S11V004326	B2C1N0	Nickel-63/LSC	Acid Digest/Separation	03/24/2011 13:37	03/24/2011 14:40	05/18/2011 08:59	05/20/2011 23:07	N
S11V004346	B2C1N1	Nickel-63/LSC	Acid Digest/Separation	04/04/2011 10:20	04/04/2011 11:00	05/18/2011 08:59	05/20/2011 23:07	N

Holding Time Report: Iodine-129 by GEA

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004092	B2B1N6		Separation	03/14/2011 09:05	03/14/2011 10:10		03/31/2011 15:30	N
S11V004099	B2B1L6	Iodine-129/GEA	Fusion Digest/Separation	02/24/2011 08:26	02/24/2011 09:20		05/24/2011 16:10	N
S11V004116	B2B1L7	Iodine-129/GEA	Fusion Digest/Separation	02/24/2011 08:26	02/24/2011 09:20		05/24/2011 16:10	N
S11V004137	B2C1M2	Iodine-129/GEA	Fusion Digest/Separation	02/25/2011 11:55	02/25/2011 12:40		05/24/2011 16:10	N
S11V004158	B2C1M3	Iodine-129/GEA	Fusion Digest/Separation	03/01/2011 13:35	03/01/2011 14:20		05/24/2011 16:10	N
S11V004201	B2C1M5	Iodine-129/GEA	Fusion Digest/Separation	03/03/2011 10:30	03/03/2011 11:40		05/24/2011 16:10	N
S11V004243	B2C1M7	Iodine-129/GEA	Fusion Digest/Separation	03/10/2011 12:00	03/10/2011 12:40		05/24/2011 16:10	N
S11V004264	B2C1M8	Iodine-129/GEA	Fusion Digest/Separation	03/21/2011 09:35	03/21/2011 10:15		05/24/2011 16:10	N
S11V004285	B2C1M9	Iodine-129/GEA	Fusion Digest/Separation	03/23/2011 11:00	03/23/2011 11:30		05/24/2011 16:10	N
S11V004315	B2C1N0	Iodine-129/GEA	Fusion Digest/Separation	03/24/2011 13:37	03/24/2011 14:40		05/24/2011 16:10	N
S11V004335	B2C1N1	Iodine-129/GEA	Fusion Digest/Separation	04/04/2011 10:20	04/04/2011 11:00		05/24/2011 16:10	N

Holding Time Report: Am-241, Iso Cm by /AEA

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004093	B2B1N6	Am-241, Iso Cm/AEA	Separaton	03/14/2011 09:05	03/14/2011 10:10		03/22/2011 11:50	N
S11V004109	B2B1L6	Am-241, Iso Cm/AEA	Acid Digest/Separation	02/24/2011 08:26	02/24/2011 09:20	05/12/2011 21:50	05/17/2011 10:20	N
S11V004126	B2B1L7	Am-241, Iso Cm/AEA	Acid Digest/Separation	02/24/2011 08:26	02/24/2011 09:20	05/12/2011 21:50	05/17/2011 10:20	N
S11V004147	B2C1M2	Am-241, Iso Cm/AEA	Acid Digest/Separation	02/25/2011 11:55	02/25/2011 12:40	05/12/2011 21:50	05/17/2011 10:20	N
S11V004168	B2C1M3	Am-241, Iso Cm/AEA	Acid Digest/Separation	03/01/2011 13:35	03/01/2011 14:20	05/12/2011 21:50	05/17/2011 10:20	N
S11V004211	B2C1M5	Am-241, Iso Cm/AEA	Acid Digest/Separation	03/03/2011 10:30	03/03/2011 11:40	05/12/2011 21:50	05/17/2011 10:20	N
S11V004253	B2C1M7	Am-241, Iso Cm/AEA	Acid Digest/Separation	03/10/2011 12:00	03/10/2011 12:40	05/12/2011 21:50	05/17/2011 10:20	N
S11V004274	B2C1M8	Am-241, Iso Cm/AEA	Acid Digest/Separation	03/21/2011 09:35	03/21/2011 10:15	05/12/2011 21:50	05/17/2011 10:20	N
S11V004295	B2C1M9	Am-241, Iso Cm/AEA	Acid Digest/Separation	03/23/2011 11:00	03/23/2011 11:30	05/12/2011 21:50	05/17/2011 10:20	N
S11V004324	B2C1N0	Am-241, Iso Cm/AEA	Acid Digest/Separation	03/24/2011 13:37	03/24/2011 14:40	05/12/2011 21:50	05/17/2011 10:20	N
S11V004344	B2C1N1	Am-241, Iso Cm/AEA	Acid Digest/Separation	04/04/2011 10:20	04/04/2011 11:00	05/12/2011 21:50	05/17/2011 10:20	N

Holding Time Report: Iso-Plutonium by AEA

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004093	B2B1N6	Iso-Plutonium/AEA	Separation	03/14/2011 09:05	03/14/2011 10:10		03/30/2011 14:50	N
S11V004109	B2B1L6	Iso-Plutonium/AEA	Acid Digest/Separation	02/24/2011 08:26	02/24/2011 09:20	05/12/2011 21:50	05/17/2011 10:48	N
S11V004126	B2B1L7	Iso-Plutonium/AEA	Acid Digest/Separation	02/24/2011 08:26	02/24/2011 09:20	05/12/2011 21:50	05/17/2011 10:48	N
S11V004147	B2C1M2	Iso-Plutonium/AEA	Acid Digest/Separation	02/25/2011 11:55	02/25/2011 12:40	05/12/2011 21:50	05/17/2011 10:48	N
S11V004168	B2C1M3	Iso-Plutonium/AEA	Acid Digest/Separation	03/01/2011 13:35	03/01/2011 14:20	05/12/2011 21:50	05/17/2011 10:48	N
S11V004211	B2C1M5	Iso-Plutonium/AEA	Acid Digest/Separation	03/03/2011 10:30	03/03/2011 11:40	05/12/2011 21:50	05/17/2011 10:48	N
S11V004253	B2C1M7	Iso-Plutonium/AEA	Acid Digest/Separation	03/10/2011 12:00	03/10/2011 12:40	05/12/2011 21:50	05/17/2011 10:48	N
S11V004274	B2C1M8	Iso-Plutonium/AEA	Acid Digest/Separation	03/21/2011 09:35	03/21/2011 10:15	05/12/2011 21:50	05/17/2011 10:48	N
S11V004295	B2C1M9	Iso-Plutonium/AEA	Acid Digest/Separation	03/23/2011 11:00	03/23/2011 11:30	05/12/2011 21:50	05/17/2011 10:48	N
S11V004324	B2C1N0	Iso-Plutonium/AEA	Acid Digest/Separation	03/24/2011 13:37	03/24/2011 14:40	05/12/2011 21:50	05/17/2011 10:48	N
S11V004344	B2C1N1	Iso-Plutonium/AEA	Acid Digest/Separation	04/04/2011 10:20	04/04/2011 11:00	05/12/2011 21:50	05/17/2011 10:48	N

Holding Time Report: SVOA

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004090	B2B1N6	SW-846 8270D	SW-846 3520C	03/14/2011 09:05	03/14/2011 10:10	03/23/2011 14:26	03/29/2011 13:35	N
S11V004104	B2B1L6	SW-846 8270D	SW-846 3540C	02/24/2011 08:26	02/24/2011 09:20	02/28/2011 14:14	03/02/2011 15:48	N
S11V004121	B2B1L7	SW-846 8270D	SW-846 3540C	02/24/2011 08:26	02/24/2011 09:20	02/28/2011 14:14	03/02/2011 17:57	N
S11V004142	B2C1M2	SW-846 8270D	SW-846 3540C	02/25/2011 11:55	02/25/2011 12:40	03/09/2011 14:43	03/28/2011 18:57	N
S11V004163	B2C1M3	SW-846 8270D	SW-846 3540C	03/01/2011 13:35	03/01/2011 14:20	03/09/2011 14:43	03/28/2011 19:42	N
S11V004206	B2C1M5	SW-846 8270D	SW-846 3540C	03/03/2011 10:30	03/03/2011 11:40	03/09/2011 14:43	03/28/2011 16:41	N
S11V004248	B2C1M7	SW-846 8270D	SW-846 3540C	03/10/2011 12:00	03/10/2011 12:40	03/21/2011 10:30	03/28/2011 21:58	N
S11V004269	B2C1M8	SW-846 8270D	SW-846 3540C	03/21/2011 09:35	03/21/2011 10:15	03/28/2011 10:25	04/04/2011 17:50	N
S11V004290	B2C1M9	SW-846 8270D	SW-846 3540C	03/23/2011 11:00	03/23/2011 11:30	03/28/2011 10:25	04/04/2011 20:06	N
S11V004319	B2C1N0	SW-846 8270D	SW-846 3540C	03/24/2011 13:37	03/24/2011 14:40	03/28/2011 10:25	04/04/2011 20:51	N
S11V004339	B2C1N1	SW-846 8270D	SW-846 3540C	04/04/2011 10:20	04/04/2011 11:00	04/06/2011 14:20	04/12/2011 14:20	N

Holding Time Report: PCB

Lab Sample ID	Customer Sample Id	Method	Prep Method	Sample Date	Received Date	Preparation Date	Analysis Date	Missed Holding Time
S11V004102	B2B1L6	SW-846 8082A	SW-846 3540C	02/24/2011 08:26	02/24/2011 09:20	03/02/2011 11:10	03/10/2011 23:05	N
S11V004119	B2B1L7	SW-846 8082A	SW-846 3540C	02/24/2011 08:26	02/24/2011 09:20	03/02/2011 11:10	03/10/2011 15:03	N
S11V004140	B2C1M2	SW-846 8082A	SW-846 3540C	02/25/2011 11:55	02/25/2011 12:40	03/02/2011 11:10	03/11/2011 00:41	N
S11V004161	B2C1M3	SW-846 8082A	SW-846 3540C	03/01/2011 13:35	03/01/2011 14:20	03/17/2011 10:40	03/23/2011 16:00	N
S11V004195	B2B1N6	SW-846 8082A	SW-846 3520C	03/14/2011 09:05	03/14/2011 10:10	03/24/2011 08:33	03/25/2011 12:56	N

Attachment 4

ADDITIONAL QC RESULTS

HG Analysis Matrix Spike/Matrix Spike Duplicate Summary for C Farm WMC 2011-C8100

Client Sample Id	Sample Id	Analyte	MS Recovery %	MSD Recovery %	Lower Limit	Upper Limit	RPD %	RPD Limit
B2B1L6	S11V004098	Mercury	91.8	95.0	75	125	3.33	20
B2C1M8	S11V004263	Mercury	87.4	87.2	75	125	0.206	20
B2C1N0	S11V004314	Mercury	94.8	91.5	75	125	3.52	20

PCB 222S Analysis Matrix Spike/Matrix Spike Duplicate Summary for C Farm WMC 2011-C8100

Client Sample Id	Sample Id	Analyte	MS Recovery %	MSD Recovery %	Lower Limit	Upper Limit	RPD %	RPD Limit
B2B1L7	S11V004119	Aroclor-1254	101	98.7	75	125	1.87	30
B2B1N6	S11V004195	Aroclor-1254	82.8	83.4	51	128	0.674	30
B2C1M3	S11V004161	Aroclor-1254	80.2	81.0	75	125	0.987	30

SVOA 222S #2 Analysis Matrix Spike/Matrix Spike Duplicate Summary for C Farm WMC 2011-C8100

Client Sample Id	Sample Id	Analyte	MS Recovery %	MSD Recovery %	Lower Limit	Upper Limit	RPD %	RPD Limit
B2B1L6	S11V004104	1,2,4-Trichlorobenzene	96.6	99.8	46	94	3.32	30
		2,4-Dinitrotoluene	90.0	95.2	60	99	5.64	30
		2-Chlorophenol	91.3	92.4	48	93	1.16	30
		4-Chloro-3-methylphenol	97.4	105	52	94	7.16	30
		Acenaphthene	102	104	49	102	2.74	30
		N-Nitrosodipropylamine	102	105	43	89	2.59	30
		Pentachlorophenol	96.1	95.8	46	115	0.292	30
		Pyrene	114	126	63	106	9.78	30
B2B1N6	S11V004090	1,2,4-Trichlorobenzene	39.6	39.7	24	79	0.452	30
		1,4-Dichlorobenzene	37.1	38.4	22	135	3.53	30
		2,4-Dinitrotoluene	88.0	91.4	55	105	3.74	30
		2-Chlorophenol	76.1	76.0	40	106	0.135	30
		4-Chloro-3-methylphenol	80.1	80.4	50	97	0.284	30
		4-Nitrophenol	92.0	87.9	46	97	4.57	30
		Acenaphthene	69.0	69.5	34	106	0.752	30
		N-Nitrosodipropylamine	76.7	81.3	44	99	5.82	30
		Pentachlorophenol	80.8	82.1	50	96	1.48	30
		Phenol	81.0	81.4	41	107	0.523	30
		Pyrene	83.6	90.6	65	111	8.07	30
B2C1M5	S11V004206	1,2,4-Trichlorobenzene	70.5	73.6	46	94	4.37	30
		1,4-Dichlorobenzene	68.8	68.8	41	97	0.0596	30
		2,4-Dinitrotoluene	96.2	97.9	60	99	1.74	30
		2-Chlorophenol	70.3	75.4	48	93	7.00	30
		4-Chloro-3-methylphenol	75.6	84.4	52	94	10.9	30
		4-Nitrophenol	93.0	100	54	110	7.34	30
		Acenaphthene	83.3	85.9	49	102	3.10	30
		N-Nitrosodipropylamine	70.7	76.1	43	89	7.43	30
		Pentachlorophenol	90.4	98.3	46	115	8.36	30
		Phenol	72.8	78.9	47	96	8.02	30
		Pyrene	94.9	102	63	106	7.38	30
B2C1M7	S11V004248	1,2,4-Trichlorobenzene	80.5	82.0	46	94	1.86	30
		1,4-Dichlorobenzene	78.7	80.6	41	97	2.43	30
		2,4-Dinitrotoluene	98.3	99.6	60	99	1.32	30
		2-Chlorophenol	80.1	84.2	48	93	5.03	30
		4-Chloro-3-methylphenol	85.2	85.5	52	94	0.334	30
		4-Nitrophenol	103	92.6	54	110	10.6	30
		Acenaphthene	88.9	91.6	49	102	3.04	30
		N-Nitrosodipropylamine	79.3	79.6	43	89	0.403	30
		Pentachlorophenol	90.9	96.3	46	115	5.76	30
		Phenol	82.5	87.0	47	96	5.33	30
		Pyrene	99.6	105	63	106	5.43	30
B2C1M8	S11V004269	1,2,4-Trichlorobenzene	78.0	77.9	46	94	0.158	30
		1,4-Dichlorobenzene	72.1	73.8	41	97	2.29	30

SVOA 222S #2 Analysis Matrix Spike/Matrix Spike Duplicate Summary for C Farm WMC 2011-C8100

Client Sample Id	Sample Id	Analyte	MS Recovery %	MSD Recovery %	Lower Limit	Upper Limit	RPD %	RPD Limit
B2C1M8	S11V004269	2,4-Dinitrotoluene	97.2	95.7	60	99	1.56	30
		2-Chlorophenol	80.0	80.5	48	93	0.643	30
		4-Chloro-3-methylphenol	85.6	84.7	52	94	1.09	30
		4-Nitrophenol	98.2	96.9	54	110	1.29	30
		Acenaphthene	89.3	87.8	49	102	1.70	30
		N-Nitrosodipropylamine	78.1	76.5	43	89	2.00	30
		Pentachlorophenol	95.5	97.1	46	115	1.67	30
		Phenol	83.4	82.7	47	96	0.938	30
		Pyrene	98.9	96.2	63	106	2.79	30
B2C1N1	S11V004339	1,2,4-Trichlorobenzene	75.6	73.4	46	94	2.94	30
		1,4-Dichlorobenzene	69.4	70.0	41	97	0.834	30
		2,4-Dinitrotoluene	96.0	96.2	60	99	0.138	30
		2-Chlorophenol	78.2	78.1	48	93	0.138	30
		4-Chloro-3-methylphenol	84.3	82.8	52	94	1.83	30
		4-Nitrophenol	94.5	88.5	54	110	6.50	30
		Acenaphthene	87.3	85.6	49	102	1.96	30
		N-Nitrosodipropylamine	74.8	76.2	43	89	1.84	30
		Pentachlorophenol	91.1	94.7	46	115	3.90	30
		Phenol	80.9	80.0	47	96	1.12	30
		Pyrene	95.5	99.3	63	106	3.88	30

25983

FORM 2
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: 222-S Contract:

Lab Code: Case No.: SAS No.: SDG No.: 2011C8100

Level: (low/med) LOW

	CHG SAMPLE NO.	S1 (FBP)#	S2 (2FP)#	S3 (NBZ)#	S4 #	S5 (TBP)#	S6 (TPH)#	S7 #	S8 #	TOT OUT
01	BLANK	79	77	77	80	85	107			0
02	LCS	86	89	86	93	95	103			0
03	S11V004104	100	75	87	89	90	121			0
04	S11V004104MS	105	79	96	89	86	119			0
05	S11V004104MS	106	88	98	99	96	130*			1
06	S11V004121	101	77	86	90	93	118			0
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

		QC LIMITS
S1 (FBP)	= 2-Fluorobiphenyl	(48-108)
S2 (2FP)	= 2-Fluorophenol	(42- 99)
S3 (NBZ)	= Nitrobenzene-d5	(44-100)
S4	= Phenol-d6	(45-103)
S5 (TBP)	= 2,4,6-Tribromophenol	(49-111)
S6 (TPH)	= Terphenyl-d14	(55-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

Data File: 11030205LCS.D
Report Date: 21-Apr-2011 11:19

WSCF

RECOVERY REPORT

Client Name: CHG
Sample Matrix: SOLID
Lab Smp Id: LCS
Level: LOW
Data Type: MS DATA
SpikeList File: 222solid.spk
Sublist File: all.sub
Method File: \\APWSCF02\slab\chem\tuvok.i\2011\110302.b\CFarm110223.m
Misc Info: Added 2.5uL Int Std HNF-N-1895-24.02

Client SDG: 2011C8100
Fraction: SV
Client Smp ID: LCS
Operator: cjo
SampleType: LCS
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
19 1,2,4-Trichloroben	2000.0	1726.4	86.32	46-94
8 2-Chlorophenol	4000.0	3440.3	86.01	48-93
13 N-Nitroso-di-n-pro	2000.0	1745.4	87.27	43-89
23 4-Chloro-3-Methylp	4000.0	3493.1	87.33	52-94
29 Acenaphthene	2000.0	1746.3	87.32	49-102
30 2,4-Dinitrotoluene	2000.0	1861.9	93.10	60-99
195 Pentachlorophenol	4000.0	4229.7	105.74	46-115
36 Pyrene	2000.0	2087.6	104.38	63-106

SURROGATE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
$ 5 2-Fluorophenol	4000.0	3551.5	88.79	42-99
$ 7 Phenol-d6	4000.0	3706.1	92.65	45-103
$ 16 Nitrobenzene-d5	2000.0	1718.9	85.95	44-100
$ 26 2-Fluorobiphenyl	2000.0	1727.1	86.36	48-108
$ 32 2,4,6-Tribromophen	4000.0	3814.3	95.36	49-111
$ 37 Terphenyl-d14	2000.0	2065.6	103.28	55-122

26487

FORM 2
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: 222-S Contract:

Lab Code: Case No.: SAS No.: SDG No.: 110328CFARM

Level:(low/med) LOW

	CHG SAMPLE NO.	S1 (FBP)#	S2 (2FP)#	S3 (NBZ)#	S4 #	S5 (TBP)#	S6 (TPH)#	S7 #	S8 #	TOT OUT
01	PRPBLK	92	83	85	90	101	109			0
02	LCS	91	82	79	89	103	98			0
03	S11V004248	87	76	78	84	96	111			0
04	S11V004248MS	87	81	78	88	103	100			0
05	S11V004248MS	93	84	84	90	106	107			0
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

		QC LIMITS
S1 (FBP)	= 2-Fluorobiphenyl	(48-108)
S2 (2FP)	= 2-Fluorophenol	(42- 99)
S3 (NBZ)	= Nitrobenzene-d5	(44-100)
S4	= Phenol-d6	(45-103)
S5 (TBP)	= 2,4,6-Tribromophenol	(49-111)
S6 (TPH)	= Terphenyl-d14	(55-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

Data File: 11032816_LCS.D Page 1
Report Date: 11-Apr-2011 15:41

WSCF

RECOVERY REPORT

Client Name: CHG
Client SDG: 110328CFARM
Sample Matrix: SOLID
Fraction: SV
Lab Smp Id: LCS
Client Smp ID: LCS
Level: LOW
Operator: cjo
Data Type: MS DATA
SampleType: LCS
SpikeList File: 222LCS_2010S.spk
Quant Type: ISTD
Sublist File: NTC+TC.sub
Method File: \\APWSCF02\slab\chem\tuvok.i\2011\110328_CFARM.B\TC_NTC_110323.
Misc Info: Added 2.0ul Int.Std. HNF-N-1895-37.01

SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
11 Phenol	4000.0	3355.8	83.90	47-96
16 1,4-Dichlorobenzen	2000.0	1635.4	81.77	41-97
31 1,2,4-Trichloroben	2000.0	1656.1	82.81	46-94
14 2-Chlorophenol	4000.0	3300.4	82.51	48-93
21 N-Nitroso-di-n-pro	2000.0	1564.9	78.25	43-89
36 4-Chloro-3-Methylp	4000.0	3371.3	84.28	52-94
47 Acenaphthene	2000.0	1829.1	91.46	49-102
52 4-Nitrophenol	4000.0	4078.2	101.95	54-110
53 2,4-Dinitrotoluene	2000.0	2022.2	101.11*	60-99
65 Pentachlorophenol	4000.0	3599.0	89.98	46-115
72 Pyrene	2000.0	1943.3	97.17	63-106

SURROGATE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
$ 7 2-Fluorophenol	4000.0	3284.3	82.11	42-99
$ 10 Phenol-d6	4000.0	3548.8	88.72	45-103
$ 24 Nitrobenzene-d5	2000.0	1579.5	78.97	44-100
$ 41 2-Fluorobiphenyl	2000.0	1813.9	90.69	48-108
$ 62 2,4,6-Tribromophen	4000.0	4136.0	103.40	49-111
$ 73 Terphenyl-d14	2000.0	1972.0	98.60	55-122

26489

FORM 2
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: 110328CFRM

Level:(low/med) LOW

	CHG SAMPLE NO.	S1 (FBP)#	S2 (2FP)#	S3 (NBZ)#	S4 #	S5 (TBP)#	S6 (TPH)#	S7 #	S8 #	TOT OUT
01	PRPBLK	84	72	74	77	90	101			0
02	LCS	92	82	83	87	100	109			0
03	S11V004206	88	76	77	82	99	108			0
04	S11V004206MS	84	75	75	81	104	100			0
05	S11V004206MS	87	77	76	82	107	109			0
06	S11V004142	86	75	75	80	100	101			0
07	S11V004163	85	73	72	79	101	100			0
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

		QC LIMITS
S1 (FBP)	= 2-Fluorobiphenyl	(48-108)
S2 (2FP)	= 2-Fluorophenol	(42- 99)
S3 (NBZ)	= Nitrobenzene-d5	(44-100)
S4	= Phenol-d6	(45-103)
S5 (TBP)	= 2,4,6-Tribromophenol	(49-111)
S6 (TPH)	= Terphenyl-d14	(55-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

FORM 3
SOIL SEMIVOLATILE LAB CONTROL SAMPLE

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: 110328CFRM

Matrix Spike - CHG Sample No.: LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
1,2,4-Trichlorobenzene	2000.0		1559.8	78	46- 94
1,4-Dichlorobenzene	2000.0		1529.2	76	41- 97
2,4-Dinitrotoluene	2000.0		1864.1	93	60- 99
Acenaphthene	2000.0		1737.3	87	49-102
4-Chloro-3-Methylphenol	4000.0		3221.2	80	52- 94
2-Chlorophenol	4000.0		3181.7	80	48- 93
N-Nitroso-di-n-prop.(1)	2000.0		1571.2	78	43- 89
Phenol	4000.0		3281.4	82	47- 96
4-Nitrophenol	4000.0		3771.3	94	54-110
Pentachlorophenol	4000.0		3631.5	91	46-115
Pyrene	2000.0		2087.2	104	63-106

DRT 4-14-11

(1) N-Nitroso-di-n-propylamine

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 11 outside limits

COMMENTS: _____

FORM III SV

26493

FORM 2
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: 222-S Contract:

Lab Code: Case No.: SAS No.: SDG No.: 110329CFARM

	CHG SAMPLE NO.	S1 (FBP)#	S2 (2FP)#	S3 (NBZ)#	S4 #	S5 (TBP)#	S6 (TPH)#	S7 #	S8 #	TOT OUT
01	PRPBLK	36	69	75	77	82	100			0
02	LCS	55	78	83	84	93	97			0
03	S11V004090	54	79	84	85	88	99			0
04	S11V004090MS	54	78	83	84	92	90			0
05	S11V004090MS	44	77	84	85	89	95			0
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

		QC LIMITS
S1 (FBP)	= 2-Fluorobiphenyl	(27- 91)
S2 (2FP)	= 2-Fluorophenol	(38-109)
S3 (NBZ)	= Nitrobenzene-d5	(43-108)
S4	= Phenol-d6	(39-115)
S5 (TBP)	= 2,4,6-Tribromophenol	(48-112)
S6 (TPH)	= Terphenyl-d14	(58-119)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

Data File: 11032906LCS.D
Report Date: 12-Apr-2011 09:32

WSCF

RECOVERY REPORT

Client Name: CHG
Sample Matrix: LIQUID
Lab Smp Id: LCS
Level: LOW
Data Type: MS DATA
SpikeList File: 222LCS_2010L.spk
Sublist File: NTC+TC.sub
Method File: \\APWSCF02\slab\chem\tuvok.i\2011\110329_CFARM.B\TCNTC110323.m
Misc Info: Added 2.0ul Int.Std. HNF-N-1895-37.01

Client SDG: 110329CFARM
Fraction: SV
Client Smp ID: LCS
Operator: cjo
SampleType: LCS
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
11 Phenol	1142.8	911.66	79.77	41-107
16 1,4-Dichlorobenzen	571.43	206.11	36.07	22-74
31 1,2,4-Trichloroben	571.43	219.94	38.49	24-79
14 2-Chlorophenol	1142.8	858.96	75.16	40-106
21 N-Nitroso-di-n-pro	571.43	454.03	79.45	44-99
36 4-Chloro-3-Methylp	1142.8	903.49	79.06	50-97
47 Acenaphthene	571.43	392.79	68.74	34-106
52 4-Nitrophenol	1142.8	1027.4	89.90	46-97
53 2,4-Dinitrotoluene	571.43	517.24	90.52	55-105
65 Pentachlorophenol	1142.8	960.41	84.04	50-96
72 Pyrene	571.43	521.01	91.18	65-111

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 7 2-Fluorophenol	1142.8	888.60	77.75	38-109
$ 10 Phenol-d6	1142.8	961.12	84.10	39-115
$ 24 Nitrobenzene-d5	571.43	472.82	82.74	43-108
$ 41 2-Fluorobiphenyl	571.43	316.22	55.34	27-91
$ 62 2,4,6-Tribromophen	1142.8	1059.5	92.71	48-112
$ 73 Terphenyl-d14	571.43	555.04	97.13	58-119

26760

FORM 2
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: 222-S Contract:

Lab Code: Case No.: SAS No.: SDG No.: CFARM040411

Level:(low/med) LOW

	CHG SAMPLE NO.	S1 (FBP)#	S2 (2FP)#	S3 (NBZ)#	S4 #	S5 (TBP)#	S6 (TPH)#	S7 #	S8 #	TOT OUT
01	BLANK	110*	82	97	86	92	129*			2
02	LCS	89	82	80	87	99	100			0
03	V004269	88	80	72	86	88	106			0
04	4269MS	87	83	79	88	102	102			0
05	4269MSD	82	80	75	85	98	99			0
06	V004290	84	77	67	85	99	105			0
07	V004319	79	70	66	76	87	95			0
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

		QC LIMITS
S1 (FBP)	= 2-Fluorobiphenyl	(48-108)
S2 (2FP)	= 2-Fluorophenol	(42- 99)
S3 (NBZ)	= Nitrobenzene-d5	(44-100)
S4	= Phenol-d6	(45-103)
S5 (TBP)	= 2,4,6-Tribromophenol	(49-111)
S6 (TPH)	= Terphenyl-d14	(55-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

Data File: 11040406LCS.D
Report Date: 13-Apr-2011 10:22

WSCF

RECOVERY REPORT

Client Name: CHG
Sample Matrix: SOLID
Lab Smp Id: LCS
Level: LOW
Data Type: MS DATA
SpikeList File: 222LCS_2010S.spk
Sublist File: NTC+TC.sub
Method File: \\APWSCF02\slab\chem\tuvok.i\2011\110404.B\TCNTC110323.m
Misc Info: Added 2.0ul Int.Std. HNF-N-1895-37.01

Client SDG: CFARM040411
Fraction: SV
Client Smp ID: LCS
Operator: cjo
SampleType: LCS
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
11 Phenol	40000	32577	81.44	47-96
16 1,4-Dichlorobenzen	20000	14939	74.70	41-97
31 1,2,4-Trichloroben	20000	15475	77.37	46-94
14 2-Chlorophenol	40000	31483	78.71	48-93
21 N-Nitroso-di-n-pro	20000	15725	78.62	43-89
36 4-Chloro-3-Methylp	40000	32252	80.63	52-94
47 Acenaphthene	20000	17513	87.57	49-102
52 4-Nitrophenol	40000	38463	96.16	54-110
53 2,4-Dinitrotoluene	20000	19166	95.83	60-99
65 Pentachlorophenol	40000	37071	92.68	46-115
72 Pyrene	20000	18918	94.59	63-106

SURROGATE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
$ 7 2-Fluorophenol	40000	32638	81.60	42-99
$ 10 Phenol-d6	40000	34726	86.81	45-103
$ 24 Nitrobenzene-d5	20000	16030	80.15	44-100
$ 41 2-Fluorobiphenyl	20000	17768	88.84	48-108
$ 62 2,4,6-Tribromophen	40000	39694	99.24	49-111
$ 73 Terphenyl-d14	20000	19961	99.80	55-122

26836

FORM 2
SOIL SEMIVOLATILE SURROGATE RECOVERY

Lab Name: 222-S Contract:

Lab Code: Case No.: SAS No.: SDG No.: CFARM041211

Level:(low/med) LOW

	CHG SAMPLE NO.	S1 (FBP)#	S2 (2FP)#	S3 (NBZ)#	S4 #	S5 (TBP)#	S6 (TPH)#	S7 #	S8 #	TOT OUT
01	BLANK	87	78	76	82	86	104			0
02	LCS	89	79	79	84	97	106			0
03	S11V004339	85	76	69	81	92	96			0
04	4339MS	85	78	76	84	100	97			0
05	4339MSD	84	79	73	84	99	100			0
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

		QC LIMITS
S1 (FBP)	= 2-Fluorobiphenyl	(48-108)
S2 (2FP)	= 2-Fluorophenol	(42- 99)
S3 (NBZ)	= Nitrobenzene-d5	(44-100)
S4	= Phenol-d6	(45-103)
S5 (TBP)	= 2,4,6-Tribromophenol	(49-111)
S6 (TPH)	= Terphenyl-d14	(55-122)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

Data File: 11041206LCS.D
Report Date: 18-Apr-2011 10:30

WSCF

RECOVERY REPORT

Client Name: CHG
Sample Matrix: SOLID
Lab Smp Id: LCS
Level: LOW
Data Type: MS DATA
SpikeList File: 222LCS_2010S.spk
Sublist File: NTC+TC.sub
Method File: \\APWSCF02\slab\chem\tuvok.i\2011\110412.B\TCNTC110323.m
Misc Info: Added 2.5ul Int.Std. HNF-N-1895-55.01

Client SDG: CFARM041211
Fraction: SV
Client Smp ID: LCS
Operator: cjo
SampleType: LCS
Quant Type: ISTD

SPIKE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
11 Phenol	4000.0	3184.0	79.60	47-96
16 1,4-Dichlorobenzen	2000.0	1438.5	71.92	41-97
31 1,2,4-Trichloroben	2000.0	1500.2	75.01	46-94
14 2-Chlorophenol	4000.0	3081.5	77.04	48-93
21 N-Nitroso-di-n-pro	2000.0	1533.9	76.70	43-89
36 4-Chloro-3-Methylp	4000.0	3178.9	79.47	52-94
47 Acenaphthene	2000.0	1698.9	84.95	49-102
52 4-Nitrophenol	4000.0	3617.2	90.43	54-110
53 2,4-Dinitrotoluene	2000.0	1914.2	95.71	60-99
65 Pentachlorophenol	4000.0	3563.4	89.09	46-115
72 Pyrene	2000.0	2067.1	103.35	63-106

SURROGATE COMPOUND	CONC ADDED ug/Kg	CONC RECOVERED ug/Kg	% RECOVERED	LIMITS
$ 7 2-Fluorophenol	4000.0	3177.2	79.43	42-99
$ 10 Phenol-d6	4000.0	3346.6	83.66	45-103
$ 24 Nitrobenzene-d5	2000.0	1586.2	79.31	44-100
$ 41 2-Fluorobiphenyl	2000.0	1787.6	89.38	48-108
$ 62 2,4,6-Tribromophen	4000.0	3879.9	97.00	49-111
$ 73 Terphenyl-d14	2000.0	2123.9	106.19	55-122

2F
SOIL PESTICIDE SURROGATE RECOVERY

26128

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: PCBCFARM

GC Column(1): RESTEK XTI-5 ID: 0.25 (mm)

	EPA SAMPLE NO.	S1 %REC #	TCX %REC #	S3 %REC #	S4 %REC #	S5 %REC #	S6 %REC #	TOT OUT
01	BLANK	104	82					0
02	LCS	108	78					0
03	S11V004119SA	95	117*					1
04	S11V004119MS	94	115*					1
05	S11V004119MS	97	123*					1
06	S11V004102SA	101	111					0
07	S11V004140SA	110	87					0
08	CHECKSTD	102	96					0
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

ADVISORY
QC LIMITS

S1 = Decachlorobiphenyl (DC (64-133)
S2 (TCX) = Tetrachloro-m-Xylene (53-115)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

2F
SOIL PESTICIDE SURROGATE RECOVERY

26470

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: PCBCFARM

GC Column(1): RESTEK XTI-5 ID: 0.25 (mm)

	EPA SAMPLE NO.	S1 %REC #	TCX %REC #	S3 %REC #	S4 %REC #	S5 %REC #	S6 %REC #	TOT OUT
01	BLANK	106	98					0
02	LCS	104	76					0
03	S11V004161SA	102	108					0
04	S11V004161MS	96	88					0
05	S11V004161MS	97	92					0
06	CHECKSTD	105	97					0
07								
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

ADVISORY
QC LIMITS

S1 = Decachlorobiphenyl (DC (64-133)
S2 (TCX) = Tetrachloro-m-Xylene (53-115)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

2E
WATER PESTICIDE SURROGATE RECOVERY

26477
Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: PCBCFARM

GC Column(1): RESTEK XTI-5 ID: 0.25 (mm)

	EPA SAMPLE NO.	S1 %REC #	TCX %REC #	S3 %REC #	S4 %REC #	S5 %REC #	S6 %REC #	TOT OUT
01	BLANK	105	39					0
02	LCS	106	36					0
03	S11V004195SA	53	56					0
04	S11V004195MS	47	53					0
05	S11V004195MS	44	60					0
06	CHECKSTD	111	106*					1
07								
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

ADVISORY
QC LIMITS

S1 = Decachlorobiphenyl (DC (19-145)
S2 (TCX) = Tetrachloro-m-Xylene (21-106)

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

Attachment 5

TIC Report

14-Jul-2011 13:5236
DSRTICHardcopy 2.7.26a
DSR.Jar v. 2.7.27

C Farm WMC 2011-C8100
Data Summary and Opportunistic Analyte Results

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2B1L6

Sample Depth: SURFACE

Sample#	R	A#	QC Type	Analyte	CAS No.	Retention Time (Minutes)	Unit	Result	Qual Flags
S11V004104		O		Heptane	142-82-5	3.63	ug/kg	420	BJN
S11V004104		O		Benzene, 1,2-dichloro-	102-36-3	10.57	ug/kg	260	JN
S11V004104		O		Naphthalene, 2,3,6-tri	829-26-5	12.95	ug/kg	290	JN
S11V004104		O		Naphthalene, 1,6-dimet	483-78-3	13.80	ug/kg	780	JN
S11V004104		O		Bromacil	314-40-9	15.72	ug/kg	940	JN
S11V004104		O		1-Docosene	1599-67-3	18.91	ug/kg	720	JN
S11V004104		O		Octadecanoic acid	57-11-4	19.30	ug/kg	310	JN
S11V004104		O		Eicosane	112-95-8	20.14	ug/kg	340	JN
S11V004104		O		Unknown-1		21.49	ug/kg	230	J
S11V004104		O		Unknown-2		22.06	ug/kg	200	J
S11V004104		O		Unknown-3		22.79	ug/kg	1.5E+03	J
S11V004104		O		Unknown-4		22.94	ug/kg	250	J
S11V004104		O		Unknown-5		23.14	ug/kg	290	J
S11V004104		O		Unknown-6		23.29	ug/kg	1.1E+03	J
S11V004104		O		Stigmastane	601-58-1	23.35	ug/kg	740	JN
S11V004104		O		Unknown-7		23.55	ug/kg	310	J
S11V004104		O		Unknown-8		24.43	ug/kg	250	J
S11V004104		O		Unknown-9		24.73	ug/kg	250	J
S11V004104		O		Unknown-10		24.90	ug/kg	290	J
S11V004104		O		Ethyl trans-13,14-dihy	89887-37-6	25.18	ug/kg	370	JN
S11V004104		O		Unknown-11		25.32	ug/kg	580	J
S11V004104		O		Unknown-12		25.40	ug/kg	300	J
S11V004104		O		Unknown-13		26.87	ug/kg	340	J
S11V004104		O		Unknown-14		27.59	ug/kg	410	J
S11V004104		O		Unknown-15		27.74	ug/kg	360	J
S11V004104		O		Unknown-16		28.20	ug/kg	1.1E+03	J
S11V004104		O		Stigmast-4-en-3-one	1058-61-3	28.89	ug/kg	1000	JN

NA = Not Analyzed, ND = Not Detectec

T - MS/MSD Outside Range
B - Blank Contamination
U - Less Than Detection Limit
J - Estimated
N - Named TIC

14-Jul-2011 13:5236
DSRTICHardcopy 2.7.26a
DSR.Jar v. 2.7.27

C Farm WMC 2011-C8100

Data Summary and Opportunistic Analyte Results

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2B1L6

Sample Depth: SURFACE

Sample#	R	A#	QC Type	Analyte	CAS No.	Retention Time (Minutes)	Unit	Result	Qual Flags
S11V004104		O	BLNK	Heptane	142-82-5	3.64	ug/kg	450	

NA = Not Analyzed, ND = Not Detectec

T - MS/MSD Outside Range
B - Blank Contamination
U - Less Than Detection Limit
J - Estimated
N - Named TIC

14-Jul-2011 13:5236
DSRTICHardcopy 2.7.26a
DSR.Jar v. 2.7.27

C Farm WMC 2011-C8100
Data Summary and Opportunistic Analyte Results

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2B1L7

Sample Depth: SURFACE Dup

Sample#	R	A#	QC Type	Analyte	CAS No.	Retention Time (Minutes)	Unit	Result	Qual Flags
S11V004121		O		Heptane	142-82-5	3.63	ug/kg	460	JN
S11V004121		O		Benzene, 1,2-dichloro-	41195-90-8	10.57	ug/kg	340	JN
S11V004121		O		Naphthalene, 1,6,7-tri	2245-38-7	12.95	ug/kg	270	JN
S11V004121		O		Naphthalene, 1,6-dimet	483-78-3	13.80	ug/kg	840	JN
S11V004121		O		Hexadecanoic acid (9CI)	57-10-3	15.62	ug/kg	230	JN
S11V004121		O		Bromacil	314-40-9	15.73	ug/kg	1.3E+03	JN
S11V004121		O		1-Docosene	1599-67-3	18.90	ug/kg	1.2E+03	JN
S11V004121		O		Hexadecane-	544-76-3	19.51	ug/kg	170	JN
S11V004121		O		Z-5-Nonadecene	1000131-11-8	20.14	ug/kg	650	JN
S11V004121		O		Octacosane	630-02-4	21.49	ug/kg	240	JN
S11V004121		O		Unknown-1		22.06	ug/kg	300	J
S11V004121		O		Unknown-2		22.48	ug/kg	270	J
S11V004121		O		Unknown-3		22.79	ug/kg	2.3E+03	J
S11V004121		O		Unknown-4		22.94	ug/kg	320	J
S11V004121		O		Unknown-5		23.13	ug/kg	520	J
S11V004121		O		Unknown-6		23.29	ug/kg	2.1E+03	J
S11V004121		O		Stigmastane	601-58-1	23.35	ug/kg	1.3E+03	JN
S11V004121		O		Unknown-7		23.55	ug/kg	620	J
S11V004121		O		Unknown-8		23.72	ug/kg	420	J
S11V004121		O		Unknown-9		23.78	ug/kg	510	J
S11V004121		O		Unknown-10		24.43	ug/kg	240	J
S11V004121		O		Unknown-11		24.73	ug/kg	500	J
S11V004121		O		Unknown-12		24.90	ug/kg	270	J
S11V004121		O		Unknown-13		25.18	ug/kg	190	J
S11V004121		O		Unknown-14		25.30	ug/kg	830	J
S11V004121		O		Unknown-15		25.41	ug/kg	490	J
S11V004121		O		Unknown-16		26.12	ug/kg	460	J

NA = Not Analyzed, ND = Not Detectec

T - MS/MSD Outside Range
B - Blank Contamination
U - Less Than Detection Limit
J - Estimated
N - Named TIC

C Farm WMC 2011-C8100

Data Summary and Opportunistic Analyte Results

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2B1L7

Sample Depth: SURFACE Dup

Sample#	R	A#	QC Type	Analyte	CAS No.	Retention Time (Minutes)	Unit	Result	Qual Flags
S11V004121		O		Unknown-17		26.19	ug/kg	690	J
S11V004121		O		Unknown-18		26.41	ug/kg	590	J
S11V004121		O		Unknown-19		26.64	ug/kg	300	J
S11V004121		O		Cholesta-3,5-dien-7-on	567-72-6	26.76	ug/kg	630	JN
S11V004121		O		Stigmastanol	19466-47-8	26.87	ug/kg	910	JN
S11V004121		O		Unknown-20		27.49	ug/kg	390	J
S11V004121		O		Unknown-21		27.60	ug/kg	700	J
S11V004121		O		Unknown-22		27.76	ug/kg	530	J
S11V004121		O		Unknown-23		28.20	ug/kg	2.6E+03	J
S11V004121		O		Stigmast-4-en-3-one	1058-61-3	28.89	ug/kg	1.5E+03	JN
S11V004121		O	BLNK	Heptane	142-82-5	3.64	ug/kg	450	

NA = Not Analyzed, ND = Not Detectec

T - MS/MSD Outside Range
B - Blank Contamination
U - Less Than Detection Limit
J - Estimated
N - Named TIC

14-Jul-2011 13:5236
DSRTICHardcopy 2.7.26a
DSR.Jar v. 2.7.27

C Farm WMC 2011-C8100

Data Summary and Opportunistic Analyte Results

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M2

Sample Depth: 5.7'-7.7'

Sample#	R	A#	QC Type	Analyte	CAS No.	Retention Time (Minutes)	Unit	Result	Qual Flags
S11V004142		O		Heptane	142-82-5	3.63	ug/kg	960	BJN
S11V004142		O		Unknown Phthalate 1-1		20.77	ug/kg	450	J
S11V004142		O		Unknown Phthalate 2-2		20.85	ug/kg	230	J
S11V004142		O		Unknown Phthalate 3-3		20.96	ug/kg	350	J
S11V004142		O		Unknown Phthalate 4-4		21.03	ug/kg	280	J
S11V004142		O		Unknown Phthalate 5-5		21.14	ug/kg	400	J
S11V004142		O		Unknown Phthalate 6-6		21.23	ug/kg	220	J
S11V004142		O	BLNK	Heptane	142-82-5	3.63	ug/kg	1.2E+03	
S11V004142		O	BLNK	1,2-Benzenedicarboxyli	4376-20-9	19.15	ug/kg	210	

NA = Not Analyzed, ND = Not Detectec

T - MS/MSD Outside Range
B - Blank Contamination
U - Less Than Detection Limit
J - Estimated
N - Named TIC

C Farm WMC 2011-C8100
Data Summary and Opportunistic Analyte Results

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M3

Sample Depth: 15'-19'

Sample#	R	A#	QC Type	Analyte	CAS No.	Retention Time (Minutes)	Unit	Result	Qual Flags
S11V004163		O		Heptane	142-82-5	3.64	ug/kg	960	BJN
S11V004163		O		1-Tricosene	18835-32-0	18.90	ug/kg	330	JN
S11V004163		O	BLNK	Heptane	142-82-5	3.63	ug/kg	1.2E+03	
S11V004163		O	BLNK	1,2-Benzenedicarboxyli	4376-20-9	19.15	ug/kg	210	

NA = Not Analyzed, ND = Not Detectec

T - MS/MSD Outside Range
B - Blank Contamination
U - Less Than Detection Limit
J - Estimated
N - Named TIC

C Farm WMC 2011-C8100

Data Summary and Opportunistic Analyte Results

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M5

Sample Depth: 54'-58'

Sample#	R	A#	QC Type	Analyte	CAS No.	Retention Time (Minutes)	Unit	Result	Qual Flags
S11V004206		O		Heptane	142-82-5	3.65	ug/kg	1.3E+03	BJN
S11V004206		O	BLNK	Heptane	142-82-5	3.63	ug/kg	1.2E+03	
S11V004206		O	BLNK	1,2-Benzenedicarboxyli	4376-20-9	19.15	ug/kg	210	

NA = Not Analyzed, ND = Not Detectec

T - MS/MSD Outside Range
B - Blank Contamination
U - Less Than Detection Limit
J - Estimated
N - Named TIC

14-Jul-2011 13:5236
DSRTICHardcopy 2.7.26a
DSR.Jar v. 2.7.27

C Farm WMC 2011-C8100

Data Summary and Opportunistic Analyte Results

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1M7

Sample Depth: 76'-78'

Sample# R	A#	QC Type	Analyte	CAS No.	Retention Time (Minutes)	Unit	Result	Qual Flags
S11V004248	O		Unknown-1		2.80	ug/kg	380	J
S11V004248	O		Tetrahydrofuran	109-99-9	3.03	ug/kg	1.4E+03	JN
S11V004248	O		Heptane	142-82-5	3.65	ug/kg	1.5E+04	BJN
S11V004248	O		Toluene	108-88-3	4.45	ug/kg	220	BJN
S11V004248	O		Formamide, N,N-dimethy	68-12-2	4.52	ug/kg	1000	BJN
S11V004248	O	BLNK	Hexane	110-54-3	2.79	ug/kg	410	
S11V004248	O	BLNK	Unknown-1		3.02	ug/kg	1.5E+03	
S11V004248	O	BLNK	Heptane	142-82-5	3.64	ug/kg	1.7E+04	
S11V004248	O	BLNK	Toluene	108-88-3	4.45	ug/kg	230	
S11V004248	O	BLNK	Formamide, N,N-dimethy	68-12-2	4.52	ug/kg	1.1E+03	
S11V004248	O	BLNK	Unknown-2		9.22	ug/kg	220	

NA = Not Analyzed, ND = Not Detectec

T - MS/MSD Outside Range
B - Blank Contamination
U - Less Than Detection Limit
J - Estimated
N - Named TIC

C Farm WMC 2011-C8100

Data Summary and Opportunistic Analyte Results

Sample Group: 20110264

Core Number: C8100

Customer Sample ID: B2C1N1

Sample Depth: 222.8'-224.8'

Sample#	R	A#	QC Type	Analyte	CAS No.	Retention Time (Minutes)	Unit	Result	Qual Flags
S11V004339		O	BLNK	Oxirane, trimethyl-	5076-19-7	3.20	ug/kg	210	

NA = Not Analyzed, ND = Not Detectec

T - MS/MSD Outside Range
B - Blank Contamination
U - Less Than Detection Limit
J - Estimated
N - Named TIC

Attachment 6

ANALYTICAL BATCH AND LABORATORY SAMPLE ID INDEX

Batch to Sample Index

Project: C Farm WMC 2011-C8100
SDG: 20110264, 20110261

METHOD	BATCH	SAMPLE	MATRIX
AEA, Am-241, Iso-Cm	00026233	S11V004093	LIQUID
AEA, Am-241, Iso-Cm	00027752	S11V004109	SOLID
AEA, Am-241, Iso-Cm	00027752	S11V004126	SOLID
AEA, Am-241, Iso-Cm	00027752	S11V004147	SOLID
AEA, Am-241, Iso-Cm	00027752	S11V004168	SOLID
AEA, Am-241, Iso-Cm	00027752	S11V004211	SOLID
AEA, Am-241, Iso-Cm	00027752	S11V004253	SOLID
AEA, Am-241, Iso-Cm	00027752	S11V004274	SOLID
AEA, Am-241, Iso-Cm	00027752	S11V004295	SOLID
AEA, Am-241, Iso-Cm	00027752	S11V004324	SOLID
AEA, Am-241, Iso-Cm	00027752	S11V004344	SOLID
LSC, C-14, Water Leach	00028087	S11V004113	SOLID-W
LSC, C-14, Water Leach	00028087	S11V004130	SOLID-W
LSC, C-14, Water Leach	00028087	S11V004151	SOLID-W
LSC, C-14, Water Leach	00028087	S11V004172	SOLID-W
LSC, C-14, Water Leach	00028087	S11V004215	SOLID-W
LSC, C-14, Water Leach	00028087	S11V004257	SOLID-W
LSC, C-14, Water Leach	00028087	S11V004278	SOLID-W
LSC, C-14, Water Leach	00028087	S11V004299	SOLID-W
LSC, C-14, Water Leach	00028087	S11V004328	SOLID-W
LSC, C-14, Water Leach	00028087	S11V004348	SOLID-W
LSC, C-14	00028108	S11V004092	LIQUID
CN - EDTA	00026245	S11V004157	SOLID
CN - EDTA	00026245	S11V004200	SOLID
CN - EDTA	00026248	S11V004098	SOLID
CN - EDTA	00026248	S11V004115	SOLID
CN - EDTA	00026248	S11V004136	SOLID
CN - EDTA	00026574	S11V004242	SOLID
CN - EDTA	00026734	S11V004263	SOLID
CN - EDTA	00026734	S11V004284	SOLID
CN - EDTA	00026734	S11V004314	SOLID
CN - EDTA	00026824	S11V004334	SOLID
CN - WATER DISTILLATION	00026488	S11V004095	LIQUID
CONDUCTIVITY	00026325	S11V004101	SOLID
CONDUCTIVITY	00026325	S11V004118	SOLID
CONDUCTIVITY	00026325	S11V004139	SOLID
CONDUCTIVITY	00026325	S11V004160	SOLID
CONDUCTIVITY	00026325	S11V004203	SOLID
CONDUCTIVITY	00026325	S11V004245	SOLID
CONDUCTIVITY	00026817	S11V004266	SOLID
CONDUCTIVITY	00026817	S11V004287	SOLID
CONDUCTIVITY	00026817	S11V004316	SOLID
CONDUCTIVITY	00026817	S11V004336	SOLID
GEA	00026600	S11V004093	LIQUID
GEA	00027154	S11V004099	SOLID
GEA	00027154	S11V004116	SOLID
GEA	00027154	S11V004137	SOLID
GEA	00027154	S11V004158	SOLID
GEA	00027154	S11V004201	SOLID
GEA	00027154	S11V004243	SOLID
GEA	00027154	S11V004264	SOLID
GEA	00027154	S11V004285	SOLID
GEA	00027154	S11V004315	SOLID
GEA	00027154	S11V004335	SOLID

Batch to Sample Index

Project: C Farm WMC 2011-C8100
SDG: 20110264, 20110261

METHOD	BATCH	SAMPLE	MATRIX
HG	00026142	S11V004098	SOLID
HG	00026142	S11V004115	SOLID
HG	00026142	S11V004136	SOLID
HG	00026142	S11V004157	SOLID
HG	00026142	S11V004200	SOLID
HG	00026142	S11V004242	SOLID
HG	00026621	S11V004263	SOLID
HG	00026621	S11V004284	SOLID
HG	00026624	S11V004091	LIQUID
HG	00026830	S11V004314	SOLID
HG	00026830	S11V004334	SOLID
IC - ANIONS/SMALL ORG. ACIDS	00026180	S11V004094	LIQUID
IC - ANIONS/SMALL ORG. ACIDS	00026531	S11V004105	SOLID
IC - ANIONS/SMALL ORG. ACIDS	00026531	S11V004122	SOLID
IC - ANIONS/SMALL ORG. ACIDS	00026531	S11V004143	SOLID
IC - ANIONS/SMALL ORG. ACIDS	00026531	S11V004164	SOLID
IC - ANIONS/SMALL ORG. ACIDS	00026531	S11V004207	SOLID
IC - ANIONS/SMALL ORG. ACIDS	00026531	S11V004249	SOLID
IC - ANIONS/SMALL ORG. ACIDS	00026818	S11V004270	SOLID
IC - ANIONS/SMALL ORG. ACIDS	00026818	S11V004291	SOLID
IC - ANIONS/SMALL ORG. ACIDS	00026818	S11V004320	SOLID
IC - ANIONS/SMALL ORG. ACIDS	00026818	S11V004340	SOLID
IC - NH4	00025867	S11V004107	SOLID
IC - NH4	00025867	S11V004124	SOLID
IC - NH4	00025918	S11V004145	SOLID
IC - NH4	00026004	S11V004166	SOLID
IC - NH4	00026068	S11V004209	SOLID
IC - NH4	00026213	S11V004096	LIQUID
IC - NH4	00026213	S11V004251	SOLID
IC - NH4	00026517	S11V004272	SOLID
IC - NH4	00026517	S11V004293	SOLID
IC - NH4	00026517	S11V004322	SOLID
IC - NH4	00026815	S11V004342	SOLID
ICP/AES Metals	00026878	S11V004106	SOLID
ICP/AES Metals	00026878	S11V004123	SOLID
ICP/AES Metals	00026878	S11V004144	SOLID
ICP/AES Metals	00026878	S11V004165	SOLID
ICP/AES Metals	00026878	S11V004208	SOLID
ICP/AES Metals	00026878	S11V004250	SOLID
ICP/AES Metals	00026884	S11V004091	LIQUID
ICP/AES Metals	00026957	S11V004271	SOLID
ICP/AES Metals	00026957	S11V004292	SOLID
ICP/AES Metals	00026957	S11V004321	SOLID
ICP/AES Metals	00026957	S11V004341	SOLID
GEA, I-129	00026633	S11V004092	LIQUID
GEA, I-129	00027815	S11V004099	SOLID
GEA, I-129	00027815	S11V004116	SOLID
GEA, I-129	00027815	S11V004137	SOLID
GEA, I-129	00027815	S11V004158	SOLID
GEA, I-129	00027815	S11V004201	SOLID
GEA, I-129	00027815	S11V004243	SOLID
GEA, I-129	00027815	S11V004264	SOLID
GEA, I-129	00027815	S11V004285	SOLID
GEA, I-129	00027815	S11V004315	SOLID
GEA, I-129	00027815	S11V004335	SOLID

Batch to Sample Index

Project: C Farm WMC 2011-C8100
SDG: 20110264, 20110261

METHOD	BATCH	SAMPLE	MATRIX
ICP/MS Actinides	00026833	S11V004106	SOLID
ICP/MS Actinides	00026833	S11V004123	SOLID
ICP/MS Actinides	00026833	S11V004144	SOLID
ICP/MS Actinides	00026833	S11V004165	SOLID
ICP/MS Actinides	00026833	S11V004208	SOLID
ICP/MS Actinides	00026833	S11V004250	SOLID
ICP/MS Actinides	00026835	S11V004091	LIQUID
ICP/MS Actinides	00026968	S11V004271	SOLID
ICP/MS Actinides	00026968	S11V004292	SOLID
ICP/MS Actinides	00026968	S11V004321	SOLID
ICP/MS Actinides	00026968	S11V004341	SOLID
ICP/MS Sb, Sn-126	00026962	S11V004103	SOLID
ICP/MS Sb, Sn-126	00026962	S11V004120	SOLID
ICP/MS Sb, Sn-126	00026962	S11V004141	SOLID
ICP/MS Sb, Sn-126	00026962	S11V004162	SOLID
ICP/MS Sb, Sn-126	00026962	S11V004205	SOLID
ICP/MS Sb, Sn-126	00026962	S11V004247	SOLID
ICP/MS Sb, Sn-126	00026962	S11V004268	SOLID
ICP/MS Sb, Sn-126	00026962	S11V004289	SOLID
ICP/MS Sb, Sn-126	00026962	S11V004318	SOLID
ICP/MS Sb, Sn-126	00026962	S11V004338	SOLID
ICP/MS Tc-99, Sn-123	00027327	S11V004091	LIQUID
ICP/MS Metals	00027017	S11V004106	SOLID
ICP/MS Metals	00027017	S11V004123	SOLID
ICP/MS Metals	00027017	S11V004144	SOLID
ICP/MS Metals	00027017	S11V004165	SOLID
ICP/MS Metals	00027017	S11V004208	SOLID
ICP/MS Metals	00027017	S11V004250	SOLID
ICP/MS Metals	00027017	S11V004271	SOLID
ICP/MS Metals	00027017	S11V004292	SOLID
ICP/MS Metals	00027017	S11V004321	SOLID
ICP/MS Metals	00027017	S11V004341	SOLID
ICP/MS, Tc-99, Water Digest	00026871	S11V004101	SOLID
ICP/MS, Tc-99, Water Digest	00026871	S11V004118	SOLID
ICP/MS, Tc-99, Water Digest	00026871	S11V004139	SOLID
ICP/MS, Tc-99, Water Digest	00026871	S11V004160	SOLID
ICP/MS, Tc-99, Water Digest	00026871	S11V004203	SOLID
ICP/MS, Tc-99, Water Digest	00026871	S11V004245	SOLID
ICP/MS, Tc-99, Water Digest	00026871	S11V004266	SOLID
ICP/MS, Tc-99, Water Digest	00026871	S11V004287	SOLID
ICP/MS, Tc-99, Water Digest	00026871	S11V004316	SOLID
ICP/MS, Tc-99, Water Digest	00026871	S11V004336	SOLID
ICP/MS, Tc-99, Acid Digest	00026872	S11V004108	SOLID
ICP/MS, Tc-99, Acid Digest	00026872	S11V004125	SOLID
ICP/MS, Tc-99, Acid Digest	00026872	S11V004146	SOLID
ICP/MS, Tc-99, Acid Digest	00026872	S11V004167	SOLID
ICP/MS, Tc-99, Acid Digest	00026872	S11V004210	SOLID
ICP/MS, Tc-99, Acid Digest	00026872	S11V004252	SOLID
ICP/MS, Tc-99, Acid Digest	00026872	S11V004273	SOLID
ICP/MS, Tc-99, Acid Digest	00026872	S11V004294	SOLID
ICP/MS, Tc-99, Acid Digest	00026872	S11V004323	SOLID
ICP/MS, Tc-99, Acid Digest	00026872	S11V004343	SOLID

Batch to Sample Index

Project: C Farm WMC 2011-C8100
SDG: 20110264, 20110261

METHOD	BATCH	SAMPLE	MATRIX
LSC, Ni-63	00026238	S11V004093	LIQUID
LSC, Ni-63	00027845	S11V004111	SOLID
LSC, Ni-63	00027845	S11V004128	SOLID
LSC, Ni-63	00027845	S11V004149	SOLID
LSC, Ni-63	00027845	S11V004170	SOLID
LSC, Ni-63	00027845	S11V004213	SOLID
LSC, Ni-63	00027845	S11V004255	SOLID
LSC, Ni-63	00027845	S11V004276	SOLID
LSC, Ni-63	00027845	S11V004297	SOLID
LSC, Ni-63	00027845	S11V004326	SOLID
LSC, Ni-63	00027845	S11V004346	SOLID
GC/ECD, PCB	00026128	S11V004102	SOLID
PCB 222S	00026128	S11V004119	SOLID
PCB 222S	00026128	S11V004140	SOLID
PCB 222S	00026470	S11V004161	SOLID
PCB 222S	00026477	S11V004195	LIQUID
PH LIQUID	00026255	S11V004094	LIQUID
PH SOLID	00025910	S11V004098	SOLID
PH SOLID	00025910	S11V004115	SOLID
PH SOLID	00025910	S11V004136	SOLID
PH SOLID	00026024	S11V004157	SOLID
PH SOLID	00026134	S11V004200	SOLID
PH SOLID	00026258	S11V004242	SOLID
PH SOLID	00026508	S11V004263	SOLID
PH SOLID	00026508	S11V004284	SOLID
PH SOLID	00026508	S11V004314	SOLID
PH SOLID	00026757	S11V004334	SOLID
AEA, Pu-238,239/240	00026496	S11V004093	LIQUID
AEA, Pu-238,239/240	00027753	S11V004109	SOLID
AEA, Pu-238,239/240	00027753	S11V004126	SOLID
AEA, Pu-238,239/240	00027753	S11V004147	SOLID
AEA, Pu-238,239/240	00027753	S11V004168	SOLID
AEA, Pu-238,239/240	00027753	S11V004211	SOLID
AEA, Pu-238,239/240	00027753	S11V004253	SOLID
AEA, Pu-238,239/240	00027753	S11V004274	SOLID
AEA, Pu-238,239/240	00027753	S11V004295	SOLID
AEA, Pu-238,239/240	00027753	S11V004324	SOLID
AEA, Pu-238,239/240	00027753	S11V004344	SOLID
LCS, Se-79	00026240	S11V004093	LIQUID
LCS, Se-79	00027781	S11V004112	SOLID
LCS, Se-79	00027781	S11V004129	SOLID
LCS, Se-79	00027781	S11V004150	SOLID
LCS, Se-79	00027781	S11V004171	SOLID
LCS, Se-79	00027781	S11V004214	SOLID
LCS, Se-79	00027781	S11V004256	SOLID
LCS, Se-79	00027781	S11V004277	SOLID
LCS, Se-79	00027781	S11V004298	SOLID
LCS, Se-79	00027781	S11V004327	SOLID
LCS, Se-79	00027781	S11V004347	SOLID

Batch to Sample Index

Project: C Farm WMC 2011-C8100
SDG: 20110264, 20110261

METHOD	BATCH	SAMPLE	MATRIX
GPC, Sr-89/90	00026242	S11V004093	LIQUID
GPC, Sr-89/90	00027728	S11V004110	SOLID
GPC, Sr-89/90	00027728	S11V004127	SOLID
GPC, Sr-89/90	00027728	S11V004148	SOLID
GPC, Sr-89/90	00027728	S11V004169	SOLID
GPC, Sr-89/90	00027728	S11V004212	SOLID
GPC, Sr-89/90	00027728	S11V004254	SOLID
GPC, Sr-89/90	00027728	S11V004275	SOLID
GPC, Sr-89/90	00027728	S11V004296	SOLID
GPC, Sr-89/90	00027728	S11V004325	SOLID
GPC, Sr-89/90	00027728	S11V004345	SOLID
GC/MS SVOA	00025983	S11V004104	SOLID
GC/MS SVOA	00025983	S11V004121	SOLID
GC/MS SVOA	00026487	S11V004248	SOLID
GC/MS SVOA	00026489	S11V004142	SOLID
GC/MS SVOA	00026489	S11V004163	SOLID
GC/MS SVOA	00026489	S11V004206	SOLID
GC/MS SVOA	00026493	S11V004090	LIQUID
GC/MS SVOA	00026760	S11V004269	SOLID
GC/MS SVOA	00026760	S11V004290	SOLID
GC/MS SVOA	00026760	S11V004319	SOLID
GC/MS SVOA	00026836	S11V004339	SOLID
LSC, Tritium	00027725	S11V004113	SOLID
LSC, Tritium	00027725	S11V004130	SOLID
LSC, Tritium	00027725	S11V004151	SOLID
LSC, Tritium	00027725	S11V004172	SOLID
LSC, Tritium	00027725	S11V004215	SOLID
LSC, Tritium	00027725	S11V004257	SOLID
LSC, Tritium	00027725	S11V004278	SOLID
LSC, Tritium	00027725	S11V004299	SOLID
LSC, Tritium	00027725	S11V004328	SOLID
LSC, Tritium	00027725	S11V004348	SOLID
LSC, Tritium	00028020	S11V004092	LIQUID

Attachment 7

GEOLOGICAL REPORT WITH BULK DENSITY RESULTS

C8100 Bulk Density Results

Core Number	Customer Sample ID	Sample Depth	Lab Sample ID	ANALYTE	Units	Result
C8100	B2B1M1	15'-17'	S11V004153	Bulk Density	g/mL	n/a
C8100	B2B1M4	17'-19'	S11V004154	Bulk Density	g/mL	n/a
C8100	B2B1M7	54'-56'	S11V004196	Bulk Density	g/mL	n/a
C8100	B2B1N0	56'-58'	S11V004197	Bulk Density	g/mL	n/a
C8100	B2B1N1	56'-58'	S11V004198	Bulk Density	g/mL	n/a
C8100	B2B1N3	76'-78'	S11V004238	Bulk Density	g/mL	n/a
C8100	B2B1N4	76'-78'	S11V004239	Bulk Density	g/mL	n/a
C8100	B2B1N5	76'-78'	S11V004240	Bulk Density	g/mL	n/a
C8100	B2BX79	5.7'-7.7'	S11V004132	Bulk Density	g/mL	n/a
C8100	B2BX80	5.7'-7.7'	S11V004133	Bulk Density	g/mL	n/a
C8100	B2C1K8	118'-120'	S11V004259	Bulk Density	g/mL	n/a
C8100	B2C1K9	118'-120'	S11V004260	Bulk Density	g/mL	n/a
C8100	B2C1L0	118'-120'	S11V004261	Bulk Density	g/mL	n/a
C8100	B2C1L1	168.6'-170.6'	S11V004280	Bulk Density	g/mL	n/a
C8100	B2C1L2	168.6'-170.6'	S11V004281	Bulk Density	g/mL	n/a
C8100	B2C1L3	168.6'-170.6'	S11V004282	Bulk Density	g/mL	n/a
C8100	B2C1L6	202'-204'	S11V004301	Bulk Density	g/mL	n/a
C8100	B2C1L7	202'-204'	S11V004302	Bulk Density	g/mL	n/a
C8100	B2C1L8	202'-204'	S11V004303	Bulk Density	g/mL	n/a
C8100	B2C1L9	222.8'-224.8'	S11V004330	Bulk Density	g/mL	n/a
C8100	B2C1M0	222.8'-224.8'	S11V004331	Bulk Density	g/mL	n/a
C8100	B2C1M1	222.8'-224.8'	S11V004332	Bulk Density	g/mL	n/a

Sample ID	Laboratory ID	Date Examined	Description
C8100 B2B1L6 SURFACE	S11V004098	2/25/2011	Very slightly moist, (g)S slightly gravelly sand, poorly sorted sand with minor gravel and minor mud, largest particles about 15mm, 1 particle excluded, very slightly cohesive, poorly formed clasts break easily, coarser particles are angular to subangular, mostly basalt, trace chert, trace mica, material appears to be manufactured sand (crushed), 2.5y 3/2, acid reactivity - moderate to vigorous.
C8100 B2B1L7 SURFACE Dup	S11V004115	2/25/2011	Very slightly moist, S-sand, poorly sorted sand with minor gravel and minor mud, largest particles about 10mm, very slightly cohesive, poorly formed clasts break easily, coarser particles are angular to subangular, mostly basalt, trace quartz grains, trace mica, material appears to be manufactured sand (crushed), 2.5y 4/2, acid reactivity - moderate to vigorous.
C8100 B2BX79 5.7'-7.7'	S11V004132	2/28/2011	Tube is full, S-sand, Moist, poorly sorted, sand with mud and gravel, gravel is angular to sub-rounded , largest particle 15mm excluded, very slightly cohesive, mud is mix of silt and clay sized material, weak clay clasts easily broken, trace mica, uniform color and texture, 2.5y 4/3, acid reactivity-moderate to vigorous.
C8100 B2BX80 5.7'-7.7'	S11V004133	2/28/2011	30mm gap at top, soil is loose in tube, pours out easily, S-sand, slightly moist, trace gravel and trace mud, very slightly cohesive, somewhat poorly sorted with occasional loose clay clasts, largest particle is 13mm, sub-angular to sub-rounded, several carbonized organic fragments, trace mica, uniform color an texture, 2.5y 4/2, acid reactivity-slight to moderate.
C8100 B2B1M0 5.7'-7.7'	S11V004135	2/28/2011	S-sand, slightly moist to moist, moderately well sorted, medium grain sand, trace mud is dominately silt, trace gravel is generally subrounded, trace mica, largest particle 10mm, sand is slightly cohesive, no clay clasts, somewhat uniform color and texture, 2.5y 4/2, acid reactivity-moderate to vigorous.
C8100 B2B1M1 15'-17'	S11V004153	3/3/2011	40mm gap at top of liner, S-sand, moist, trace of gravel, largest particle is 10mm, largest pieces are sub-round, poorly sorted, uniform color, fine to very coarse sand, gravel is very fine to medium, trace mica, very fine sand with minor silt, 2.5y 3/1, acid reactivity-moderate
C8100 B2BX89 15'-17'	S11V004156	3/3/2011	gS-gravelly sand, largest particle 20mm excluded, poorly sorted, gravel is sub-rounded, trace mica, sand is predominately medium to coarse grain, minor silt, 2.5y 3/2, acid reactivity-moderate.
C8100 B2B1M4 17'-19'	S11V004154	3/3/2011	10mm gap at top of liner, 15mm gap at bottom of liner, slid out of liner as a unit, gS gravelly sand, slightly moist, poorly sorted, largest particle 35mm excluded, Two 15mm particles also excluded, poorly sorted, gravel is sub-rounded, trace mica, minor silt, 2.5y 3/1, acid reactivity-moderate,
C8100 B2BX90 17'-19'	S11V004155	3/3/2011	S sand, Slightly moist with condensation on inside of jar, poorly sorted, uniform color, some large clasts that break easily, non cohesive, largest particle 15mm excluded, trace mica, trace of gravel which is sub-rounded, minor silt, 2.5y 3/1, acid reactivity-slight to moderate.
C8100 B2B1M7 54'-56'	S11V004196	3/8/2011	25mm gap at top of liner, Bottom is full, gS gravelly sand, moist, largest particle is 25mm excluded it and 4 other particles, sub-angular to sub-rounded, minor clasts easily broken, slightly plastic, poorly sorted, uniform color, trace mica, very fine grain sand to gravel, minor amount of silt and clay, 2.5y 3/2, acid reactivity-moderate.

Sample ID	Laboratory ID	Date Examined	Description
C8100 B2BXR4 54'-56'	S11V004199	3/8/2011	gS gravelly sand, slightly moist, largest particle 23mm exluded along with 5 others, sub-angular to sub-rounded, poorly sorted, uniform color, trace mica, very fine grain sand to coarse gravel, minor amount of silt and clay, 2.5y 3/2, acid reactivity-moderate.
C8100 B2B1N0 56'-58'	S11V004197	3/8/2011	Tube is full with slight bulge on bottom about 4mm, gS gravelly, sand slightly moist, very fine to fine grain sand, occasional very coarse grains, minor silt, little or no mud, largest particle 25mm excluded along with 5 other particles, sub-angular to sub-rounded, uniform color, trace mica, slightly plastic clasts that come apart easily, 2.5y 3/2, acid reactivity-very slight.
C8100 B2B1N1 56'-58'	S11V004198	3/8/2011	70mm gap on top of liner, gS gravelly sand, slightly moist, very fine to medium grain sand up to coarse gravel, minor amounts of silt and a trace of clay, largest particle is 22mm excluded along with 2 more excluded, uniform color, sandy clasts that break easily, 2.5y 4/2, acid reactivity-slight
C8100 B2B435 56'-58'	S11V004220	3/8/2011	(g)S Slightly gravelly sand, slightly moist, predominately coarse grain, sub-angular to sub-round, there are minor amounts very fine to fine grain sand, trace of coarse silt, largest particle is 8mm, slightly salt an pepper texture, poorly sorted, trace mica, 2.5y 5/1, acid reactivity-slight.
C8100 B2B1N3 76'-78'	S11V004238	3/14/2011	Tube is full, S-sand, very slightly moist, trace mica, very fine to coarse grain, sub-angular to sub-rounded, moderately well sorted, slight salt and pepper texture, minor amounts of silt, 2.5y 6/2, acid reactivity-slight.
C8100 B2B1N4 76'-78'	S11V004239	3/14/2011	Tube is full, black skins from liner, S-sand, very slighty moist, trace mica, largest particle 10mm, well sorted, predominantly medium to coarse grain sand, sub-angular to sub-rounded, 2.5y 6/2, acid reactivity-very slight.
C8100 B2B1N5 76'-78'	S11V004240	3/14/2011	Tube is full, (m)S-slightly muddy sand, slightly moist, trace mica, salt and pepper texture, very fine to coarse grain sand, sub-angular to sub-rounded, 2.5y 5/2, acid reactivity-slight to moderate.
C8100 B2B436 76'-78'	S11V004241	3/14/2011	condensation on inside of shoe jar, mS muddy sand, moderately well sorted, sand is predominantly very fine to coarse grain with trace of very coarse grain, 2.5y 6/2, acid reactivity-slight to moderate.
C8100 B2C1K8 118'-120'	S11V004259	3/24/2011	Tube is full, (m)S slightly muddy sand, very slightly moist, black skins from sides of liner, trace mica, minor fine gravel, largest particle 7mm, poorly sorted, very fine grain sand to trace fine gravel, 2.5y 6/2, acid reactivity-very slight.
C8100 B2C1K9 118'-120'	S11V004260	3/24/2011	Tube is full, (m)S muddy sand, slightly moist, salt an pepper texture, sub-angular to sub-round, moderately well sorted, largest particle 17mm excluded, trace mica, very fine to coarse grain sand, little or no clay, 2.5y 6/2, acid reactivity-very slight.
C8100 B2C1L0 118'-120'	S11V004261	3/24/2011	Irregular 10mm depression on the bottom, Top of liner was full, mS muddy sand, moist, predominantly fine to coarse grain sand, salt an pepper texture, sub-angular, trace mica, 2.5y 4/2, acid reactivity-very slight.
C8100 B2B437 118'-120'	S11V004262	3/24/2011	Slight condensation on inside of shoe jar, (g)S slightly gravelly sand, slightly moist, poorly sorted, largest particle 8mm, trace mica, sub-angular to sub-rounded, slightly salt and pepper texture, very fine sand to fine gravel, minor coarse silt, 2.5y 5/2, acid reactivity-slighty to moderate.

Sample ID	Laboratory ID	Date Examined	Description
C8100 B2C1L1 168.6'-170.6'	S11V004280	3/24/2011	Tube is full, S sand, slightly moist, salt an pepper texture, black skins from liner, trace mica, slightly cohesive, well sorted, predominately medium to coarse grain, sub-angular to sub round, 2.5y 5/2, acid reactivity-slight.
C8100 B2C1L2 168.6'-170.6'	S11V004281	3/24/2011	Tube is full, black skins from liner walls, S sand, slightly moist, trace mica, very fine to medium grain sand, slight salt an pepper texture, minor silt, little or no clay, 2.5y 5/2, acid reactivity-slight.
C8100 B2C1L3 168.6'-170.6'	S11V004282	3/24/2011	Tube is full, S sand, slightly moist, trace mica, salt an pepper texture, well sorted, very fine to medium grain sand, minor silt, little or no clay, 2.5y 5/2, acid reactivity-slight to moderate.
C8100 B2B438 168.6'-170.6'	S11V004283	3/24/2011	S sand, very slightly moist, very fine to coarse grain sand, salt an pepper texture, trace gravel, largest particle 5mm, trace mica, trace silt, 2.5y 6/1, acid reactivity-slight.
C8100 B2C1L6 202'-204'	S11V004301	3/25/2011	Tube is full, gS gravelly sand, very slightly moist, largest particle 7mm, there are some clasts that break easily, very fine sand to fine gravel, sub-rounded to sub-angular, minor silt, trace mica, poorly sorted, 2.5Y5/2, acid reactivity-very slight.
C8100 B2C1L7 202'-204'	S11V004302	3/25/2011	4mm depression at the top of liner, 40mm gap from bottom of liner, (g)S slightly gravelly sand, slightly moist, largest particle 13mm, very fine sand to medium gravel, sub-rounded to sub-angular, some clasts that break easily, trace mica, increase in the finer grain fraction upward, minor silt, little or no clay, poorly sorted, 2.5Y5/2, acid reactivity-slight.
C8100 B2C1L8 202'-204'	S11V004303	3/25/2011	12mm gap at top of liner, 25mm gap at bottom of liner, gS gravelly sand, slightly moist, some clasts easily broken, very fine sand to medium gravel, sub-rounded to sub-angular, trace mica, largest particle 9mm, poorly sorted, slight increase in silt content upward, minor clay, 2.5Y5/2, acid reactivity-slight.
C8100 B2C1L4 202'-204'	S11V004304	3/25/2011	gS gravelly sand, very slightly moist, poorly sorted, trace mica, largest particle 8mm, very fine sand to fine gravel, sub-rounded to sub-angular, trace silt, little or no clay, 2.5Y6/1, acid reactivity-very slight.
C8100 B2C1L9 222.8'-224.8'	S11V004330	4/5/2011	Tube is full, gS gravelly sand, very slightly moist, poorly sorted, largest particle is 12mm excluded, sub-angular to sub- round, very fine sand to fine gravel, minor silt, 2.5Y5/2, acid reactivity-very slight.
C8100 B2C1M0 222.8'-224.8'	S11V004331	4/5/2011	Tube is full, abundant black skins from liner wall, (m)gS slightly muddy gravelly sand, slightly moist, largest particle is 6mm, poorly sorted, very fine sand to fine gravel, sub-angular to sub-rounded, trace mica, 2.5Y5/2, acid reactivity-slight.
C8100 B2C1M1 222.8'-224.8'	S11V004332	4/5/2011	Tube is full, abundant black skins from liner wall, mgS-muddy gravelly sand, slightly moist, big clasts that don't break easily, poorly sorted, very fine sand to very fine gravel, largest particle 3mm, trace mica, minor silt, abundant clay, 2.5Y5/2, acid reactivity-slight.
C8100 B2C1L5 222.8'-224.8'	S11V004333	4/5/2011	(m)gS slightly muddy gravelly sand, Dry, trace mica, poorly sorted, salt and pepper texture, sub-angular to sub-round, very fine grain sand, predominately sand and gravel, little or no clay,predominately coarse silt, 2.5Y6/2, acid reactivity-very slight.

C Farm WMA C 2011 Photographs

Figure A-1: Core 8100, Sample B2B1L6, Surface

Figure A-2: Core 8100, Sample B2B1L7, Surface Duplicate

Figure A-3: Core 8100, Sample B2BX79, Liner A

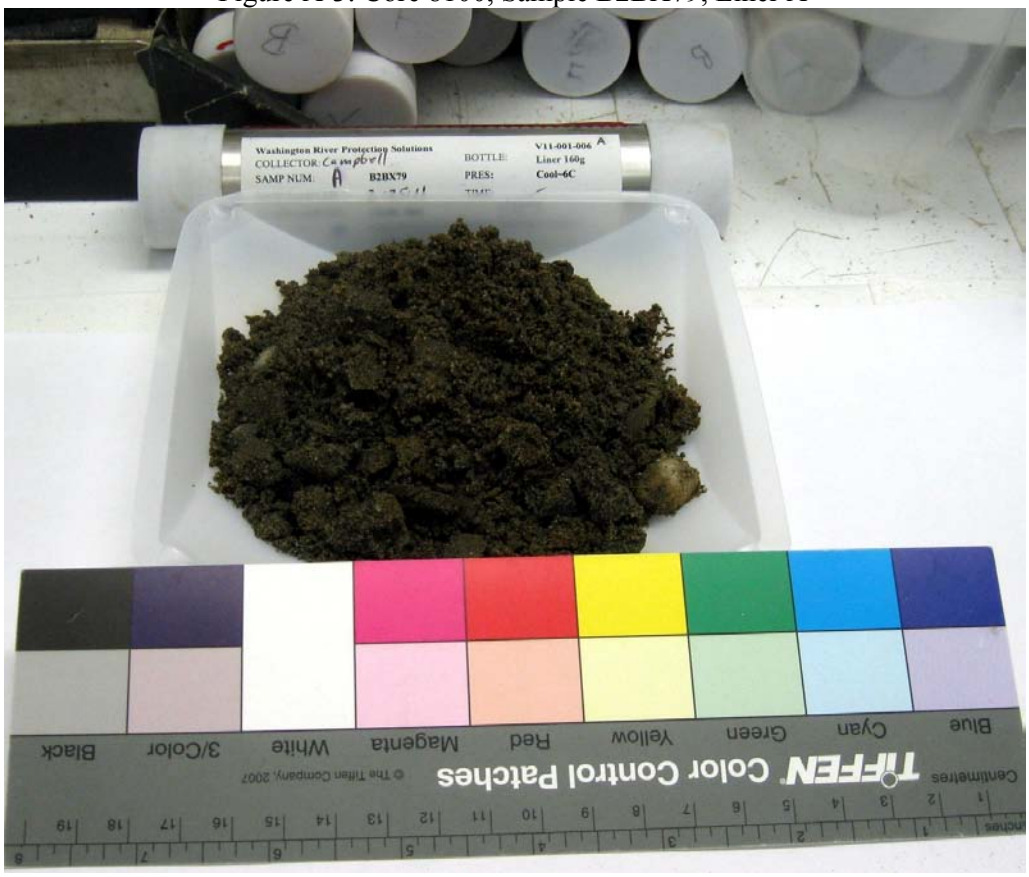


Figure A-4: Core 8100, Sample B2BX80, Liner B

Figure A-5: Core 8100, Sample B2B1M0, Shoe

Figure A-6: Core 8100, Sample B2B1M1, Liner A

Figure A-7: Core 8100, Sample B2BX89, Shoe

Figure A-8: Core 8100, Sample B2B1M4, Liner A

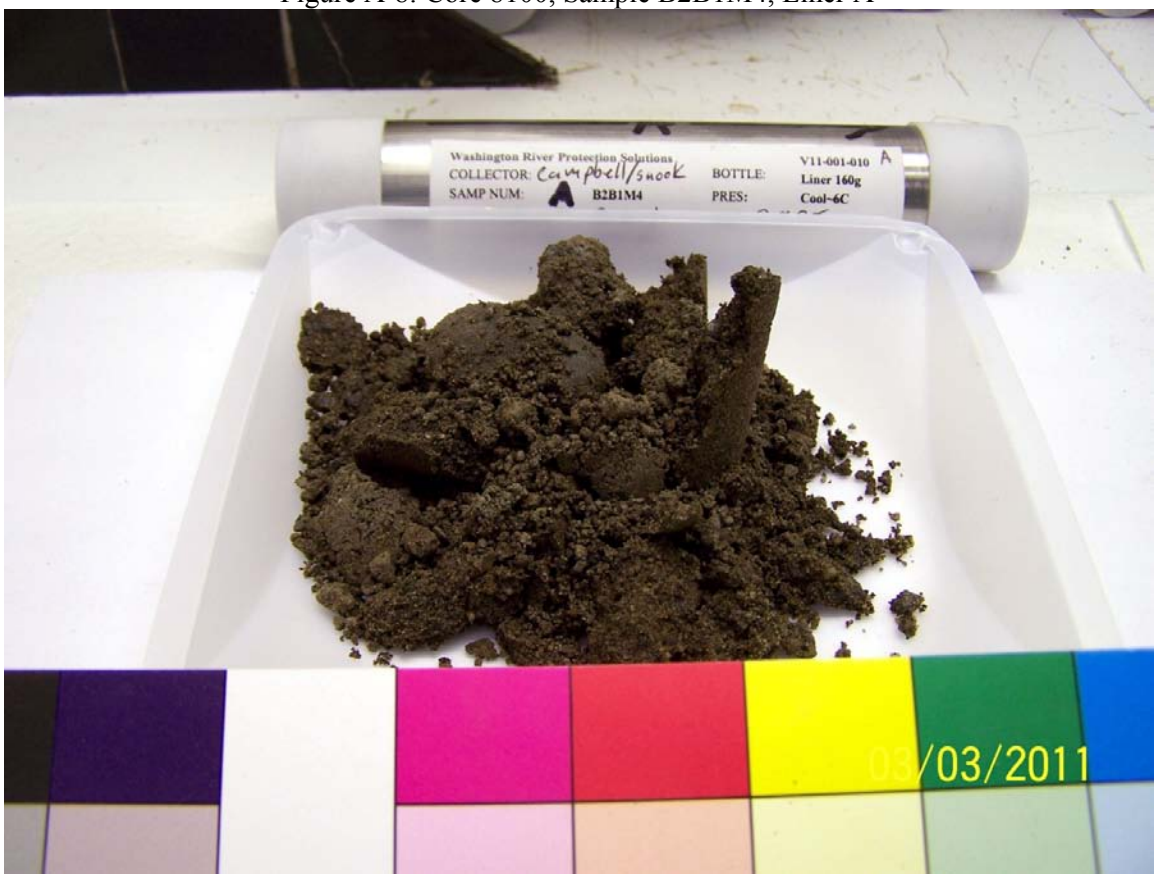


Figure A-9: Core 8100, Sample B2BX90, Shoe

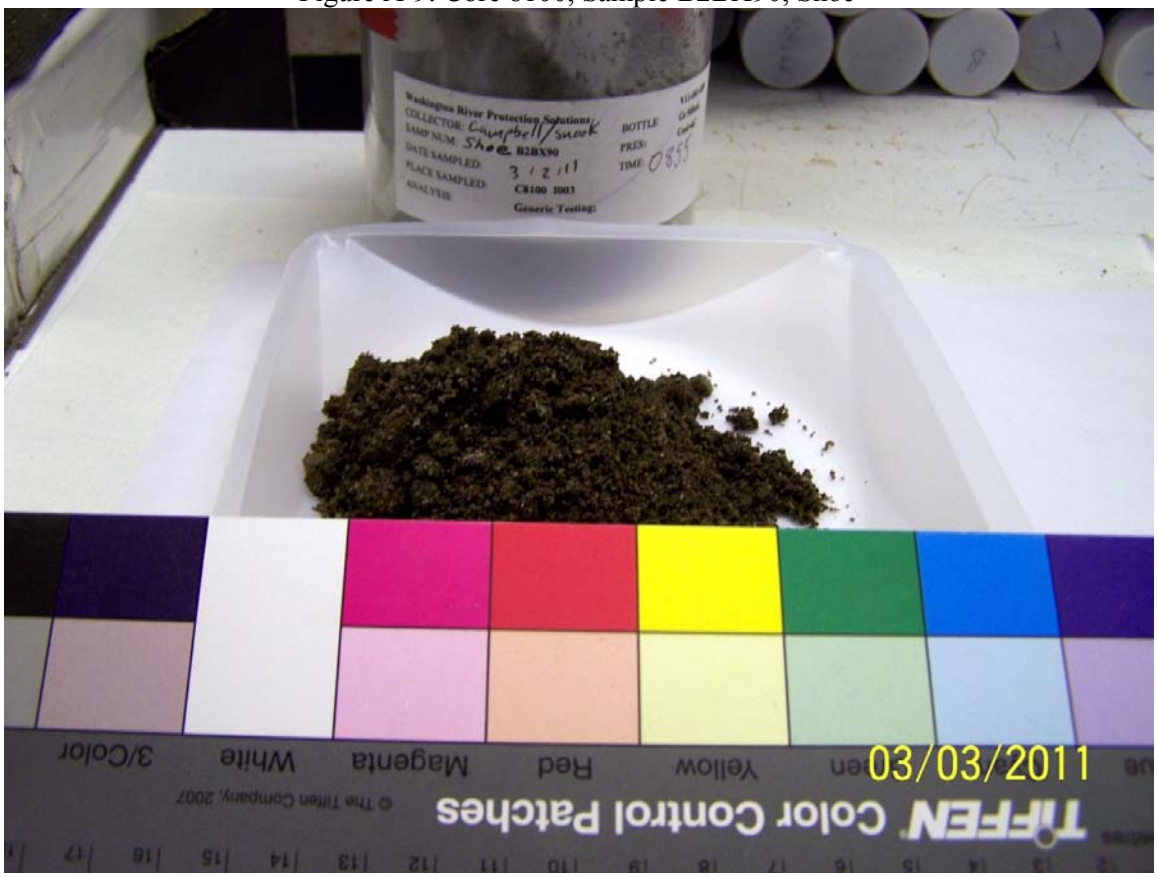


Figure A-10: Core 8100, Sample B2B1M7, Liner A

Figure A-11: Core 8100, Sample B2BXR4, Shoe

Figure A-12: Core 8100, Sample B2B1N0, Liner A

Figure A-13: Core 8100, Sample B2B1N1, Liner B

Figure A-14: Core 8100, Sample B2B435, Shoe

Figure A-15: Core 8100, Sample B2B1N3, Liner A

Figure A-16: Core 8100, Sample B2B1N4, Liner B

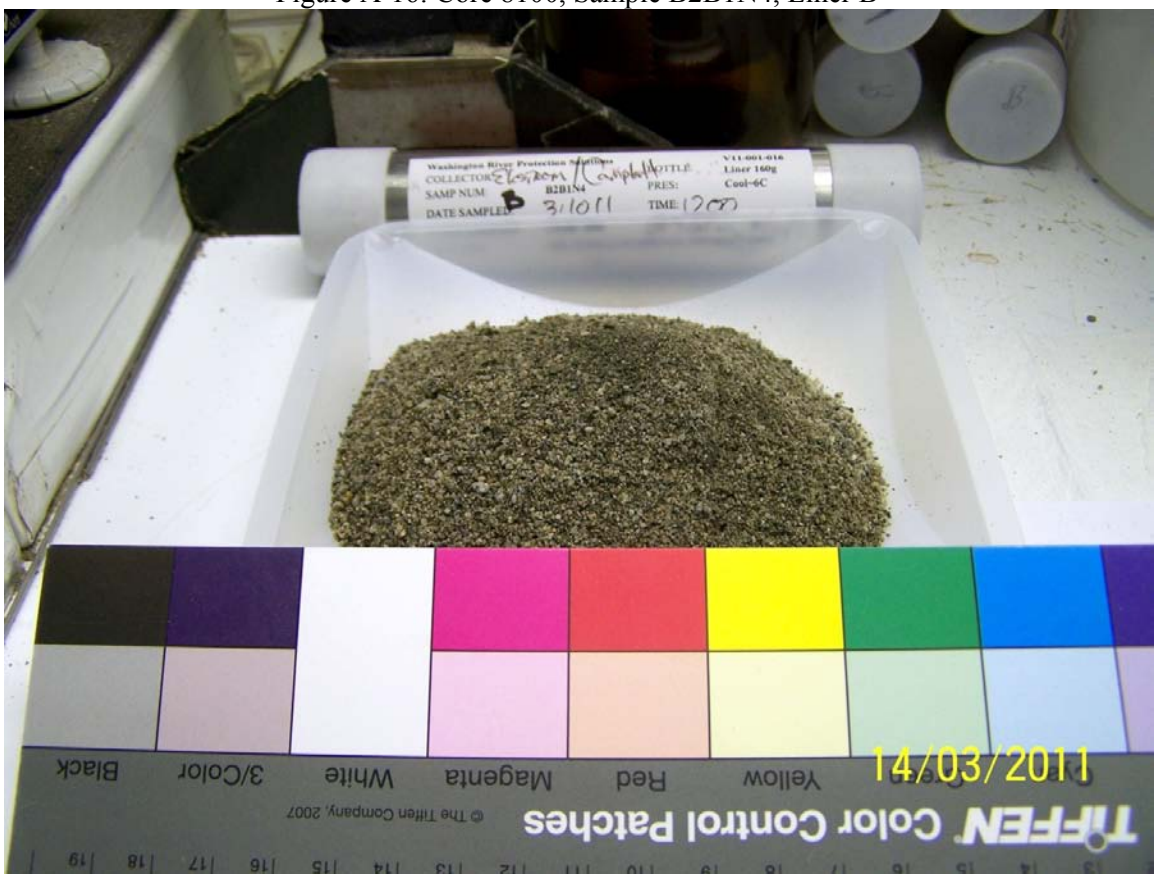


Figure A-17: Core 8100, Sample B2B1N5, Liner C

Figure A-18: Core 8100, Sample B2B436, Shoe

Figure A-19: Core 8100, Sample B2C1K8, Liner A

Figure A-20: Core 8100, Sample B2C1K9, Liner B

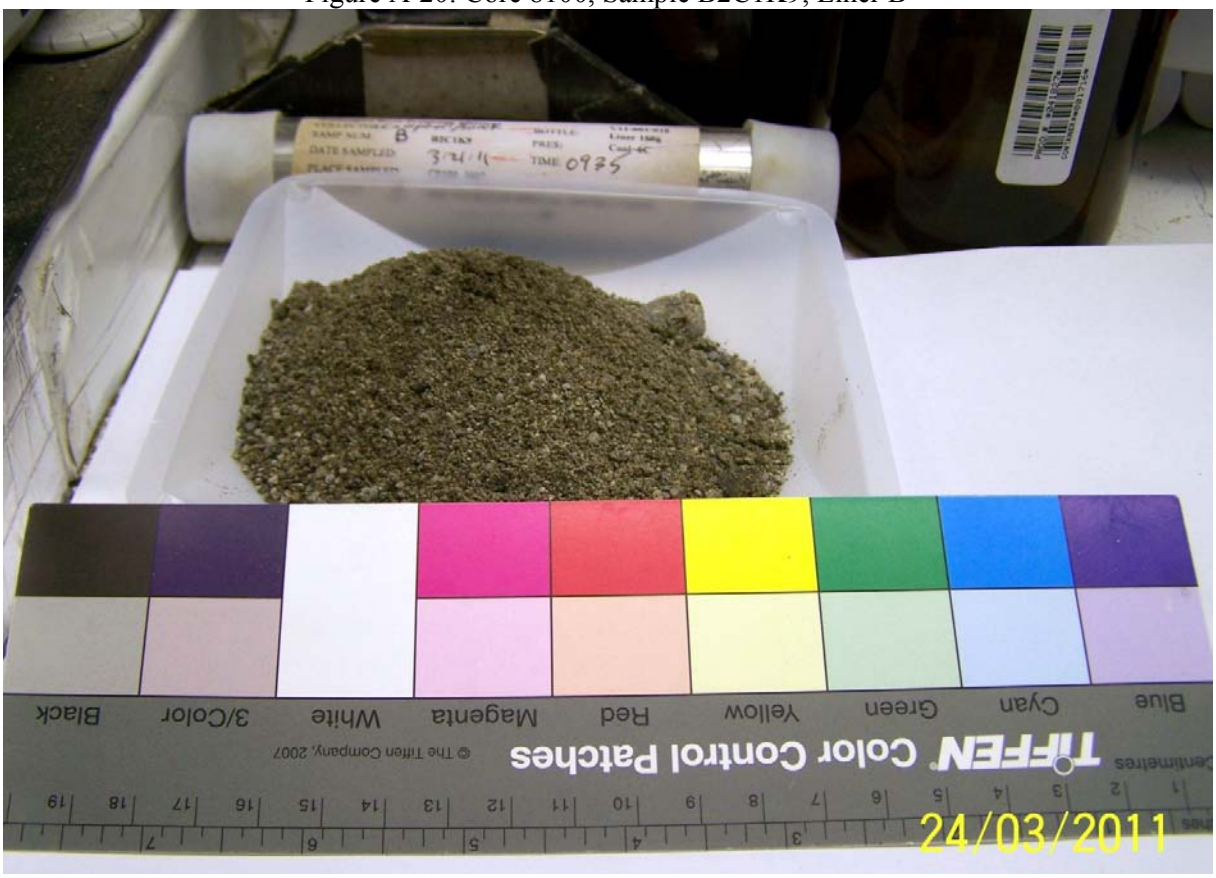


Figure A-21: Core 8100, Sample B2C1L0, Liner C

Figure A-22: Core 8100, Sample B2B437, Shoe

Figure A-23: Core 8100, Sample B2C1L1, Liner A

Figure A-24: Core 8100, Sample B2C1L2, Liner B

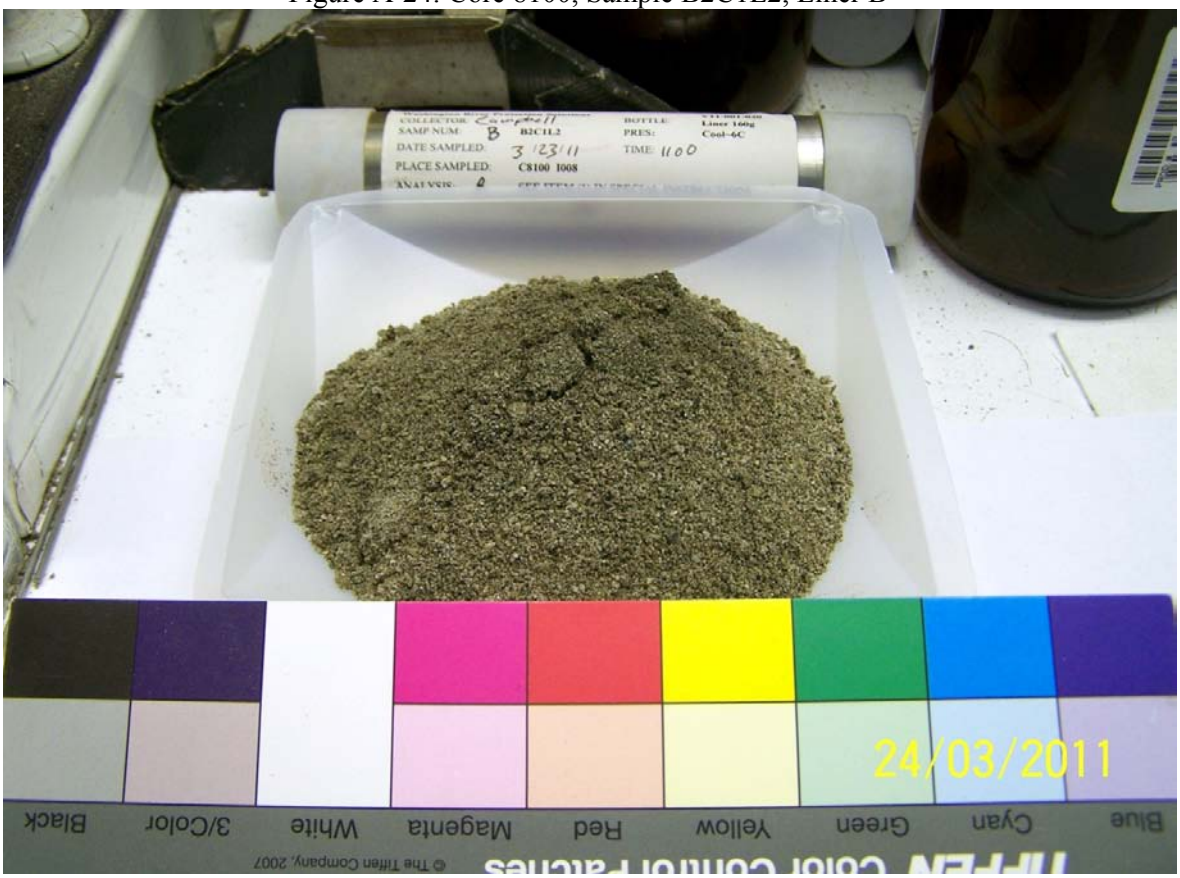


Figure A-25: Core 8100, Sample B2C1L3, Liner C

Figure A-26: Core 8100, Sample B2B438, Shoe

Figure A-27: Core 8100, Sample B2C1L6, Liner A

Figure A-28: Core 8100, Sample B2C1L7, Liner B

Figure A-29: Core 8100, Sample B2C1L8, Liner C

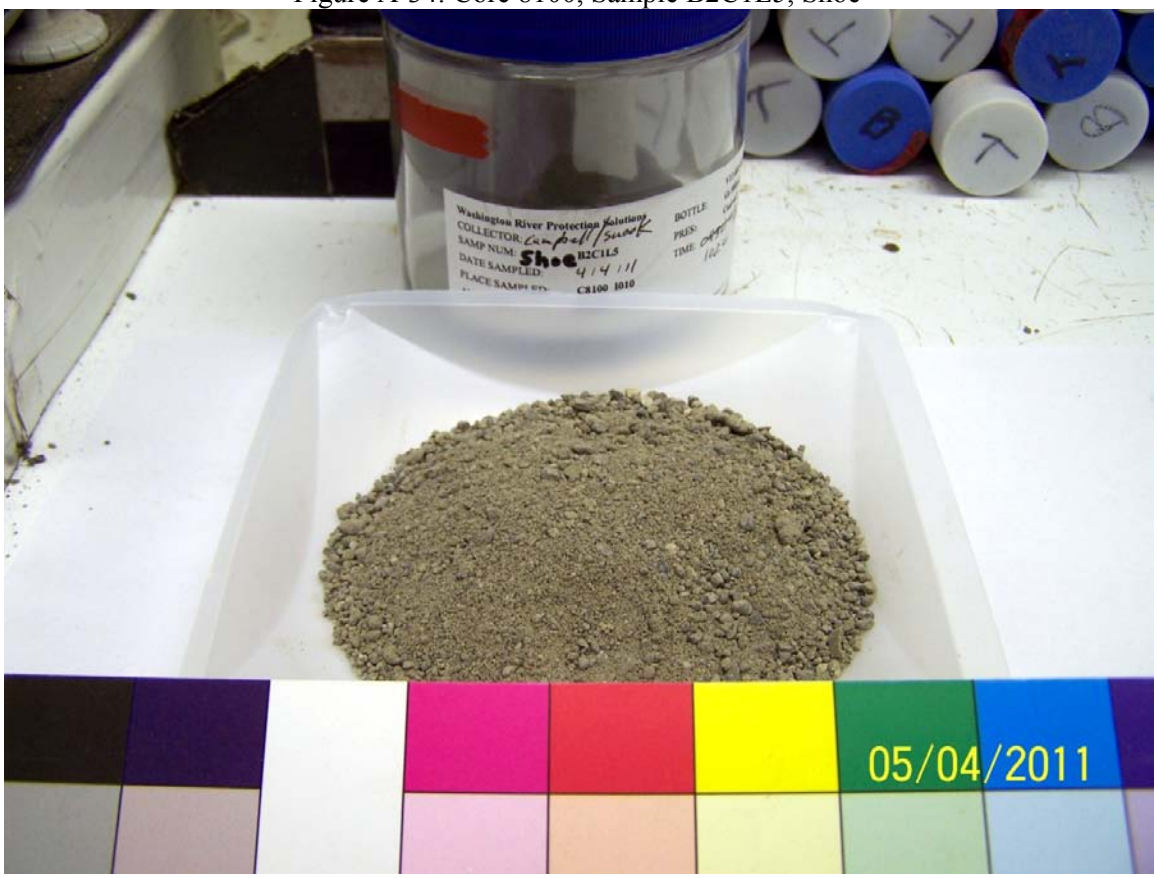
Figure A-30: Core 8100, Sample B2C1L4, Shoe

Figure A-31: Core 8100, Sample B2C1L9, Liner A

Figure A-32: Core 8100, Sample B2C1M0, Liner B

Figure A-33: Core 8100, Sample B2C1M1, Liner C

Figure A-34: Core 8100, Sample B2C1L5, Shoe



Attachment 8

CHARACTERIZATION CHANGE NOTICES AND CORRESPONDENCE

VADOSE ZONE
CHARACTERIZATION CHANGE NOTICE

Document: RPP-PLAN-40564 Rev 2 **Change Number:** WMAC-0013 **ECN to TSAP Required?** Y / N

Requestor: Andrew M. Templeton **Date:** 1-3-11

Original Requirement:

RPP-PLAN-40564, Rev. 2 *Field Sampling and Analysis Plan for Waste Management Area C*, Table 3-3, Sample Preservation, Container and Holding Time Guidelines, first row, column 7, states that the Holding Time for Radionuclides is "None".

Samples Impacted: All soil samples collected in C Farm.

Proposed Change:

Table 3-3, Sample Preservation, Container and Holding Time Guidelines, first row, column 7, the Holding Time for Radionuclides should be changed to 6 months to be consistent with the *Sampling and Analysis Plan for Phase 2 Characterization of Vadose Soil in Waste Management Area C*, RPP-PLAN-38777, Rev. 1

Reason for Change:

RPP-PLAN-38777, Rev. 1, *Sampling and Analysis Plan for Phase 2 Characterization of Vadose Soil in Waste Management Area C*, Table A-1, Sample Preservation, Container and Holding Time Guidelines, column 7, row 1, states 6 months.

Date Change Effective: 1-3-11

Schedule Impact: None

Authorization:

Vadose Zone POC (Print/Sign): A.M. Templeton **Date:** 1-17-11

Vadose Zone Quality Assurance (Print/Sign): K.J. Dunbar **Date:** 1-26-11

222-S Project Coordinator (Print/Sign): S.G. Mckinney **Date:** 1-25-11

ATL Project Coordinator (Print/Sign): G.P. Ritenour **Date:** 1-25-11

Vadose Lab Interface Lead (Print/Sign): H. L. Anastos **Date:** 1-18-11

cc: S. J. Eberlein, K. M. Hall, Dana Stewart, Dave Myers, Penny Berlin, Eric Wyse, Mike Connelly, Harold Sydnor, Cindy Tabor

VADOSE ZONE
CHARACTERIZATION CHANGE NOTICE

Document: RPP-PLAN-40564 Rev 2 **Change Number:** WMAC-0014 **ECN to TSAP Required?** Y / N

Requestor: Andrew M. Templeton **Date:** 1-24-11

Original Requirement:

RPP-PLAN-40564, Rev. 2 Field Sampling and Analysis Plan for Waste Management Area C, does not request that the samples be analyzed for specific conductivity.

Samples Impacted: All soil samples collected in C Farm.

Proposed Change:

Add specific conductivity to the Field Sampling and Analysis Plan for Waste Management Area C, RPP-PLAN-40564, Rev. 2. Add the following row to the end of Table 4-1, Primary Inorganic Constituents and Analytical Methods. The measurement would be performed on the 1:1 water extract. The holding time will be 28 days.

Constituent	Analytical Method	Alternative Method
Specific Conductance (EC)	9050A	N/A

Reason for Change:

Specific conductivity measurements could be useful in the future to correlate electrical resistivity measurements (SGE) with vadose zone sediment and pore water composition.

Date Change Effective: 1-24-11

Schedule Impact: None

Authorization:

Vadose Zone POC (Print/Sign): A.M. Templeton **Date:** 2-8-11

Vadose Zone Quality Assurance (Print/Sign): K.J. Dunbar **Date:** 2-9-11

222-S Project Coordinator (Print/Sign): S.G. Mckinney **Date:** 2-15-11

ATL Project Coordinator (Print/Sign): G.P. Ritenour **Date:** 2-14-11

Vadose Lab Interface Lead (Print/Sign): H. L. Anastos **Date:** 2-8-11

cc: S. J. Eberlein, K. M. Hall, Dana Stewart, Dave Myers, Penny Berlin, Eric Wyse, Mike Connelly, Harold Sydnor, Cindy Tabor

VADOSE ZONE
CHARACTERIZATION CHANGE NOTICE

Document: RPP-PLAN-40564 Rev 2 **Change Number:** WMAC-015 **ECN to TSAP Required?** Y / N

Requestor: Andrew Templeton **Date:** 2/14/2011

Original Requirement: Section 4, Sample Analysis Requirements, Tables, 4-1, 4-3, 4-4, 4-6 and 4-7 require the following analyses: sulfide, volatile organic analysis, gasoline and diesel range organics, PCB congeners, ethylene glycol and monobutyl/dibutyl phosphate.

Samples Impacted: All FY2011 C Farm Sampling Events

Proposed Change: Analysis for sulfide, volatile organic analysis, gasoline and diesel range organics, PCB congeners, ethylene glycol and monobutyl/dibutyl phosphate will be discontinued for future C Farm sampling campaigns.

Delete sulfide from Table 4-1, delete Table 4-3, delete ethylene glycol and monobutyl/dibutyl phosphate from Table 4-4, delete the first column of Table 4-5 titled Method 8260 VOC, delete PCB congeners from Table 4-6 and delete GRO and DRO from Table 4-7.

Reason for Change: Data obtained in 2009 and 2010 meets or exceeds the data requirements specified in the work plan and SAP for these analyses. Review of 2009 and 2010 data to date, indicates that there is no justification to continue analysis of these constituents.

Elimination of these methods allows larger sample sizes to be used for remaining methods to decrease detection limits, ensure full QC, and allow re-analyses, if applicable.

Date Change Effective: 2/14/2011

Authorization:

Vadose Zone POC (Print/Sign): A.M. Templeton **Date:** 2-16-11

Vadose Zone Quality Assurance (Print/Sign): K.J. Dunbar **Date:** 2-16-11

222-S Project Coordinator (Print/Sign): S.G. McKinney **Date:** 2-17-11

ATL Project Coordinator (Print/Sign): G.P. Ritenour **Date:** 2-16-11

Lab Interface Lead (Print/Sign): H.L. Anastos **Date:** 2-16-11

cc: S. J. Eberlein, K. M. Hall, Dana Stewart, Dave Myers, Penny Berlin, Eric Wyse, Mike Connelly, Harold Sydnor, Cindy Tabor, Bob Lober, M. Bergeron, M Skorska, J. Robertson

VADOSE ZONE
CHARACTERIZATION CHANGE NOTICE

Document: RPP-PLAN-40564 Rev 2 **Change Number:** WMAC-016 **ECN to TSAP Required?** Y / N

Requestor: Andrew M. Templeton **Date:** 3-2-11

Original Requirement: At each sample depth, three (3) liner samples and one (1) shoe sample are targeted to be taken. Good recovery is required to perform all of the requested analyses.

Samples Impacted: Samples collected in C Farm at site J, direct push slant borehole, location C8100, 15-17 ft. bgs (pipe run).

Proposed Change:

Due to poor sample recovery from 15-17 ft. bgs (100% in Shoe, 75% in Liner A, 0% in Liner B and 0% in Liner C), an additional sample was collected from 17-19 ft. bgs. (100% in Shoe, 90% in Liner A, 0% in Liner B and 0% in Liner C)

To ensure that we have enough material to do all the analyses, a composite will be prepared from the Shoe and Liner A from the 15-17 ft. bgs interval, and the Shoe and Liner A from the 17-19 ft. bgs interval.

Reason for Change: Poor sample recovery.

Date Change Effective: 3-2-11

Schedule Impact: None

Authorization:

Characterization Task Lead (Print/Sign): A.M. Templeton **Date:** 3-3-11

Vadose Zone Quality Assurance (Print/Sign): K.J. Dunbar **Date:** 3-3-11

222-S Project Coordinator (Print/Sign): S.G. Mckinney **Date:** 3-8-11

ATL Project Coordinator (Print/Sign): G.P. Ritenour **Date:** 3-7-11

Vadose Lab Interface Lead (Print/Sign): H.L. Anastos **Date:** 3-3-11

cc: S. J. Eberlein, K. M. Hall, Dana Stewart, Dave Myers, Penny Berlin, Eric Wyse, Mike Connelly, Harold Sydnor, Cindy Tabor, Ann Shrum, Marcel Bergeron

VADOSE ZONE
CHARACTERIZATION CHANGE NOTICE

Document: RPP-PLAN-40564 Rev 2 **Change Number:** WMAC-017 **ECN to TSAP Required?** Y / N

Requestor: Andrew M. Templeton **Date:** 3-3-11

Original Requirement: Each sampling location consists of a surface sample, three shallow samples (5, 10 and 14 ft) and at least four additional samples down to a maximum depth of 200 ft. below ground surface (bgs) or refusal.

Samples Impacted: Samples collected in C Farm at site J, direct push slant borehole, location C8100

Proposed Change: It was decided that 3 samples (rather than 4) would be sufficient to represent the top 15 ft bgs. The surface and 5 ft bgs samples will be collected and a third sample from 13-15 ft bgs (vertical depth) will be collected from this location to represent the plan required 10-12 and 14-16 ft bgs samples.

Reason for Change: The decision to collect one less sample in the top 15 ft bgs was agreed upon by all attendees (at the February 15th, 2011 WMAC Sample Depth Collection meeting for Location J (C8100)) as the deeper intervals appear to be of more interest (based on draft gamma and moisture plot). Since the deeper intervals were of more interest, six sample depths were chosen at depths > 15 ft bgs. Thus, a total of nine sample depth intervals will be collected and analyzed for this location.

Date Change Effective: 3-3-11

Schedule Impact: None

Authorization:

Characterization Task Lead (Print/Sign): A.M. Templeton **Date:** 3-3-11

Vadose Zone Quality Assurance (Print/Sign): K.J. Dunbar **Date:** 3-3-11

222-S Project Coordinator (Print/Sign): S.G. Mckinney **Date:** 3-8-11

ATL Project Coordinator (Print/Sign): G.P. Ritenour **Date:** 3-7-11

Vadose Lab Interface Lead (Print/Sign): H.L. Anastos **Date:** 3-3-11

cc: S. J. Eberlein, K. M. Hall, Dana Stewart, Dave Myers, Penny Berlin, Eric Wyse, Mike Connelly, Harold Sydnor, Cindy Tabor, Ann Shrum, Marcel Bergeron

VADOSE ZONE
CHARACTERIZATION CHANGE NOTICE

Document: RPP-PLAN-40564 Rev 2 **Change Number:** WMAC-018 **ECN to TSAP Required?** Y / N

Requestor: Andrew M. Templeton **Date:** 3-7-11

Original Requirement: At each sample depth, three (3) liner samples and one (1) shoe sample are targeted to be taken. Good recovery is required to perform all of the requested analyses.

Samples Impacted: Samples collected in C Farm at site J, direct push slant borehole, location C8100, 54-56 ft. bgs (pipe run).

Proposed Change:

Due to poor sample recovery from 54-56 ft. bgs (100% in Shoe, 80% in Liner A, 0% in Liner B and 0% in Liner C), an additional sample was collected from 56-58 ft. bgs. (100% in Shoe, 100% in Liner A, 70% in Liner B and 0% in Liner C)

To ensure that we have enough material to do all the analyses, a composite will be prepared from the Shoe and Liner A from the 54-56 ft. bgs interval, and the Shoe, Liner A and Liner B from the 56-58 ft. bgs interval.

Reason for Change: Poor sample recovery.

Date Change Effective: 3-7-11

Schedule Impact: None

Authorization:

Characterization Task Lead (Print/Sign): A.M. Templeton **Date:** 3-15-11

Vadose Zone Quality Assurance (Print/Sign): K.J. Dunbar **Date:** 3-16-11

222-S Project Coordinator (Print/Sign): S.G. Mckinney **Date:** 3-30-11

ATL Project Coordinator (Print/Sign): G.P. Ritenour **Date:** 3-25-11

Vadose Lab Interface Lead (Print/Sign): H.L. Anastos **Date:** 3-16-11

cc: S. J. Eberlein, J.R. Prilucik, Dana Stewart, Dave Myers, Penny Berlin, Eric Wyse, Mike Connelly, Harold Sydnor, Cindy Tabor, Ann Shrum, Marcel Bergeron

VADOSE ZONE
CHARACTERIZATION CHANGE NOTICE

Document: RPP-PLAN-40564 Rev 2 **Change Number:** WMAC-019 **ECN to TSAP Required?** Y / N

Requestor: Andrew M. Templeton **Date:** 3-31-11

Original Requirement: The laboratory shall issue the Format VI laboratory data report within 120 calendar days following receipt of the last samples or as negotiated. Preliminary results shall be available within 60 calendar days following receipt of the last samples.

Samples Impacted: The following samples collected in C Farm at site J, direct push slant borehole, location C8100: 54 - 58 ft (pipe run), 76 - 78 ft (pipe run), 118-120 ft bgs (pipe run), 168.6-170.6 ft bgs (pipe run), 202-204 ft bgs (pipe run) and 222.8-224.8 ft bgs (pipe run). These are sample intervals I004 through I010.

Proposed Change: In addition to the current data reporting, the laboratory shall provide a QA reviewed report with results for Tc-99 and nitrate within 2 to3 weeks after the last sample is received from location C8100.

Reason for Change: The data is needed to support waste retrieval activities.

Date Change Effective: 3-31-11

Schedule Impact: None

Authorization:

Characterization Task Lead (Print/Sign): A.M. Templeton **Date:** 4-12-11

Vadose Zone Quality Assurance (Print/Sign): K.J. Dunbar **Date:** 4-13-11

222-S Project Coordinator (Print/Sign): S.G. Mckinney **Date:** 4-22-11

ATL Project Coordinator (Print/Sign): G.P. Ritenour **Date:** 4-13-11

Vadose Lab Interface Lead (Print/Sign): H.L. Anastos **Date:** 4-12-11

cc: S. J. Eberlein, J.R. Prilucik, Dana Stewart, Dave Myers, Penny Berlin, Eric Wyse, Mike Connelly, Harold Sydnor, Cindy Tabor, Ann Shrum, Marcel Bergeron

From: Anastos, Heather L
To: Ritenour, Gerald P
Cc: Johnson, Jo M; McKinney, Steve G; Hansen, Daniel R
Subject: RE: Sn-126 analysis for S-SX Barrier
Date: Tuesday, March 29, 2011 7:51:58 AM

Can the data be reported with an "E" flag? In the future, it would be preferable to reanalyze…but I think we can accept this with the flag (I'll also flag the data as "suspect"…)

Heather Anastos
Chemist, Closure & Corrective Measures
(509) 373-2616
1200 Jadwin/301

washington river protection solutions
contractor to the United States Department of Energy

From: Ritenour, Gerald P
Sent: Monday, March 28, 2011 2:30 PM
To: Anastos, Heather L
Cc: Johnson, Jo M; McKinney, Steve G; Hansen, Daniel R
Subject: Sn-126 analysis for S-SX Barrier

Heather,
In reviewing the Sn-126 analysis I have found, as expected that the Sn-117 spikes have failed low. In early 2011 we determined that using additional HCL improves the recovery. However the addition of HCl increases the Tn-126 result, which could be caused by an interference. The collision cell ICP/MS instrument is not yet ready for Sn-126/semi-quant analysis. So currently we can only mitigate the potential interference by diluting. Should these samples be reanalyzed now or just reported "as is" with narration.
Thanks, JR

Core Number	Customer Sample ID	Sample Depth	SAMPLE_R	A	ANALYTE	UNITS	LSC %R	BLANK	RESULT	DUP	RPD	MS %R	MDL	Q Flag
C7738	B24HH9	45-47	S10V000500	A	Tin-117	ug/g	105	<1.00E-03	0.0176	0.0166	5.86	**34.2**	9.96E-03	
C7738	B24HH9	45-47	S10V000500	A	Tin-126	ug/g	n/a	<2.00E-05	2.67E-04	2.37E-04	12.0	n/a	1.99E-04	
C7738	B24HJ0	62-64	S10V000528	A	Tin-117	ug/g	105	<1.00E-03	0.0157	n/a	n/a	n/a	9.97E-03	
C7738	B24HJ0	62-64	S10V000528	A	Tin-126	ug/g	n/a	<2.00E-05	<1.99E-04	n/a	n/a	n/a	1.99E-04	U
C7738	B24KV1	96-98	S10V000539	A	Tin-117	ug/g	105	<1.00E-03	0.0167	n/a	n/a	n/a	9.88E-03	
C7738	B24KV1	96-98	S10V000539	A	Tin-126	ug/g	n/a	<2.00E-05	2.93E-04	n/a	n/a	n/a	1.98E-04	
C7738	B24KV2	127-129	S10V000555	A	Tin-117	ug/g	105	<1.00E-03	0.0177	n/a	n/a	n/a	9.94E-03	
C7738	B24KV2	127-129	S10V000555	A	Tin-126	ug/g	n/a	<2.00E-05	4.37E-04	n/a	n/a	n/a	1.99E-04	
C7738	B24KV3	159-161	S10V000561	A	Tin-117	ug/g	105	<1.00E-03	0.0120	n/a	n/a	n/a	9.99E-03	
C7738	B24KV3	159-161	S10V000561	A	Tin-126	ug/g	n/a	<2.00E-05	3.00E-04	n/a	n/a	n/a	2.00E-04	
C7742	B24YW0	40-42	S10V000749	A	Tin-117	ug/g	105	<1.00E-03	0.0231	n/a	n/a	n/a	0.0100	
C7742	B24YW0	40-42	S10V000749	A	Tin-126	ug/g	n/a	<2.00E-05	2.43E-04	n/a	n/a	n/a	2.01E-04	
C7742	B24YW1	96-98	S10V000750	A	Tin-117	ug/g	105	<1.00E-03	0.0136	n/a	n/a	n/a	9.96E-03	
C7742	B24YW1	96-98	S10V000750	A	Tin-126	ug/g	n/a	<2.00E-05	2.65E-04	n/a	n/a	n/a	1.99E-04	
C7740	B24YW4	40-42	S10V000802	A	Tin-117	ug/g	100	<1.10E-03	0.0129	0.0125	3.20	**47.2**	0.0120	N
C7740	B24YW4	40-42	S10V000802	A	Tin-126	ug/g	n/a	<2.00E-05	3.24E-04	3.40E-04	4.92	n/a	2.19E-04	
C7740	B24YW5	94-96	S10V000803	A	Tin-117	ug/g	100	<1.10E-03	<0.0114	n/a	n/a	n/a	0.0114	UN
C7740	B24YW5	94-96	S10V000803	A	Tin-126	ug/g	n/a	<2.00E-05	7.36E-04	n/a	n/a	n/a	2.07E-04	
C7742	B24YW6	135-137	S10V000804	A	Tin-117	ug/g	100	<1.10E-03	0.0337	n/a	n/a	n/a	0.0116	N
C7742	B24YW6	135-137	S10V000804	A	Tin-126	ug/g	n/a	<2.00E-05	1.02E-03	n/a	n/a	n/a	2.10E-04	
C7746	B24YX2	44-46	S10V001027	A	Tin-117	ug/g	104	<5.00E-04	0.0132	0.0133	1.31	**35.4**	4.98E-03	
C7746	B24YX2	44-46	S10V001027	A	Tin-126	ug/g	n/a	<1.00E-05	3.66E-04	3.81E-04	4.02	n/a	9.96E-05	
C7746	B24YX3	94-96	S10V001042	A	Tin-117	ug/g	104	<5.00E-04	0.0126	n/a	n/a	n/a	4.94E-03	
C7746	B24YX3	94-96	S10V001042	A	Tin-126	ug/g	n/a	<1.00E-05	5.49E-04	n/a	n/a	n/a	9.88E-05	
C7746	B24YX4	144-146	S10V001057	A	Tin-117	ug/g	104	<5.00E-04	0.0102	n/a	n/a	n/a	4.98E-03	
C7746	B24YX4	144-146	S10V001057	A	Tin-126	ug/g	n/a	<1.00E-05	1.10E-03	n/a	n/a	n/a	9.97E-05	
C7744	B24YW8	37-39	S10V001083	A	Tin-117	ug/g	102	<5.00E-04	0.0174	0.0108	**46.9**	**22.9**	4.95E-03	
C7744	B24YW8	37-39	S10V001083	A	Tin-126	ug/g	n/a	<1.00E-05	2.33E-04	2.16E-04	7.67	n/a	9.89E-05	
C7744	B24YW9	96-98	S10V001098	A	Tin-117	ug/g	102	<5.00E-04	0.0164	n/a	n/a	n/a	5.01E-03	
C7744	B24YW9	96-98	S10V001098	A	Tin-126	ug/g	n/a	<1.00E-05	5.77E-04	n/a	n/a	n/a	1.00E-04	
C7744	B24YX0	127-129	S10V001113	A	Tin-117	ug/g	102	<5.00E-04	0.0166	n/a	n/a	n/a	4.99E-03	
C7744	B24YX0	127-129	S10V001113	A	Tin-126	ug/g	n/a	<1.00E-05	7.50E-04	n/a	n/a	n/a	9.98E-05	

From: Anastos, Heather L
To: Ritenour, Gerald P
Cc: Menjivar, Carolina S; McKinney, Steve G
Subject: RE: C Farm 8100C IC Anion QC Failures
Date: Saturday, July 09, 2011 8:53:35 AM

Agreed, you can report the results with narration.

Heather Anastos
Chemist, Closure & Corrective Measures
(509) 373-2616
1200 Jadwin/301

washington river protection solutions
contractor to the United States Department of Energy

From: Ritenour, Gerald P
Sent: Friday, July 08, 2011 10:51 AM
To: Anastos, Heather L
Cc: Menjivar, Carolina S; McKinney, Steve G
Subject: C Farm 8100C IC Anion QC Failures

Heather,
In batch 26818 the RPD for F was high and the MS recovery for PO4 was low. The RPDs for the other anions with results above the quant limit, Cl and SO4 were low and all spike recoveries except for PO4 were within ±7%. Since both of these failures are typical of vadose soils I would like to report with narration.
Thanks, JR

Core Number	Customer Sample ID	Sample Depth	SAMPLE_R	A	ANALYTE	RESULT UNIT	LCS	BLANK	RESULT	DUP	RPD	MS	MDL	QUAL Flat
C8100	B2C1M8	118'-120'	S11V004270	W	Acetate	ug/g	105	<6.04E-03	<0.0602	0.313	n/a	104	0.0602	U
C8100	B2C1M8	118'-120'	S11V004270	W	Bromide	ug/g	104	<0.0580	<0.578	<0.580	n/a	103	0.578	U
C8100	B2C1M8	118'-120'	S11V004270	W	Chloride	ug/g	104	<9.98E-03	1.12	1.11	1.12	103	0.0994	
C8100	B2C1M8	118'-120'	S11V004270	W	Fluoride	ug/g	104	<1.61E-03	0.521	0.725	**32.7**	105	0.0160	M
C8100	B2C1M8	118'-120'	S11V004270	W	Formate	ug/g	103	<4.67E-03	0.166	0.261	44.6	102	0.0465	B
C8100	B2C1M8	118'-120'	S11V004270	W	Glycolate	ug/g	101	<9.37E-03	<0.0933	<0.0937	n/a	100	0.0933	U
C8100	B2C1M8	118'-120'	S11V004270	W	Oxalate	ug/g	101	<0.0231	<0.230	<0.231	n/a	99.7	0.230	U
C8100	B2C1M8	118'-120'	S11V004270	W	Phosphate	ug/g	103	<0.0167	<0.166	0.276	n/a	**73.9**	0.166	UN
C8100	B2C1M8	118'-120'	S11V004270	W	Sulfate	ug/g	105	<0.0187	38.3	40.3	5.22	93.4	0.186	

ATL Analytical Operations
Advanced Technologies and Laboratories International, Inc.
Contractor to the Office of River Protection
U.S. Department of Energy
Currently at 509-375-4200, Ext 247

From: Anastos, Heather L
To: Ritenour, Gerald P
Cc: Menjivar, Carolina S; McKinney, Steve G
Subject: RE: C8100 ICP/AES Issue Batch 26878
Date: Monday, July 11, 2011 11:30:45 AM

Agreed.

From: Ritenour, Gerald P
Sent: Monday, July 11, 2011 11:27 AM
To: Anastos, Heather L
Cc: Menjivar, Carolina S; McKinney, Steve G
Subject: C8100 ICP/AES Issue Batch 26878

Heather,
The MS recovery for Sr was 128%. All other required elements with result < 4x the spike were fine. Also if I compare the MS to the dup it recovers at 98%. Looks like a homogeneity issue. I would like to report with narration
Thanks, JR

Batch 26787

Core Number	Customer Sample ID	Sample Depth	SAMPLE_R	A	ANALYTE	RESULT UNIT	LCS	BLANK	RESULT	DUP	RPD	MS	MDL	QUAL Flag
C8100	B2B1L6	SURFACE	S11V004106	A	Strontium	ug/g	95.7	<3.00E-03	125	140	11.5	**128**	0.274	N
C8100	B2B1L7	SURFACE Dup	S11V004123	A	Strontium	ug/g	95.7	<3.00E-03	118	n/a	n/a	n/a	0.282	N
C8100	B2C1M2	5.7'-7.7'	S11V004144	A	Strontium	ug/g	95.7	<3.00E-03	33.1	n/a	n/a	n/a	0.288	N
C8100	B2C1M3	15'-19'	S11V004165	A	Strontium	ug/g	95.7	<3.00E-03	33.8	n/a	n/a	n/a	0.286	N
C8100	B2C1M5	54'-58'	S11V004208	A	Strontium	ug/g	95.7	<3.00E-03	26.5	n/a	n/a	n/a	0.280	N
C8100	B2C1M7	76'-78'	S11V004250	A	Strontium	ug/g	95.7	<3.00E-03	31.4	n/a	n/a	n/a	0.283	N

ATL Analytical Operations
Advanced Technologies and Laboratories International, Inc.
Contractor to the Office of River Protection
U.S. Department of Energy
Currently at 509-375-4200, Ext 247

Attachment 9

RECEIPT PAPERWORK

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	☒ LO-090-101 Rev 6&6 d ○ LO-090-102 Rev _____

Date Samples Received: 3.14.11 Group #: 20110261
Number of Samples: 1 set equipment blank C-FARM ~~BY B~~ 20110263
Sample Custodian: _____

Sample Custodian to Complete:

Action	Yes	No	N/A	Comments
RSA/COC provided?	✓			
RSR provided?	✓			
Verify GKI is complete				☑ In Project File
Check that outer custody seal is intact, if present			✓	
Record cooler temperature in centigrade, as appropriate	8°C			☐ Check if no cooler and/or no ice
Samples are intact and in good condition	✓			If No, provide comments on back
Verify that COC or RSA is accurate and complete, containing the following information:				
• Client name and client sample number	✓			
• Date and time of sampling	✓			
• Sampling location or origin	✓			
• Container type, size, and number	✓			
• Analysis request is clear	✓			
• Signature of persons relinquishing and receiving samples	✓			
• Date and/or time of sample custody exchange	✓			
Verify that sample numbers on containers match the COC and/or RSA	✓			
Samples stored properly (e.g., refrigeration)	✓			

Notify the PM immediately if any problems are noted. (Any "No" checked requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? ~~YES~~ YES PM Initials OPR Date 3-15-11
SPR 3-15-11
If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 1

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-003-002	PAGE 1 OF 1
COLLECTOR Campbell / Villareal	COMPANY CONTACT ANASTOS, HL	TELEPHONE NO. 373-2616	PROJECT COORDINATOR SYDNOR, HA	PRICE CODE C03 AIR QUALITY ☐	DATA TURNAROUND 60 Days / 120 Days
SAMPLING LOCATION C 8100 Equipment Blank 1	PROJECT DESIGNATION WMA C Sampling for CMS - QC		SAF NO. V11-003		
ICE CHEST NO. 003	FIELD LOGBOOK NO. TFVZ-10-000004	ACTUAL SAMPLE DEPTH Equipment	COA N/A	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO Test America St. Louis	OFFSITE PROPERTY NO. n/A		BILL OF LADING/AIR BILL NO. n/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	14/40 Days
TYPE OF CONTAINER	aG
NO. OF CONTAINER(S)	2
VOLUME	1L
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2B1N6	WATER	3-14-11	0905	✓

Placed in Fridge Door 13 RTSteele 3.14.11

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Campbell C-pbell	3-14-11 1010	RTSteele RTSteele	3.14.11 1010
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
All samples will be delivered to 222-S, and 222-S will transmit necessary bottles to the secondary laboratory (i.e., TASL)
(1) Pesticides - 8081 (TF) {4,4'-DDD (Dichlorodiphenyldichloroethane), 4,4'-DDE (Dichlorodiphenyldichloroethylene), 4,4'-DDT (Dichlorodiphenyltrichloroethane), Aldrin, Chlordane, Dieldrin, Endrin, Gamma-BHC (Lindane), Heptachlor, Heptachlor epoxide, Hexachlorobenzene};

3-14-11

0°C Temp blank RTSteele

20110261 Grp
S11V004090-4097

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

PRINTED ON 2/16/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V11-003-001	PAGE 1 OF 2

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE C03	DATA TURNAROUND
Campbell / Villarreal	ANASTOS, HL	373-2616	SYDNOR, HA	AIR QUALITY ☐	60 Days / 120 Days
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**		
C 8100 Equipment Blank 1	WMA C Sampling for CMS - QC		V11-003		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**	
003	TFV2-10-000004	Equipment	n/A	GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
222-S Lab Operations	n/A		n/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C	Cool~6C	HNO3 to pH <2	H2SO4 to pH <2/Cool~6C	NaOH to pH >=12/Cool~6C	HNO3 to pH <2	None
HOLDING TIME	24 Hours	7/40 Days	28 Days	7 Days	14 Days	6 Months	6 Months
TYPE OF CONTAINER	G/P	aG	G/P	G/P	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	1	1	1	2	1
VOLUME	500mL	1000mL	500mL	250mL	250mL	1000mL	1000mL
SAMPLE ANALYSIS	pH (Water) - 9040 (TF); IC Anions - 9056;	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	300.7_AMMONIUM (TF);	Total Cyanide - 9014 (TF);	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	C-14; H3 - TRITIUM; I129_SEP_GEA (TF);

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME							
B2B1N6	WATER	3/14/11	0905	✓	✓	✓	✓	✓	✓	✓

S11V004094

S11V004096

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Cphill Campbell	3-14-11 1010	RLFeele RLFEELE	3-14-11 1010
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

[signature] 3-14-11

Test blank
O'G
RLFeele

20110261 Grp
~~S11V004090-4097~~ mo 3/14/11
S11V004090 - 4097

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

PRINTED ON 2/16/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-003-001	PAGE 2 OF 2
COLLECTOR Campbell / Villarreal	COMPANY CONTACT ANASTOS, HL	TELEPHONE NO. 373-2616	PROJECT COORDINATOR SYDNOR, HA	PRICE CODE C03	DATA TURNAROUND
SAMPLING LOCATION C 8100 Equipment Blank 1	PROJECT DESIGNATION WMA C Sampling for CMS - QC		SAF NO. V11-003	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO. 003	FIELD LOGBOOK NO. TFV2-10-000004	ACTUAL SAMPLE DEPTH Equipment	COA n/A	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO. n/A		BILL OF LADING/AIR BILL NO. n/A		

SPECIAL INSTRUCTIONS

All samples will be delivered to 222-S, and 222-S will transmit necessary bottles to the secondary laboratory (i.e., TASL).
(1) Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3+4 Methylphenol (cresol, m+p), 4-Chloro-3-methylphenol, Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine, Naphthalene, Nitrobenzene, Pentachlorophenol, Pyrene, Pyridine, Total cresols, Tributyl phosphate}; PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};
(2) Mercury - 7470 - (CV) (TF); 6010_Metals_ICP; 6020_METALS_ICPMS (TF) {Antimony, Arsenic, Cadmium, Selenium, Silver, Thallium}; RADISO_ICPMS (TF);
(3) GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); CURIUM {Curium-242, Curium-243/244}; Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Total Sr; Isotopic Plutonium {Plutonium-238, Plutonium-239/240};

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	◉ LO-090-101 Rev EG.C ○ LO-090-102 Rev

Date Samples Received: 2.24.11 Group #: 20110264

Number of Samples: 2 sets C-Farm VAdose

Sample Custodian: RHLad

Sample Custodian to Complete:

Action	Yes	No	N/A	Comments
RSA/COC provided?	✓			
RSR provided?	✓			
Verify GKI is complete				☒ In Project File
Check that outer custody seal is intact, if present			✓	
Record cooler temperature in centigrade, as appropriate	✓ 1°C			☐ Check if no cooler and/or no ice
Samples are intact and in good condition	✓			If No, provide comments on back
Verify that COC or RSA is accurate and complete, containing the following information:				
• Client name and client sample number	✓			
• Date and time of sampling	✓			
• Sampling location or origin	✓			
• Container type, size, and number	✓			
• Analysis request is clear	✓			
• Signature of persons relinquishing and receiving samples	✓			
• Date and/or time of sample custody exchange	✓			
Verify that sample numbers on containers match the COC and/or RSA	✓			
Samples stored properly (e.g., refrigeration)	✓			

Notify the PM immediately if any problems are noted. (Any "No" checked requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? yes PM Initials JR Date 2.24.11

If No, comment on communication and resolution: RHLad for JR ritenour

Other Comments:

A-6005-342 (REV

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-001	PAGE 1 OF 2
COLLECTOR Campbell / Snook	COMPANY CONTACT ANASTOS, HL	TELEPHONE NO. 373-2616	PROJECT COORDINATOR SYDNOR, HA	PRICE CODE C03	DATA TURNAROUND
SAMPLING LOCATION C8100 Surface	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO. 003	FIELD LOGBOOK NO. TFV2-10-000004	ACTUAL SAMPLE DEPTH Surface	COA N/A	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS		
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	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	Cool~6C
		HOLDING TIME	24 Hours
		TYPE OF CONTAINER	Gs
		NO. OF CONTAINER(S)	2
		VOLUME	500mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2B1L6	SOIL	2-24-11	0826	✓

S11V004098

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
Campbell Campbell	2-24-11 0920	RJSteele RJSteele	2-24-11 0920	Grp 20110264
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	-1°C Temp
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	S11V004098
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	
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 2/15/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-001	PAGE 2 OF 2
COLLECTOR Campbell / Snook	COMPANY CONTACT ANASTOS, HL	TELEPHONE NO. 373-2616	PROJECT COORDINATOR SYDNOR, HA	PRICE CODE C03	DATA TURNAROUND
SAMPLING LOCATION C8100 Surface	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO. 003	FIELD LOGBOOK NO. TFUZ-10-000004	ACTUAL SAMPLE DEPTH Surface	COA n/A	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO. n/A		BILL OF LADING/AIR BILL NO. n/A		

SPECIAL INSTRUCTIONS

**Only samples from intervals within the top 15 ft. will be analyzed for pesticides,and PCBs.
(1) pH (Soil) - 9045; Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3+4 Methylphenol (cresol, m+p), 4-Chloro-3-methylphenol, Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine, Naphthalene, Nitrobenzene, Pyrene, Pyridine, Total cresols, Tributyl phosphate}; 6010_Metals_ICP; 6020_METALS_ICPMS (TF) {Antimony, Arsenic, Cadmium, Selenium, Silver, Thallium}; Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); ~~Sulfide - 9215~~ CAT 2/10/11 Total Cyanide - 9014 (TF); GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Thorium-228, Thorium-234}; GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); I129_SEP_GEA (TF); C-14; CURIUM {Curium-242, Curium-243/244}; H3 - TRITIUM; Isotopic Plutonium {Plutonium-238, Plutonium-239/240}; Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Total Sr; Actinides ICPMS (TF) {Neptunium-237, Thorium-230, Thorium-232, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238}; RADISO_ICPMS (TF) {Technetium-99, Tin-126}; Conductivity - 9050_WE; Percent Solids (TF); Percent Water (TF); PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-003	PAGE 1 OF 2
COLLECTOR Campbell / Shook	COMPANY CONTACT ANASTOS, HL	TELEPHONE NO. 373-2616	PROJECT COORDINATOR SYDNOR, HA	PRICE CODE C03	DATA TURNAROUND
SAMPLING LOCATION C8100 Surface Dup	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO. 003	FIELD LOGBOOK NO. TFV2-10-00004	ACTUAL SAMPLE DEPTH Surface	COA n/a	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO. n/A		BILL OF LADING/AIR BILL NO. n/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS		
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	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	Cool~6C
		HOLDING TIME	24 Hours
		TYPE OF CONTAINER	Gs
		NO. OF CONTAINER(S)	2
		VOLUME	500mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2B1L7	SOIL	2-24-11	0926	✓

S11V004115

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Campbell Cpbll	2-24-11 0920	RTSteele RTSteele	2.24.11 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
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

Grp # 20110204

Temp ~1°C

S11V004115

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-003	PAGE 2 OF 2
COLLECTOR Campbell / Snook	COMPANY CONTACT ANASTOS, HL	TELEPHONE NO. 373-2616	PROJECT COORDINATOR SYDNOR, HA	PRICE CODE C03	DATA TURNAROUND
SAMPLING LOCATION C8100 Surface Dup	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO. 003	FIELD LOGBOOK NO. TFV2-10-000004	ACTUAL SAMPLE DEPTH Surface	COA n/A	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO. n/A		BILL OF LADING/AIR BILL NO. n/A		

SPECIAL INSTRUCTIONS

**Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
(1) pH (Soil) - 9045; Semi-VOA - 8270 Complete (TF) {1,2,4-Trichlorobenzene, 1,2-Dichlorobenzene, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dinitrotoluene, 2,6-bis(1,1-dimethylethyl)-4-methyl phenol, 2-Chlorophenol, 2-Methylphenol (cresol, o-), 2-Nitrophenol, 3+4 Methylphenol (cresol, m+p), 4-Chloro-3-methylphenol, Acenaphthene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl) phthalate, Butylbenzylphthalate, Cellosolve Solvent, Chrysene, Cyclohexanone, Di-n-butylphthalate, Di-n-octylphthalate, Dibenz[a,h]anthracene, Fluoranthene, Hexachlorobutadiene, Hexachloroethane, Indeno(1,2,3-cd)pyrene, Isobutyl alcohol, n-Nitrosodi-n-dipropylamine, n-Nitrosomorpholine, Naphthalene, Nitrobenzene, Pyrene, Pyridine, Total cresols, Tributyl phosphate}; 6010_Metals_ICP; 6020_METALS_ICPMS (TF) {Antimony, Arsenic, Cadmium, Selenium, Silver, Thallium}; Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); ~~Sulfide~~ LCT 2/10/11 ~~9215~~ LCT 2/10/11 Total Cyanide - 9014 (TF); GAMMA ENERGY ANALYSIS (TF) {Antimony-125, Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Thorium-228, Thorium-234}; GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); I129_SEP_GEA (TF); C-14; CURIUM {Curium-242, Curium-243/244}; H3 - TRITIUM; Isotopic Plutonium {Plutonium-238, Plutonium-239/240}; Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Total Sr; Actinides ICPMS (TF) {Neptunium-237, Thorium-230, Thorium-232, Uranium-233, Uranium-234, Uranium-235, Uranium-236, Uranium-238}; RADISO_ICPMS (TF) {Technetium-99, Tin-126}; Conductivity - 9050_WE; Percent Solids (TF); Percent Water (TF); PCBs - 8082 {Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, Aroclor-1260};

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	☒ LO-090-101 Rev 6.6.0 ☐ LO-090-102 Rev

Date Samples Received: 2.25.11 Group #: 20110264

Number of Samples: 1 set C-FARM VADOSE C8100 I001

Sample Custodian: RHtal

Sample Custodian to Complete:

Action	Yes	No	N/A	Comments
RSA/COC provided?	✓			
RSR provided?	✓			
Verify GKI is complete			✓	☑ In Project File
Check that outer custody seal is intact, if present			✓	
Record cooler temperature in centigrade, as appropriate	0°C			☐ Check if no cooler and/or no ice
Samples are intact and in good condition	✓			If No, provide comments on back
Verify that COC or RSA is accurate and complete, containing the following information:				
• Client name and client sample number	✓			
• Date and time of sampling	✓			
• Sampling location or origin	✓			
• Container type, size, and number	✓			
• Analysis request is clear	✓			
• Signature of persons relinquishing and receiving samples	✓			
• Date and/or time of sample custody exchange	✓			
Verify that sample numbers on containers match the COC and/or RSA	✓			
Samples stored properly (e.g., refrigeration)	✓			

Notify the PM immediately if any problems are noted. (Any "No" checked requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? yes PM Initials OPN Date 3-2-11

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 1)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V11-001-006	PAGE 1 OF 1

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE C03	DATA TURNAROUND
Campbell	ANASTOS, HL	373-2616	SYDNOR, HA		
SAMPLING LOCATION	**PROJECT DESIGNATION**		**SAF NO.**	**AIR QUALITY** ☐	**60 Days / 120 Days**
C8100 I001	WMA C Sampling for CMS		V11-001		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT**	
003	TFV2-10-000004	5.7 – 7.7	n/A	GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		
222-S Lab Operations	n/A		n/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	1
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2BX79	SOIL	2-25-11	✓1155	✓~~1155~~ 2-25-11
B2BX80	SOIL	2-25-11	✓1155	✓~~1155~~ BC 2-25-11
B2BX81	SOIL	~~2-25-11~~	~~✓1155~~	✓~~1155~~ BC 2-25-11

BC 2-25-11

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Scott Campbell	2-25-11 1240	RHHood RHHood	2-25-11 1240
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
(1) Bulk Density - D2937 (TF) {Bulk density - wet};

GRP # 20110264

0°C Temp
RHHood

S11V0041 32 A
S11004133 B RHHood 2-25-11

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-005	PAGE 1 OF 1
COLLECTOR: Campbell	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03	DATA TURNAROUND
SAMPLING LOCATION: C8100 I001	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY: ☐	60 Days / 120 Days
ICE CHEST NO.: 003	FIELD LOGBOOK NO.: TFV2-10-000004	ACTUAL SAMPLE DEPTH: 5.7 - 7.7	COA: n/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: n/A		BILL OF LADING/AIR BILL NO.: n/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Gs
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Generic Testing;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2B1M0	SOIL	2-25-11	1155	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Campbell Campbell	DATE/TIME: 2-25-11 1240	RECEIVED BY/STORED IN: RTSteele RTSteele	DATE/TIME: 2-25-11 1240
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
The 500 ml bottle for generic testing will be archived unless the project requests additional analyses.

Temp 0°C RTSteele GAP 20110264 S11V004135 Shave

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	◉ LO-090-101 Rev GG-C ○ LO-090-102 Rev

Date Samples Received: 3.1.11 Group #: 20110264

Number of Samples: 1 set VADOSE C FARM C8100 I002 1517

Sample Custodian: RHtal

Sample Custodian to Complete:

Action	Yes	No	N/A	Comments
RSA/COC provided?	✓			
RSR provided?	✓			
Verify GKI is complete			✓	☐ In Project File
Check that outer custody seal is intact, if present			✓	
Record cooler temperature in centigrade, as appropriate	✓ 10C			☐ Check if no cooler and/or no ice
Samples are intact and in good condition				If No, provide comments on back
Verify that COC or RSA is accurate and complete, containing the following information:				
• Client name and client sample number	✓			
• Date and time of sampling	✓			
• Sampling location or origin	✓			
• Container type, size, and number	✓			
• Analysis request is clear	✓			
• Signature of persons relinquishing and receiving samples	✓			
• Date and/or time of sample custody exchange	✓			
Verify that sample numbers on containers match the COC and/or RSA	✓			
Samples stored properly (e.g., refrigeration)	✓			

Notify the PM immediately if any problems are noted. (Any "No" checked requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? yes PM Initials DPR Date 3-1-11

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 1

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-007	PAGE 1 OF 1
COLLECTOR: Campbell / Snook	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03	DATA TURNAROUND
SAMPLING LOCATION: C8100 I002	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO.: 003	FIELD LOGBOOK NO.: TFVZ-10-000004	ACTUAL SAMPLE DEPTH: 15-17	COA: n/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: n/A		BILL OF LADING/AIR BILL NO.: n/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Gs
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Generic Testing;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2BX89	SOIL	3-1-11	1335	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Campbell Campbell	DATE/TIME: 3-1-11 1420	RECEIVED BY/STORED IN: CTSteele RHKel	DATE/TIME: 3.1.11 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
The 500 ml bottle for generic testing will be archived unless the project requests additional analyses.

Scott Sweet 3-1-11

-1°C RHKel
Temp blank

GAH 20110264
511V004156

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-008	PAGE 1 OF 1
COLLECTOR: Campbell / Snook	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03	DATA TURNAROUND
SAMPLING LOCATION: C8100 I002	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO.: 003	FIELD LOGBOOK NO.: TFVZ-10-000004	ACTUAL SAMPLE DEPTH: 15-17	COA: N/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	1
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2B1M1	SOIL	3-1-11	1335	✓
B2B1M2	SOIL BC 3-1-11	~~3-1-11~~	~~1335~~	✓
B2B1M3	SOIL BC 3-1-11	~~3-1-11~~	~~1335~~	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Scott Campbell	DATE/TIME: 3-1-11 1420	RECEIVED BY/STORED IN: RHTeele RHTeele	DATE/TIME: 3.1.11 1420
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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 Scott Sweet 3-1-11
**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
(1) Bulk Density - D2937 (TF) {Bulk density - wet};

-1°C RHTeele
Temp Blank
GCH
20110264
511V004152 A

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	☒ LO-090-101 Rev EE.0 ○ LO-090-102 Rev

Date Samples Received: 3.2.11 Group #: 20110264

Number of Samples: 1 set C-Farm VAdose C8100 I003

Sample Custodian: [illegible]

Sample Custodian to Complete:

Action	Yes	No	N/A	Comments
RSA/COC provided?	✓			
RSR provided?	✓			
Verify GKI is complete			✓	☑ In Project File
Check that outer custody seal is intact, if present			✓	
Record cooler temperature in centigrade, as appropriate	0°C			☐ Check if no cooler and/or no ice
Samples are intact and in good condition	✓			If No, provide comments on back
Verify that COC or RSA is accurate and complete, containing the following information:				
• Client name and client sample number	✓			
• Date and time of sampling	✓			
• Sampling location or origin	✓			
• Container type, size, and number	✓			
• Analysis request is clear	✓			
• Signature of persons relinquishing and receiving samples	✓			
• Date and/or time of sample custody exchange	✓			
Verify that sample numbers on containers match the COC and/or RSA	✓			
Samples stored properly (e.g., refrigeration)	✓			

Notify the PM immediately if any problems are noted. (Any "No" checked requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? yes PM Initials AM Date 3/2/11

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 1

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-009	PAGE 1 OF 1
COLLECTOR: Campbell / Snook	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03	DATA TURNAROUND
SAMPLING LOCATION: C8100 I003	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO.: 003	FIELD LOGBOOK NO.: TFVZ-10-000004	ACTUAL SAMPLE DEPTH: 17-19	COA: n/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: n/A		BILL OF LADING/AIR BILL NO.: n/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Gs
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Generic Testing;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2BX90	SOIL	3-2-11	0855	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Campbell / Campbell 3-2-11	DATE/TIME: 0930	RECEIVED BY/STORED IN: RHStegle RHStegle 3.2.11	DATE/TIME: 0930
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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 Scott Snook 3-2-11

**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
The 500 ml bottle for generic testing will be archived unless the project requests additional analyses.

-0°C
Temp Blank
RHStegle

GRPH 20110264
DPR 7-27-2011
S11V004 ~~4179~~ Snoc
4155

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-010	PAGE 1 OF 1
COLLECTOR Campbell / Snook	COMPANY CONTACT ANASTOS, HL	TELEPHONE NO. 373-2616	PROJECT COORDINATOR SYDNOR, HA	PRICE CODE C03	DATA TURNAROUND
SAMPLING LOCATION C8100 I003	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO. 003	FIELD LOGBOOK NO. TFV2-10-000004	ACTUAL SAMPLE DEPTH 17 – 19	COA n/A	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO. n/A		BILL OF LADING/AIR BILL NO. n/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS		
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	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	Cool~6C
		HOLDING TIME	24 Hours
		TYPE OF CONTAINER	Liner
		NO. OF CONTAINER(S)	1
		VOLUME	160g
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2B1M4	SOIL	3-2-11	0855	✓
~~B2B1M5~~	~~SOIL~~ BC 3-2-11			
~~B2B1M6~~	~~SOIL~~ BC 3-2-11			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM Phil Campbell 3-2-11 0930	DATE/TIME	RECEIVED BY/STORED IN RRSteele RRSteele 3.2.11	DATE/TIME 0930
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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 Scott Sweek 3-2-11

**LABORATORY

Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.

After bulk density on liners is performed, the liners shall be composited.

(1) Bulk Density - D2937 (TF) {Bulk density - wet};

-0°C Temp blank GRP # 20110264

S11V004~~179~~ 4154 DPR 4-27-11 Liner A

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	☑ LO-090-101 Rev 66.0 ○ LO-090-102 Rev

Date Samples Received: 3.3.11. Group #: 20110264

Number of Samples: 1 set C FARM VADOSE (C8100 I004)

Sample Custodian:

Sample Custodian to Complete:

Action	Yes	No	N/A	Comments
RSA/COC provided?	✓			
RSR provided?	✓			
Verify GKI is complete				☑ In Project File
Check that outer custody seal is intact, if present			✓	
Record cooler temperature in centigrade, as appropriate	0°C			☐ Check if no cooler and/or no ice
Samples are intact and in good condition	✓			If No, provide comments on back
Verify that COC or RSA is accurate and complete, containing the following information:				
• Client name and client sample number	✓			
• Date and time of sampling	✓			
• Sampling location or origin	✓			
• Container type, size, and number	✓			
• Analysis request is clear	✓			
• Signature of persons relinquishing and receiving samples	✓			
• Date and/or time of sample custody exchange	✓			
Verify that sample numbers on containers match the COC and/or RSA	✓			
Samples stored properly (e.g., refrigeration)	✓			

Notify the PM immediately if any problems are noted. (Any "No" checked requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? yes PM Initials DPR Date 3-3-11

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-012	PAGE 1 OF 1
COLLECTOR: Campbell / Villarreal	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03	DATA TURNAROUND
SAMPLING LOCATION: C8100 I004	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO.: 003	FIELD LOGBOOK NO.: TFV2-10-000004	ACTUAL SAMPLE DEPTH: 54 – 56	COA: n/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: n/A		BILL OF LADING/AIR BILL NO.: n/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	1
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2B1M7	SOIL	3-3-11	1035	✓
~~B2B1M8~~	~~SOIL~~ 3-3-11 BC			
~~B2B1M9~~	~~SOIL~~ 3-3-11 BC			

CHAIN OF POSSESSION	DATE/TIME	SIGN/ PRINT NAMES: RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM: Campbell	3-3-11 1140	RECEIVED BY/STORED IN: RTSteele	3.3.11 1140
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	
RELINQUISHED BY/REMOVED FROM		RECEIVED BY/STORED IN	

SPECIAL INSTRUCTIONS
**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
(1) Bulk Density - D2937 (TF) {Bulk density - wet};

Temp Blank 0°C Ambient

20110264
Sample S11V004196 Liner A

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-011	PAGE 1 OF 1
COLLECTOR Campbell / Villarreal	COMPANY CONTACT ANASTOS, HL	TELEPHONE NO. 373-2616	PROJECT COORDINATOR SYDNOR, HA	PRICE CODE C03	DATA TURNAROUND
SAMPLING LOCATION C8100 I004	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO. 003	FIELD LOGBOOK NO. TFVZ-10-000004	ACTUAL SAMPLE DEPTH 54-56	COA n/A	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO. n/A		BILL OF LADING/AIR BILL NO. n/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS		
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	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	Cool~6C
		HOLDING TIME	24 Hours
		TYPE OF CONTAINER	Gs
		NO. OF CONTAINER(S)	1
		VOLUME	500mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	Generic Testing;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2BXR4	SOIL	3/3/10	1035	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM Campbell Campbell	DATE/TIME 3-3-11 1140	RECEIVED BY/STORED IN R L Steele R L Steele 3-3-11.	DATE/TIME 1140
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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

**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
The 500 ml bottle for generic testing will be archived unless the project requests additional analyses.

temp blank 0°C RLSteele

GAPH 20110264
Smm# S11V004199
Shoe

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	◯ LO-090-101 Rev 6E.0 ◯ LO-090-102 Rev

Date Samples Received: 3.7.11 Group #: 20110264

Number of Samples: 1 set C-FARM VADOSE (C8100 I 005)

Sample Custodian: RT Steele

Sample Custodian to Complete:

Action	Yes	No	N/A	Comments
RSA/COC provided?	✓			
RSR provided?	✓			
Verify GKI is complete				☑ In Project File
Check that outer custody seal is intact, if present	✓			
Record cooler temperature in centigrade, as appropriate	8°C			☐ Check if no cooler and/or no ice
Samples are intact and in good condition	✓			If No, provide comments on back
Verify that COC or RSA is accurate and complete, containing the following information:				
• Client name and client sample number	✓			
• Date and time of sampling	✓			
• Sampling location or origin	✓			
• Container type, size, and number	✓			
• Analysis request is clear	✓			
• Signature of persons relinquishing and receiving samples	✓			
• Date and/or time of sample custody exchange	✓			
Verify that sample numbers on containers match the COC and/or RSA	✓			
Samples stored properly (e.g., refrigeration)	✓			

Notify the PM immediately if any problems are noted. (Any "No" checked requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? Yes PM Initials GPR Date 3-7-11

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 1

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-014	PAGE 1 OF 1
COLLECTOR: Campbell/Villarreal	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03	DATA TURNAROUND
SAMPLING LOCATION: C8100 I005	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO.: 003	FIELD LOGBOOK NO.: TFV2-10-000004	ACTUAL SAMPLE DEPTH: 56-58	COA: N/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	1
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2B1N0	SOIL	3-7-11	0925	✓
B2B1N1	SOIL	3-7-11	0925	✓
~~B2B1N2~~	~~SOIL~~ BC 3-7-11			

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Campbell Campbell	DATE/TIME: 3-7-11 1020	RECEIVED BY/STORED IN: RJSteele RJSteele	DATE/TIME: 3.7.11 1020
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
**LABORATORY [signature] 3-7-11
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
(1) Bulk Density - D2937 (TF) {Bulk density - wet};
0°C
Temp blank
GRP # 20110264 DPR
41987 7-27-11
Sam # S11V00~~4217~~ A
S11V00~~4218~~ B
4198 C

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-013	PAGE 1 OF 1
COLLECTOR: Campbell / Villarreal	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03	DATA TURNAROUND
SAMPLING LOCATION: C8100 I005	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO.: 003	FIELD LOGBOOK NO.: TFVZ-10-000004	ACTUAL SAMPLE DEPTH: 56 – 58	COA: n/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: n/A		BILL OF LADING/AIR BILL NO.: n/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Gs
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Generic Testing;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2B435	SOIL	3-7-11	0925	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Phill Campbell	DATE/TIME: 3-7-11 1020	RECEIVED BY/STORED IN: RTSteele	DATE/TIME: 3.7.11 1020
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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 3-7-11
**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
The 500 ml bottle for generic testing will be archived unless the project requests additional analyses.

0°C
Temp blank
RTS

GRP# 20110264
SMP# S11V004220
Shoe

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	☑ LO-090-101 Rev 6.6.0 ○ LO-090-102 Rev _____

Date Samples Received: 3.10.11 Group #: 20110264

Number of Samples: 1 set CFAAM Vadose C8100 2006

Sample Custodian: _____

Sample Custodian to Complete:

Action	Yes	No	N/A	Comments
RSA/COC provided?	✓			
RSR provided?	✓			
Verify GKI is complete				☑ In Project File
Check that outer custody seal is intact, if present			✓	
Record cooler temperature in centigrade, as appropriate	0°C		✓	☐ Check if no cooler and/or no ice
Samples are intact and in good condition	✓			If No, provide comments on back
Verify that COC or RSA is accurate and complete, containing the following information:				
• Client name and client sample number	✓			
• Date and time of sampling	✓			
• Sampling location or origin	✓			
• Container type, size, and number	✓			
• Analysis request is clear	✓			
• Signature of persons relinquishing and receiving samples	✓			
• Date and/or time of sample custody exchange	✓			
Verify that sample numbers on containers match the COC and/or RSA	✓			
Samples stored properly (e.g., refrigeration)	✓			

Notify the PM immediately if any problems are noted. (Any "No" checked requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? yes PM Initials NA Date 3.10.11

If No, comment on communication and resolution: per JS.

Other Comments:

A-6005-342 (REV 1

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V11-001-016	PAGE 1 OF 1

COLLECTOR: Ekstrom / Campbell	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03 / DATA TURNAROUND
SAMPLING LOCATION: C8100 I006	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY ☐ / 60 Days / 120 Days
ICE CHEST NO.: TFVS-09-003	FIELD LOGBOOK NO.: TFVZ-10-000004	ACTUAL SAMPLE DEPTH: 76 to 78 ft	COA: N/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE / ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A	

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	1
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2B1N3	SOIL	3/10/11	1200	✓
B2B1N4	SOIL	3/10/11	1200	✓
B2B1N5	SOIL	3/10/11	1200	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: BR Ekstrom BR Ekstrom	DATE/TIME: 3/10/11 1240	RECEIVED BY/STORED IN: RH Steele RH Steele	DATE/TIME: 3.10.11 1240
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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 B Campbell 3-10-11
**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
(1) Bulk Density - D2937 (TF) {Bulk density - wet};

Temp blank 0°C

Exp# 20110264
S11V004238 A
S11V004239 B
S11V004240 C

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-015	PAGE 1 OF 1
COLLECTOR: Ekstrom / Campbell	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03	DATA TURNAROUND
SAMPLING LOCATION: C8100 I006	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO.: TFV5-09-003	FIELD LOGBOOK NO.: TFV2-10-000004	ACTUAL SAMPLE DEPTH: 76 to 78 ft	COA: N/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Gs
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Generic Testing;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2B436	SOIL	3/10/11	1200	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: BR Ekstrom BR Ekstrom	DATE/TIME: 3/10/11 1240	RECEIVED BY/STORED IN: RT Steele RT Steele	DATE/TIME: 3·10·11 1240
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
**LABORATORY BC Schull 3-10-11
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
The 500 ml bottle for generic testing will be archived unless the project requests additional analyses.

Temp blank 0°C RHTed

GRP# 20110264
Samples ~~S11V00 4238~~ RHTed
~~S11V00 4239~~ RHTed
~~S11V00 4240~~ RHTed
S11V00 4241 Shoe

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	☒ LO-090-101 Rev GE.0 ○ LO-090-102 Rev

Date Samples Received: 3-21-11 Group #: 20110264

Number of Samples: 1 set C-FARMUADOSE C-F100 I007

Sample Custodian: [illegible]

Sample Custodian to Complete:

Action	Yes	No	N/A	Comments
RSA/COC provided?	✓			
RSR provided?	✓			
Verify GKI is complete				☑ In Project File
Check that outer custody seal is intact, if present			✓	
Record cooler temperature in centigrade, as appropriate	0°C			☐ Check if no cooler and/or no ice
Samples are intact and in good condition	✓			If No, provide comments on back
Verify that COC or RSA is accurate and complete, containing the following information:				
• Client name and client sample number	✓			
• Date and time of sampling	✓			
• Sampling location or origin	✓			
• Container type, size, and number	✓			
• Analysis request is clear	✓			
• Signature of persons relinquishing and receiving samples	✓			
• Date and/or time of sample custody exchange	✓			
Verify that sample numbers on containers match the COC and/or RSA	✓			
Samples stored properly (e.g., refrigeration)	✓			

Notify the PM immediately if any problems are noted. (Any "No" checked requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? yes PM Initials DPR Date 3-21-11

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 1)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-018	PAGE 1 OF 1
COLLECTOR: Campbell / Snook	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03	DATA TURNAROUND
SAMPLING LOCATION: C8100 I007	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO.: 003	FIELD LOGBOOK NO.: TFV2-10-000004	ACTUAL SAMPLE DEPTH: 115-120	COA: N/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	1
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2C1K8	SOIL	3-21-11	0935	✓
B2C1K9	SOIL	3-21-11	0935	✓
B2C1L0	SOIL	3-21-11	0935	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Campbell Campbell	DATE/TIME: 3-21-11 1015	RECEIVED BY/STORED IN: RTSteele RTSteele	DATE/TIME: 3.21.11 1015
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
**LABORATORY Scott Swart 3-21-11
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
(1) Bulk Density - D2937 (TF) {Bulk density - wet};

Temp blank 0°C

GRP # 20110264
SAM # S11V004259 A
4260 B
4261 C
~~4262 Shot~~
mo 3/21/11

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-017	PAGE 1 OF 1
COLLECTOR: Campbell / Snook	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03	DATA TURNAROUND
SAMPLING LOCATION: C8100 I007	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO.: 003	FIELD LOGBOOK NO.: TFV2-10-000004	ACTUAL SAMPLE DEPTH: 118-120	COA: N/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Gs
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Generic Testing;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2B437	SOIL	3-21-11	0935	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Campbell Campbell	DATE/TIME: 3-21-11 1015	RECEIVED BY/STORED IN: RTSteele RTSteele	DATE/TIME: 3-21-11 1015
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
Scott Snook 3-21-11
**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
The 500 ml bottle for generic testing will be archived unless the project requests additional analyses.

Temp blank 0°C checked

GRP # 20110264
SAM # S11V004262 Shoc

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	☒ LO-090-101 Rev GG0 ☐ LO-090-102 Rev

Date Samples Received: 3.23.11 Group #: 20110264

Number of Samples: 1 set C-FARM VADOSE (C8100) I008

Sample Custodian: RHLtal

Sample Custodian to Complete:

Action	Yes	No	N/A	Comments
RSA/COC provided?	✓			
RSR provided?	✓			
Verify GKI is complete				☑ In Project File
Check that outer custody seal is intact, if present	✓		✓	
Record cooler temperature in centigrade, as appropriate	0°C			☐ Check if no cooler and/or no ice
Samples are intact and in good condition	✓			If No, provide comments on back
Verify that COC or RSA is accurate and complete, containing the following information:				
• Client name and client sample number	✓			
• Date and time of sampling	✓			
• Sampling location or origin	✓			
• Container type, size, and number	✓			
• Analysis request is clear	✓			
• Signature of persons relinquishing and receiving samples	✓			
• Date and/or time of sample custody exchange	✓			
Verify that sample numbers on containers match the COC and/or RSA	✓			
Samples stored properly (e.g., refrigeration)	✓			

Notify the PM immediately if any problems are noted. (Any "No" checked requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? yes PM Initials RHL Date 3.23.11

If No, comment on communication and resolution: per SGM

Other Comments:

A-6005-342 (REV 1)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-020	PAGE 1 OF 1
COLLECTOR Campbell	COMPANY CONTACT ANASTOS, HL	TELEPHONE NO. 373-2616	PROJECT COORDINATOR SYDNOR, HA	PRICE CODE C03	DATA TURNAROUND
SAMPLING LOCATION C8100 I008	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO. 003	FIELD LOGBOOK NO. TFVZ-10-000004	ACTUAL SAMPLE DEPTH ~~173 - 175~~ BE 3-23-11	COA n/A	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO. n/A	168.6 - 170.6	BILL OF LADING/AIR BILL NO. n/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	1
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2C1L1	SOIL	3-23-11	1100	✓
B2C1L2	SOIL	3-23-11	1100	✓
B2C1L3	SOIL	3-23-11	1100	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM Chuck Campbell	DATE/TIME 3-23-11 1130	RECEIVED BY/STORED IN RHTech RHSteele	DATE/TIME 3-23-11 1130
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
(1) Bulk Density - D2937 (TF) {Bulk density - wet};
3-23-11
Temp blank 0°C
GAP# 20110264
Smpl# 511U06 4280 A
4281 B
4282 C

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-019	PAGE 1 OF 1
COLLECTOR: Campbell	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03	DATA TURNAROUND
SAMPLING LOCATION: C8100 I008	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO.: 003	FIELD LOGBOOK NO.: TFV2-10-000004	ACTUAL SAMPLE DEPTH: ~~173 - 175~~ BC 3-23-11 168.6 - 170.6	COA: n/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: n/A		BILL OF LADING/AIR BILL NO.: n/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Gs
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Generic Testing;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2B438	SOIL	3-23-11	1100	V

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
B.-2 3-23-11 Campbell Campbell	3-23-11 1130	RLSteele RLSteele	3-23-11 1130
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
The 500 ml bottle for generic testing will be archived unless the project requests additional analyses.

3-23-11
GRP# 20110264
SAM# 511V004283
snoe

Temp blank 0°C
RLSteele

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	(x) LO-090-101 Rev E.E.0 ( ) LO-090-102 Rev

Date Samples Received: 3.24.11 Group #: 20110264

Number of Samples: 1 set C-FARM VADOSE (C-8100) (I009)

Sample Custodian:

Sample Custodian to Complete:

Action	Yes	No	N/A	Comments
RSA/COC provided?	✓			
RSR provided?	✓			
Verify GKI is complete				☑ In Project File
Check that outer custody seal is intact, if present			✓	
Record cooler temperature in centigrade, as appropriate	0°C			☐ Check if no cooler and/or no ice
Samples are intact and in good condition	✓			If No, provide comments on back
Verify that COC or RSA is accurate and complete, containing the following information:				
• Client name and client sample number	✓			
• Date and time of sampling	✓			
• Sampling location or origin	✓			
• Container type, size, and number	✓			
• Analysis request is clear	✓			
• Signature of persons relinquishing and receiving samples	✓			
• Date and/or time of sample custody exchange	✓			
Verify that sample numbers on containers match the COC and/or RSA	✓			
Samples stored properly (e.g., refrigeration)	✓			

Notify the PM immediately if any problems are noted. (Any "No" checked requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? yes PM Initials per SGM Date 3.24.11

If No, comment on communication and resolution: Rt Ctd

Other Comments:

A-6005-342 (REV 1)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-022	PAGE 1 OF 1
COLLECTOR: Campbell / Ekstrom	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03	DATA TURNAROUND
SAMPLING LOCATION: C8100 I009	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO.: TFVS-09-008	FIELD LOGBOOK NO.: TFVZ-10-000004	ACTUAL SAMPLE DEPTH: 202 to 204 ft	COA: N/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	1
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2C1L6	SOIL	3/24/11	1337	✓
B2C1L7	SOIL	3/24/11	1337	✓
B2C1L8	SOIL	3/24/11	1337	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RE Ekstrom RE Ekstrom	3/24/11 1440	RHStod RHStod 3-24-11	1440
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
(1) Bulk Density - D2937 (TF) {Bulk density - wet};

RE Ekstrom 3-24-11
Temp blank 0°C RHStod
Grp # 20110264 ~~20110264~~ RHStod
Samp # S11V004301 A
4302 B
4303 C

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-021	PAGE 1 OF 1
COLLECTOR: Campbell/Ekstrom	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03	DATA TURNAROUND
SAMPLING LOCATION: C8100 I009	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO.: 008	FIELD LOGBOOK NO.: TFV2-10-000004	ACTUAL SAMPLE DEPTH: 202-204 ft.	COA: N/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Gs
NO. OF CONTAINER(S)	1
VOLUME	500mL
SAMPLE ANALYSIS	Generic Testing;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2C1L4	SOIL	3/24/11	1337	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: R E Ekstrom R E Ekstrom	DATE/TIME: 3/24/11 1440	RECEIVED BY/STORED IN: R Hetzel R Hetzel 3.24.11	DATE/TIME: 1440
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
The 500 ml bottle for generic testing will be archived unless the project requests additional analyses.

Bobby Campbell 3-24-11
0°C
Temp blank
R Hetzel
Gept 20110264
Sam# S11V00 4304
shoe

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	☒ LO-090-101 Rev G&O ○ LO-090-102 Rev

Date Samples Received: 4.4.11 Group #: 20110264

Number of Samples: 1 set CFarm VADOSC (C8100) (I0010)

Sample Custodian: RHtub

Sample Custodian to Complete:

Action	Yes	No	N/A	Comments
RSA/COC provided?	✓			
RSR provided?	✓			
Verify GKI is complete				☑ In Project File
Check that outer custody seal is intact, if present			✓	
Record cooler temperature in centigrade, as appropriate	0°✓			☐ Check if no cooler and/or no ice
Samples are intact and in good condition	✓			If No, provide comments on back
Verify that COC or RSA is accurate and complete, containing the following information:				
• Client name and client sample number	✓			
• Date and time of sampling	✓			
• Sampling location or origin	✓			
• Container type, size, and number	✓			
• Analysis request is clear	✓			
• Signature of persons relinquishing and receiving samples	✓			
• Date and/or time of sample custody exchange	✓			
Verify that sample numbers on containers match the COC and/or RSA	✓			
Samples stored properly (e.g., refrigeration)	✓			

Notify the PM immediately if any problems are noted. (Any "No" checked requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? yes PM Initials RHtb Date 4.4.11

If No, comment on communication and resolution: per SGM

Other Comments:

A-6005-342 (REV 1)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-024	PAGE 1 OF 1
COLLECTOR: Campbell / Snook	COMPANY CONTACT: ANASTOS, HL	TELEPHONE NO.: 373-2616	PROJECT COORDINATOR: SYDNOR, HA	PRICE CODE: C03	DATA TURNAROUND
SAMPLING LOCATION: C8100 I010	PROJECT DESIGNATION: WMA C Sampling for CMS		SAF NO.: V11-001	AIR QUALITY ☐	60 Days / 120 Days
ICE CHEST NO.: 003	FIELD LOGBOOK NO.: TFV2-10-000004	ACTUAL SAMPLE DEPTH: 222.8 - ~~224.8~~ 224.8	COA: ~~BC~~ 4-4-11 N/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO: 222-S Lab Operations	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A		

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 may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)

SPECIAL HANDLING AND/OR STORAGE

PRESERVATION	Cool~6C
HOLDING TIME	24 Hours
TYPE OF CONTAINER	Liner
NO. OF CONTAINER(S)	1
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2C1L9	SOIL	4-4-11	1020	✓
B2C1M0	SOIL	4-4-11	1020	✓
B2C1M1	SOIL	4-4-11	1020	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM: Chad Campbell	DATE/TIME: 4-4-11 1100	RECEIVED BY/STORED IN: RHCteglo	DATE/TIME: 4-4-11 1100
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
Scott Snook 4-4-11
**LABORATORY
Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.
After bulk density on liners is performed, the liners shall be composited.
(1) Bulk Density - D2937 (TF) {Bulk density - wet};

Temp blank 0°C ~~RHCteglo~~ ATL

GRP # 20110264
SAM # S11V004330 Liner A
4331 Liner B
4332 Liner C

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V11-001-023	PAGE 1 OF 1
COLLECTOR Campbell / Snook	COMPANY CONTACT ANASTOS, HL	TELEPHONE NO. 373-2616	PROJECT COORDINATOR SYDNOR, HA	PRICE CODE C03 AIR QUALITY ☐	DATA TURNAROUND 60 Days / 120 Days
SAMPLING LOCATION C8100 I010	PROJECT DESIGNATION WMA C Sampling for CMS		SAF NO. V11-001		
ICE CHEST NO. 003	FIELD LOGBOOK NO. TFV2-10-000004	ACTUAL SAMPLE DEPTH 22.18 - ~~22.48~~ 224.8	COA 4-4-11 n/A	METHOD OF SHIPMENT GOVERNMENT VEHICLE	ORIGINAL
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO. n/A		BILL OF LADING/AIR BILL NO. n/A		

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS		
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	Contains Radioactive Material at concentrations that may or may not be regulated for transportation per 49 CFR / IATA Dangerous Goods Regulations but are not releasable per DOE Order 5400.5 (1990/1993)	PRESERVATION	Cool~6C
		HOLDING TIME	24 Hours
		TYPE OF CONTAINER	Gs
		NO. OF CONTAINER(S)	1
		VOLUME	500mL
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	Generic Testing;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B2C1L5	SOIL	✓	1020	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM Campbell C-pbell	DATE/TIME 4-4-11 1100	RECEIVED BY/STORED IN RHetels RHetels	DATE/TIME 4.4.11 1100
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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

Scott Snook 4-4-11

**LABORATORY

Only samples from intervals within the top 15 ft. will be analyzed for pesticides, and PCBs.

After bulk density on liners is performed, the liners shall be composited.

The 500 ml bottle for generic testing will be archived unless the project requests additional analyses.

Temp blank 0°C RHetels AHL

GRP# 20110264

~~Sam# S11V004330~~ RHetels

~~4301~~ RHetels

Sam# S11V004333 ~~4332~~ RHetels

Snoc ~~4333~~ RHetels

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

PRINTED ON 2/15/2011

A-6003-618 (REV 2)

DISTRIBUTION SHEET

To	From	
S. J. Eberlein	G. P. Ritenour	Page 1 of 1
Project Title/Work Order		Date 1/4/12
FINAL ANALYTICAL REPORT FOR SAMPLES FROM WASTE MANAGEMENT AREA C FOR CORE HOLE C8100 IN SUPPORT OF RCRA SOIL CHARACTERIZATION		EDT No. N/A
		ECN No. N/A

Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
G. P. Ritenour	T6-10	X			
S. J. Eberlein	E6-31	X			
M. P. Connelly	E6-31	X			
H. A. Sydnor	E6-31	X			
J. M. Johnson	T6-02	X			
S. G. McKinney	T6-02	X			
H. L. Anastos	T6-07	X			
A. Shrum	E6-31	X			
J. R. Prilucik	T6-02	X			
C. P. Mangano	H8-51	X			
DOE Reading Room	R3-50	X			
R. W. Lober	H2-53	H			
	H6-60	X			