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FINAL ANALYTICAL REPORT FOR SOIL SAMPLES IN SUPPORT OF AN INTERIM BARRIER SOUTHEAST OF S FARM, BORDERING SX FARM

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

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Abstract: This final report contains the analytical results supporting characterization of soil samples for an interim barrier southeast of S Farm, bordering SX Farm. It also contains the results for associated field and trip blanks supporting the sampling effort.

Key Words: (Continued from Cover Sheet) B24YW6, B24YW8, B24YW9, B24YX0, B24YX2, B24YX3, B24YX4, Advanced Technologies and Laboratories, ATL, WRPS, SW-846.

FINAL ANALYTICAL REPORT FOR SOIL SAMPLES IN SUPPORT OF AN INTERIM BARRIER SOUTHEAST OF S FARM, BORDERING SX FARM

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

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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

Gerald Ritenour 9-14-2011
G. P. Ritenour; ATL Project Manager

Judith McCluskey 9-14-2011
J. A. McCluskey, QA Scientist

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222-S LABORATORY

FINAL ANALYTICAL REPORT FOR SOIL SAMPLES IN SUPPORT OF AN INTERIM BARRIER SOUTHEAST OF S FARM, BORDERING SX FARM

1.0 INTRODUCTION

This final report is a reissue of report ATL-20100311 Rev.0. Changes are based on the Report Comment Record (RCR) received from the Vadose customer (see Attachment 8).

This final report presents the results for the samples taken from near the border area of S Farm and SX Farm between March 23, 2010 and June 9, 2010. The samples were analyzed in accordance with RPP-PLAN-44162, *Field Sampling and Analysis Plan for Soil Samples in Support of an Interim Barrier Southeast of S Farm, Bordering SX Farm* (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.

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	Vadose Water Digest Results
Attachment 5	Additional Mercury Analyses QC Results
Attachment 6	Analytical Batch and Laboratory Sample Identification Number Index
Attachment 7	Geological Report
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 sixteen core intervals and one equipment blank were received by the 222-S Laboratory between March 23, 2010 and June 9, 2010. 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/or the chain of custody form. The temperature blank for one interval, C7740 I002, was received above the SW-846-specified preservation temperature of 6 ^{o}C at 9 ^{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 by the Washington River Protection Solutions, Inc. (WRPS) geologist. During the compositing of intervals I001 (45'-47') and I002 (62'-64') some of the samples were switched. This resulted in the interval I001 composite consisting of the A, B, and C liners from I001 and the shoe sample from I002. The interval I002 composite consisted of I002 A, B, and C liners with the shoe from I001 (see Attachment 2 and Attachment 8). The WRPS geologist also measured the bulk density for core liners that had sufficient recovery (see Attachments 1 and 2). The geologist's report is included in Attachment 7. The composite for each core interval was analyzed as described in the SAP. One core interval, C7742 I001, did not recover a shoe sample; all other cores had complete recovery.

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 only reported 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.

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.

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.

"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.

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

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 ^{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 5 g of 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 and isotopic tin (^{117}Sn and ^{126}Sn) 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 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 was prepared using additional hydrochloric acid, as recommended in SW-846.

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 0.25 to 4 g of sample diluted to 25 mL. 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

A 70-g 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 anions using IC nitrate analysis and ^{99}Tc by ICP/MS analysis.

3.2 INORGANIC ANALYSES

3.2.1 Cyanide

The cyanide analysis by distillation and spectrophotometry was performed on the liner composite samples. All analyses met the SW-846 holding time of 14 days. There was no required reporting limit in the SAP for cyanide. The target detection limit was 0.5 µg/g, which is lower than what the current laboratory procedure (lachet micro-distillation) reaches.

Batches 18759, 18804, 19043, 19151, 19636, 19924, 20160, and 20164: There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

Batch 19455: The low level standard (LLS) was recovered outside the ±25% requirement at 65%. Since the sample results were at the same level as the blank, the laboratory believed no measurable cyanide was missed and reanalysis was not necessary. Eleven field samples were analyzed between the continuing calibration blank (CCB) and the next continuing calibration verification standard (CCV). The QAPP and the method require that a CCB/CCV pair be analyzed for every 10 field samples. Since the results would not have been affected and second analysis would have been outside of holding time, reanalysis was not requested.

3.2.2 Sulfide

Sulfide analysis by distillation and ion selective electrode was performed on the liner composite samples. All analyses met the SW-846 holding time of 7 days. There was no required reporting limit in the SAP for sulfide. The target detection limit was 5 µg/g. All sample results had adjusted MDLs of approximately 7 µg/g. There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

3.2.3 Conductivity

The conductivity analysis was performed on the composite samples. These analyses met all QC requirements in the SAP and QAPP. The SAP does not list a conductivity holding time requirement. SW-846 9050A lists a holding time of 28 days for aqueous samples. 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.

3.2.4 pH Analysis

The pH analysis was performed on liner composite samples and the equipment blank. These analyses met all QC requirements in the SAP and QAPP. The SAP lists a pH holding time

requirement of "as soon as possible." All solid pH measurements were taken after compositing of the sample and the water leach was performed. The sampling to analysis time varied from 1.2 to 14 days (see Attachment 3). There is no correlation between pH results and days 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 results. The pH of the equipment blank was measured approximately 31 hours after sampling. There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

3.2.5 Mercury

Analysis for mercury by cold-vapor/atomic absorption was performed on the liner composite samples and the equipment blank. All results met the QC requirements in the SAP and QAPP. All analyses met the holding time of 28 days. This analysis met the target detection limit of 0.2 mg/Kg, but failed to meet the required detection limit of 0.01 mg/Kg for five samples. All other sample results had MDLs of less than the required 0.01 mg/Kg. There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

3.2.6 Ion Chromatography – Ammonium

Analysis for ammonium was performed using a distillation preparation of the liner composite samples. 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 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 reporting limit in the SAP or FSAP for ammonium.

Batches 18693, 19076, 19246, 19420, and 19874: There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

Batches 18673 and 19471: 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 a similar level; these results have been flagged with a "C". Since all results were below the quantitation limit, reanalysis was not required.

Batch 19896: 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.

Batches 18829, 19029, 19938, and 20024: 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 a similar level; these results have been flagged with a "C". Since all results were below the quantitation limit, reanalysis was not required.

3.2.7 Ion Chromatography – Anions and Small Organic Acids

Ion chromatography analysis was performed on a standard water digest of subsamples from all liner composite samples.

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.

In addition, all liner composites were analyzed for nitrate by IC on a vadose water digest fraction (see Attachment 4) and were reported on a "Quick Turnaround" basis along with ^{99}Tc. These results were used primarily to help assess the adequacy of the current drilling plan and placement of subsequent core holes. All spikes were post-digestion. There is no additional discussion of these results in this narrative. Only the standard water digestion results are discussed below.

Standard Water Digestion Batches

Batch 18876: The result for sulfate in the preparation blank was above the MDL but below the quantitation limit. All sample results were more than five times the blank; therefore, the data quality was not affected. The RPD for nitrite exceeded the required 30% at 50.2%. Since the results were below the quantitation limit, the criterion does not apply.

Batch 19058: The results for formate, sulfate, and nitrate in the preparation blank were above the MDL but below the quantitation limit. All sample results were more than five times the blank; therefore, the data quality was not affected. The RPD for nitrite exceeded the required 30% in the SAP and FSAP. However, since the result was below the quantitation limit, this criterion does not apply.

Batch 19383: There were no notable issues with this batch, and all QC requirements in the SAP and the QAPP were met.

Batch 19446: The results for acetate, chloride, nitrite, and nitrate in the preparation blank were above the MDL but below the quantitation limit. All sample results for chloride and nitrate were more than five times the blank, and no flag was applied. All results for nitrite and one of the acetate results were less than five times the blank result and have been flagged with a "C". Since the blank results were below the quantitation limit, reanalysis is not required and the data usability was not affected. The RPD for nitrite exceeded the required 30% in the SAP and FSAP. However, since the result was below the quantitation limit, this criterion does not apply.

Batch 19759: The results for nitrate and sulfate in the preparation blank were above the MDL but below the quantitation limit. All sample results were more than five times the blank; therefore, the data quality was not affected.

Batch 19810: The results for nitrate and sulfate in the preparation blank were above the MDL but below the quantitation limit. All sample results were more than five times the blank; therefore, the data quality was not affected. The result for nitrite in the preparation blank was above the MDL but below the quantitation limit. The nitrite result was less than five times the blank result and has been flagged with a "C". Since the blank result was below the quantitation

limit, reanalysis was not required and the data usability was not affected. The RPD for formate exceeded the required 30% in the SAP and FSAP. However, since the result was below the quantitation limit, this criterion does not apply.

Batch 20886: The RPDs for formate, nitrite, and phosphate exceeded the required 30% in the SAP and FSAP. However, since the results were below the quantitation limit, this criterion does not apply.

3.2.8 Inductively Coupled Plasma/Atomic Emission Spectroscopy

The ICP/AES analysis was performed on an acid-digest (SW-846 3050B) of all liner composite samples and directly on the 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 times.

Batch 20002: The initial calibration blank result for bismuth was slightly above the MDL, as were three of the sample results, which have been flagged with a "C". Since bismuth is not a primary analyte, no additional action is needed. The interference check standard-AB (ICSAB) had a result above the quantitation limit for neodymium. This indicates that spectral interference was occurring. Neodymium results were not reported due to the high probability that they were the result of this interference. Low levels of iron and zinc 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, magnesium, manganese, potassium, sodium, and titanium exceeded the ±25% requirement in the FSAP and SAP. Since the sample results for these elements exceeded the matrix spike level by more than four times, this criterion does not apply. The MS recovery for silicon exceeded the ±25% requirement at -14%. All sample results in this batch for silicon have been flagged with an "N". Reanalysis was not required since this is a secondary element. The laboratory control sample (LCS) recovery for silicon exceeded the ±20% requirement at 76%. Reanalysis was not required since this is 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. The MS recovery for zirconium exceeded the ±25% requirement at 48%. This could indicate that the results for elements are biased low. All sample results in this batch for zirconium have been flagged with an "N". Reanalysis was not required since zirconium is a secondary analyte. The closing LLS recovery of bismuth exceeded the ±30% requirement in SW-846 at 135%. Since all bismuth results were below the quantitation limit, the data usability was not affected.

Batch 20124: The ICSA recovery of sodium exceeded the ±10% requirement in the QAPP at 89%; however, the ICSAB was recovered at 92%, which meets the requirements for SW-846.

Batch 20577: The closing LLS recovery of potassium exceeded the ±30% requirement in SW-846 at 139%. This could indicate a high bias for results near the LLS. However, the potassium results for these samples were above the CCV; therefore, there was no affect on the data usability. Results slightly above the MDL for cobalt and manganese in the ICSA indicate a possible high bias for these elements. However, the recovery of these elements in the ICSAB was within the ±20% requirement; this indicates no significant bias was present. The ICSAB standard had a result above the quantitation limits for neodymium. This indicates that spectral interference was occurring. Neodymium results were not reported due to the high probability that they were the result of this interference. 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. The MS recoveries for aluminum, calcium, iron, magnesium, phosphorous, sodium, and titanium exceeded the ±25% requirement in the FSAP and SAP. Since the sample results for these elements exceeded the matrix spike level by more than four times, this criterion does not apply. The MS recovery for zirconium exceeded the ±25% requirement at 48%. This could indicate that the results for elements are biased low. All sample results in this batch for zirconium have been flagged with an "N". Reanalysis was not required since zirconium is a secondary analyte.

Batch 21241: Results slightly above the MDL for cobalt, manganese, and nickel in the ICSA indicate a possible high bias for these elements. However, the recovery of these elements in the ICSAB was within the ±20% requirement; this indicates no significant bias was present. The ICSAB standard had a result above the quantitation limits for neodymium. This indicates that spectral interference was occurring. Neodymium results were not reported due to the high probability that they were the result of this interference. Low levels of aluminum, barium, calcium, iron, lanthanum, lithium, manganese, and strontium were detected in the preparation blank, but reanalysis was not required since these levels were less than 20% of the lowest sample result. Beryllium was detected in the preparation blank above the MDL and below the quantitation limit. The beryllium results for the samples were at a similar level and have been flagged wit a "C". Since all results were below the quantitation limit, reanalysis was not required. The MS recoveries for aluminum, calcium, iron, potassium, magnesium, manganese, phosphorous, sodium, and titanium exceeded the ±25% requirement in the FSAP and SAP. Since the sample results for these elements exceeded the matrix spike level by more than four times, this criterion does not apply. The MS recoveries for molybdenum and silicon exceeded the ±25% requirement at 69% and 22%, respectively. This could indicate that the results for elements are biased low. All sample results in this batch for molybdenum and silicon have been flagged with an "N".

Batch 21276: The LCS recovery for potassium exceeded the ±20% recovery at 77%. This would indicate a possible low bias for potassium in these samples. Based on the overall low recovery for all elements in the LCS, the laboratory believes the LCS was most likely prepared improperly. All other QC was within the required limits for potassium. The client was informed, and the laboratory was instructed to report the data "as is" (see Attachment 8). Results slightly above the MDL for chromium and manganese in the ICSA indicate a possible high bias for these elements. However, the recovery of these elements in the ICSAB was within the ±20% requirement; this indicates no significant bias was present. The ICSAB standard had a result above the quantitation limit for neodymium. This indicates that spectral interference was occurring. Neodymium results were not reported due to the high probability that they were the

result of this interference. Low levels of aluminum, calcium, and iron 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, magnesium, phosphorous, potassium, sodium, and titanium exceeded the ±25% requirement in the FSAP and SAP. Since the sample results for these elements exceeded the matrix spike level by more than four times, this criterion does not apply. The MS recoveries for zirconium and silicon exceeded the ±25% requirement at 62% and -3.2530%, respectively. This could indicate that the results for elements are biased low. All sample results in this batch for zirconium and silicon have been flagged with an "N". Reanalysis was not required since these are secondary analytes. Molybdenum was recovered in the MS below the required 25% at 67%. The laboratory believes this is due to matrix interference since molybdenum is often recovered low in vadose soil samples.

3.2.9 Inductively Coupled Plasma/Mass Spectroscopy

The ICP/MS actinide and trace metal analyses were performed on the standard SW-846 3050 acid digestion of all grab samples and liner composite samples. The ICP/MS ^{126}Sn and ^{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 ion pair with mass 99. ICP/MS trace metal analysis for antimony was perform on the same digest with additional hydrochloric acid, which is required to keep antimony in solution. In addition to these acid digests, ICP/MS ^{99}Tc analysis was performed on a Vadose water digest (see Attachment 4) of all solid samples.

Direct is the most accurate type of calibration; however, standard material is not commercially available for all 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

3.2.9.1 Technetium-99 and Tin-126

The required detection limit listed in the SAP for ^{99}Tc was met. The target detection limit for ^{99}Tc was not met. There were no required or target detection limits for ^{126}Sn listed in the SAP. 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, cobalt argide, and zinc chloride ions. The low level results reported for some

of the samples for S-SX Barrier are mostly likely a result one of these interferences. Since all results were below the quantitation limit, reanalysis was not required.

Because there is no available source for ^{126}Sn, ^{117}Sn is used to monitor the chemical recovery for this analysis. Though not specifically requested in the SAP, ^{117}Sn is reported for the LCS and MS in order to demonstrate method accuracy and presence of possible matrix interference. The MS recovery for ^{117}Sn is typically low in vadose soil samples. The laboratory subsequently has determined that increasing the amount of HCl will improve the recovery. However, this may be causing an isobaric interference with ^{126}Sn. The laboratory is currently working on resolving this issue. Based on the client instructions (see Attachment 8), all results for ^{126}Sn have been flagged with an "E".

Batches 19817 and 21022: There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

Batch 21021: The preparation blank result for ^{99}Tc was above the MDL and below the quantitation limit. All associated sample results were below the MDL; therefore, the data quality was not affected. The MS recovery for ^{117}Sn exceeded the ±25% requirement in the SAP at 47%, and all results for ^{117}Sn and ^{126}Sn have been flagged with an "N" (see discussion above and Attachment 8).

Batch 21528: The MS recovery for ^{117}Sn and ^{126}Sn exceeded the ±25% requirement in the SAP at 34%, and all results have been flagged with an "N" (see discussion above and Attachment 8).

Batch 21537: This batch contained two preparation batches. The MS recoveries for ^{117}Sn and ^{126}Sn exceeded the ±25% requirement in the SAP at 35% and 23%; all results have been flagged with an "N" (see discussion above and Attachment 8). The RPD for one of the duplicates in this batch exceeded the ±30% requirement in the SAP at 47%. However, since the sample result was below the quantitation limit, this criterion does not apply.

3.2.9.2 Actinides

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

Batches 19811, 19813, and 19908: There were no notable issues with this batch, and all QC requirements in the SAP and the QAPP were met.

Batch 21368: The RPD for ^{233}U and ^{234}U exceeded the ±30% requirement in the SAP. Since the sample results were below the quantitation limit, this criterion does not apply.

3.2.9.3 Trace Metals

Antimony, 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 approximately 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 varied from approximately 0.1 μg/g to 0.7 μg/g. SW-846 lists the holding time for metals as 6 months.

All except 10 samples were analyzed within the holding times (see Attachment 3). Three of these 10 samples were reanalyzed past the holding time for antimony due to low MS recovery. This reanalysis used additional hydrochloric acid, which resulted in a higher MS recovery and higher sample results. The remaining seven samples were reanalyzed past the holding time for lead due to a high level of lead in the preparation blank, and for cadmium due to a CCV failure. The lead results from the reanalysis were lower than the original. The cadmium did not change significantly. Since there is no evidence that metal results change over time in a properly stored soil sample, it is the laboratory's opinion that the numerical results were not affected.

Batch 21254: The closing CCB result for selenium was slightly above the MDL but greater than 20% of the sample result. Only one sample was bracketed by this CCB, and it was flagged with a "C".

Batch 21376: The MS recovery exceeded the ±25% requirement at 40%. Since these samples were prepared using the "Antimony Digest" with additional hydrochloric acid, the laboratory believes the low spike recovery was due to matrix interference. This was discussed with the client, who agreed, and the results were flagged with an "N" and reported (see Attachment 8).

Batches 21987, 24558, and 26772: There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

Batch 23138: The preparation blank result for thallium was above the MDL but below the quantitation limit, as were the sample results. All thallium results were less than 5 times the blank, and a "C" flag was applied. Since all results were below the quantitation limit, reanalysis was not required.

Batch 24452: The preparation blank result for lead was greater than the MDL but less than 20% of the lowest sample result; therefore, the data usability was not affected. The MS recoveries for arsenic and selenium exceeded the ±25% requirement in the FSAP and QAPP at 68% and 72%, respectively. The MS was reanalyzed with no significant change. The laboratory believes that the low recoveries were due to matrix interference. All results for arsenic and selenium in this batch have been flagged with an "N". The LLS for selenium exceeded the ±30% limit in SW-846 at 135%. Since the all selenium results were below the quantitation limit, the data usability was not affected.

Batch 24574: Thallium and lead were detected in the preparation blank a less than 20% of the lowest sample results; therefore, the data usability was not affected. Selenium was detected in the preparation batch below the quantitation limit but at more than 20% of the samples results; therefore, these results were flagged with a "C". Since both sample and blank results were below the quantitation limit, reanalysis was not required. The MS spike recovery for silver exceeded the ±25% limit at 65%. Since all other MS recoveries were within the control limits, the laboratory believes the low silver spike recovery was due to matrix interference and reanalysis was not performed. All result for silver have been flagged with a "N". The RPD for silver exceeded the

30% requirement in the FSAP; however, the result for silver was below the quantitation limit and the criterion does not apply.

Batch 26853: The preparation blank result for lead was greater than the MDL but less than 20% of the lowest sample result; therefore, the data usability was not affected.

3.3 RADIOCHEMICAL ANALYSIS

The holding time listed in the SAP for radioactive isotopes is 6 months. SW-846 does not address holding times for radiochemical analytes. Six client samples failed to meet the holding time requirement. This affected all $^{89/90}$Sr and Tritium analyses from C7738 and one ^{63}Ni analysis from C7740. The laboratory does not believe these holding time exceedances affected the results. Holding time tables for these analytes have been 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 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 the required detection limits in the SAP. The laboratory was unable to meet any of the target detection limits.

Batches 19773, 19784, 20090, and 20091: There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

Batches 19128 and 19769: The RPDs for ^{212}Pb exceeded the 30% requirement in the SAP at 53% and 73%. However, since the results were below the quantitation limit, this criterion does not apply.

3.3.2 Strontium-89/90

Strontium-89/90 analysis was performed on the liner composite samples and the 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 equipment blank 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 FSAP. 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 liner composite samples and the 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. Since both ^{63}Ni and ^{79}Se use a single digestion batch that is equally split prior to the separation step, the maximum tracer/carrier recovery is 50%.

Batches 20446, 21029, 21457, and 21474: There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

Batches 19732 and 19793: The preparation blanks demonstrated a positive result below the quantitation limit, with large relative counting errors. All sample results in these batches were below the MDA; therefore, the data usability was not affected.

3.3.5 Carbon-14

The ^{14}C analysis by LSC was performed on a water leach of the liner composite samples and directly on the equipment blank. The analysis achieved the required detection limit in the FSAP but exceeded the target detection limit. This analysis will only detect water soluble forms of ^{14}C.

Batches 19841 and 22030: There were no notable issues with these batches, and all QC requirements in the SAP and the QAPP were met.

Batch 19842: The preparation blank demonstrated a positive result below the quantitation limit, with a large relative counting error. All samples in this batch had similar results and have been flagged with a “B”.

3.3.6 Nickel-63

The ^{63}Ni analysis by LSC was performed on the liner composite samples and the equipment blank. The analysis achieved the required and target detection limits in the FSAP. For batches 19733 and 20445, both ^{63}Ni and ^{79}Se use a single digestion batch that is equally split prior to the separation step; the maximum trace/carrier recovery is 50%. 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 liner composite samples and the 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 liner composite samples and the 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 liner composite samples and the 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.

4.0 PROCEDURES

Table 2 lists the analytical procedures used for analysis of the S-SX Area samples.

Table 2. Analytical Procedures

Analysis	Preparation Method	Analysis Procedure
Inorganic Analyses		
Cyanide	LA-695-103, Rev. J-0 (SW-846 9010C)	LA-695-103, Rev. J-0 (SW-846 9014)
Sulfide	LA-361-101, Rev. D-0 (SW-846 9030B)	LA-361-101, Rev. D-0 (SW-846 9215)
Conductivity	Vadose Water Digest	LA-512-107, Rev. F-0
pH (solid)	LA-212-105, Rev. G-0 (SW-846 9045D)	LA-212-105, Rev. G-0 (SW-846 9045D)
Mercury – Cold Vapor Atomic Absorption	LA-325-110, Rev. A-0 (SW-846 7470A, 7471A)	LA-325-110, Rev. A-0 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. L-0	LA-533-115, Rev. J-0
Anions – IC	LA-504-101, Rev. L-0	LA-533-107, Rev. I-0
Metals – ICP /AES	LA-505-163, Rev. G-0 (SW-846 3050B)	LA-505-161, Rev. J-0-A (SW-846 6010C)
^{99}Tc, ^{126}Sn – ICP/MS	LA-505-163, Rev. G-0 (SW-846 3050B)	LA-506-102, Rev. F-1
^{99}Tc – ICP/MS	08-ATL-078 Vadose Water Digest	LA-506-102, Rev. E-0, F-0, F-1 LA-506-103, Rev. A-0

Analysis	Preparation Method	Analysis Procedure
Metals – ICP/MS	LA-505-163, Rev. G-0 (SW-846 3050B)	LA-506-102, Rev. F-1 LA-506-103, Rev. A-0, B-0 (SW-846 6020A)
Actinides – ICP/MS	LA-505-163, Rev. G-0 (SW-846 3050B)	LA-506-1-2, Rev. F-1
Radiochemical Analyses		
GEA	Direct	LA-548-121, Rev. I-0
	LA-544-101, Rev. F-0	LA-220-103, Rev. J-0
^{3}H – LSC	LA-504-101, Rev. L-0, M-0	LA-218-111, Rev. G-0
^{14}C – LSC	LA-504-101, Rev. L-0. M-0	LA-348-104, Rev. H-0, I-0
^{79}Se – Separation/LSC	LA-544-101, Rev. F-0	LA-365-132, Rev. I-0
^{63}Ni – Separation/LSC	LA-544-101, Rev. F-0	LA-285-102, Rev. E-0
^{129}I – Separation/GEA	LA-378-105, Rev. C-0	LA-378-105, Rev. C-0
^{241}Am, $^{243/244,\ 242}$Cm – Separation/AEA	LA-544-101, Rev. F-0	LA-953-104, Rev. H-1
$^{239/240,\ 238}$Pu – Separation/AEA	LA-544-101, Rev. F-0	LA-953-104, Rev. H-1

5.0 REFERENCES

ATL-MP-1011, 2010, *ATL Quality Assurance Project Plan for 222-S Laboratory*, Rev. 9 & 10, Advanced Technologies and Laboratories International, Inc., Richland, Washington.

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

RPP-PLAN-44162, 2010, *Field Sampling and Analysis Plan for Soil Samples in Support of an Interim Barrier Southeast of S Farm*, Bordering SX Farm, Rev. 0, Washington River Protection Solutions, Inc.

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

Attachment 1

DATA SUMMARY REPORT

19 - Apr - 2011 15:52:42
DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24HH9

Sample Depth: 45-47

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000521		%WATERA	%WATER-APD	%	n/a	n/a	10.81	10.42	10.62	3.674	n/a	0.01000	n/a	
S10V000521		57-12-5	Cyanide	ug/g	101	<0.0370	<2.58	n/a	n/a	n/a	n/a	2.58	n/a	U
S10V000521		WT%SOLID	Weight percent solids	%	n/a	n/a	89.2	89.6	89.4	0.436	n/a	0.0100	n/a	
S10V000521		7439-97-6	Mercury	ug/g	103	<1.00E-04	<0.0194	n/a	n/a	n/a	103	0.0194	n/a	U
S10V000521		12597-04-5	Sulfide	ug/g	96.9	<0.180	11.8	n/a	n/a	n/a	n/a	7.06	n/a	B
S10V000522		10198-40-0	Cobalt-60	uCi/g	99.6	<2.13E-07	<2.25E-07	n/a	n/a	n/a	n/a	2.25E-07	n/a	U
S10V000522		14234-35-6	Antimony-125	uCi/g	n/a	<5.22E-07	<5.86E-07	n/a	n/a	n/a	n/a	5.86E-07	n/a	U
S10V000522		10045-97-3	Cesium-137	uCi/g	103	<2.41E-07	<2.60E-07	n/a	n/a	n/a	n/a	2.60E-07	n/a	U
S10V000522		14683-23-9	Europium-152	uCi/g	n/a	<1.04E-06	<1.09E-06	n/a	n/a	n/a	n/a	1.09E-06	n/a	U
S10V000522		15585-10-1	Europium-154	uCi/g	n/a	<6.64E-07	<7.30E-07	n/a	n/a	n/a	n/a	7.30E-07	n/a	U
S10V000522		14391-16-3	Europium-155	uCi/g	n/a	<4.07E-07	<4.54E-07	n/a	n/a	n/a	n/a	4.54E-07	n/a	U
S10V000522		15092-94-1	Lead-212	uCi/g	n/a	n/a	1.05E-06	n/a	n/a	n/a	n/a	4.24E-07	26.92	
S10V000522		14274-82-9	Thorium-228	uCi/g	n/a	<1.07E-05	<1.18E-05	n/a	n/a	n/a	n/a	1.18E-05	n/a	U
S10V000522		15065-10-8	Thorium-234	uCi/g	n/a	<8.09E-06	<9.99E-06	n/a	n/a	n/a	n/a	9.99E-06	n/a	U
S10V000522		15046-84-1	Iodine-129	uCi/g	101	<2.20E-07	<2.20E-07	n/a	n/a	n/a	n/a	2.20E-07	n/a	U
S10V000524		CONDUCT	Conductivity	uMHO/cm	101	1.22	224	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000524		PH	pH	unitless	n/a	5.40	8.03	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000525	W	16984-48-8	Fluoride	ug/g	103	<1.61E-03	1.67	n/a	n/a	n/a	n/a	0.0159	n/a	
S10V000525	W	GLYCOLAT	Glycolate	ug/g	99.1	<9.37E-03	<0.0926	n/a	n/a	n/a	n/a	0.0926	n/a	U
S10V000525	W	71-50-1	Acetate	ug/g	96.1	<6.04E-03	0.386	n/a	n/a	n/a	n/a	0.0597	n/a	B
S10V000525	W	FORMATE	Formate	ug/g	100	<4.67E-03	0.303	n/a	n/a	n/a	n/a	0.0461	n/a	B
S10V000525	W	16887-00-6	Chloride	ug/g	100	<9.98E-03	1.16	n/a	n/a	n/a	n/a	0.0986	n/a	
S10V000525	W	14797-65-0	Nitrite	ug/g	101	<0.0192	0.894	n/a	n/a	n/a	n/a	0.190	n/a	B
S10V000525	W	14808-79-8	Sulfate	ug/g	103	0.0282	21.4	n/a	n/a	n/a	n/a	0.185	n/a	
S10V000525	W	338-70-5	Oxalate	ug/g	102	<0.0231	4.47	n/a	n/a	n/a	n/a	0.228	n/a	
S10V000525	W	24959-67-9	Bromide	ug/g	104	<0.0580	<0.573	n/a	n/a	n/a	n/a	0.573	n/a	U
S10V000525	W	14797-55-8	Nitrate	ug/g	101	<0.0208	2.52	n/a	n/a	n/a	n/a	0.206	n/a	B
S10V000525	W	14265-44-2	Phosphate	ug/g	101	<0.0167	0.852	n/a	n/a	n/a	n/a	0.165	n/a	B
S10V000526	A	7429-90-5	Aluminum	ug/g	84.3	<0.0300	1.29E+04	n/a	n/a	n/a	n/a	6.22	n/a	

NA = Not Analyzed, ND = Not Detected

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

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24HH9

Sample Depth: 45-47

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000526	A	7440-39-3	Barium	ug/g	91.6	<3.00E-03	142	n/a	n/a	n/a	n/a	0.622	n/a	
S10V000526	A	7440-41-7	Beryllium	ug/g	93.6	<1.00E-03	0.345	n/a	n/a	n/a	n/a	0.208	n/a	B
S10V000526	A	7440-69-9	Bismuth	ug/g	81.9	<0.100	23.2	n/a	n/a	n/a	n/a	20.8	n/a	CB
S10V000526	A	7440-70-2	Calcium	ug/g	81.6	0.504	1.31E+04	n/a	n/a	n/a	n/a	10.4	n/a	
S10V000526	A	7440-45-1	Cerium	ug/g	95.1	<0.0300	29.7	n/a	n/a	n/a	n/a	6.22	n/a	B
S10V000526	A	7440-48-4	Cobalt	ug/g	85.5	<0.0100	10.3	n/a	n/a	n/a	n/a	2.08	n/a	B
S10V000526	A	7440-47-3	Chromium	ug/g	84.6	<5.00E-03	30.7	n/a	n/a	n/a	n/a	1.04	n/a	
S10V000526	A	7440-50-8	Copper	ug/g	92.3	<5.00E-03	18.4	n/a	n/a	n/a	n/a	1.04	n/a	
S10V000526	A	7439-89-6	Iron	ug/g	85.8	<5.00E-03	2.95E+04	n/a	n/a	n/a	n/a	1.04	n/a	
S10V000526	A	7440-09-7	Potassium	ug/g	96.8	<0.500	2.16E+03	n/a	n/a	n/a	n/a	104	n/a	
S10V000526	A	7439-91-0	Lanthanum	ug/g	92.6	<3.00E-03	14.4	n/a	n/a	n/a	n/a	0.622	n/a	
S10V000526	A	7439-93-2	Lithium	ug/g	105	<3.00E-03	13.3	n/a	n/a	n/a	n/a	0.622	n/a	
S10V000526	A	7439-95-4	Magnesium	ug/g	79.7	<0.0500	5.88E+03	n/a	n/a	n/a	n/a	10.4	n/a	
S10V000526	A	7439-96-5	Manganese	ug/g	85.0	<3.00E-03	509	n/a	n/a	n/a	n/a	0.622	n/a	
S10V000526	A	7440-23-5	Sodium	ug/g	101	<0.100	501	n/a	n/a	n/a	n/a	20.8	n/a	
S10V000526	A	7440-02-0	Nickel	ug/g	83.5	<0.0200	21.9	n/a	n/a	n/a	n/a	4.15	n/a	B
S10V000526	A	7723-14-0	Phosphorus	ug/g	90.9	<0.0500	709	n/a	n/a	n/a	n/a	10.4	n/a	
S10V000526	A	7704-34-9	Sulfur	ug/g	90.1	<0.100	57.9	n/a	n/a	n/a	n/a	20.8	n/a	B
S10V000526	A	7440-21-3	Silicon	ug/g	76.4	<0.0300	135	n/a	n/a	n/a	n/a	6.22	n/a	N
S10V000526	A	7440-24-6	Strontium	ug/g	91.9	<3.00E-03	48.7	n/a	n/a	n/a	n/a	0.622	n/a	
S10V000526	A	7440-32-6	Titanium	ug/g	88.8	<5.00E-03	1.66E+03	n/a	n/a	n/a	n/a	1.04	n/a	
S10V000526	A	7440-62-2	Vanadium	ug/g	107	<5.00E-03	65.8	n/a	n/a	n/a	n/a	1.04	n/a	
S10V000526	A	7440-65-5	Yttrium	ug/g	89.1	<2.00E-03	9.92	n/a	n/a	n/a	n/a	0.415	n/a	
S10V000526	A	7440-66-6	Zinc	ug/g	86.9	5.17E-03	50.8	n/a	n/a	n/a	n/a	1.04	n/a	
S10V000526	A	7440-67-7	Zirconium	ug/g	86.1	<5.00E-03	13.5	n/a	n/a	n/a	n/a	1.04	n/a	N
S10V000526	A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<7.26E-05	n/a	n/a	n/a	n/a	7.26E-05	n/a	U
S10V000526	A	TH-232	Thorium-232	ug/g	108	<1.70E-04	4.26	n/a	n/a	n/a	n/a	1.76E-03	n/a	
S10V000526	A	13968-55-3	Uranium-233	ug/g	n/a	<1.00E-05	1.71E-04	n/a	n/a	n/a	n/a	1.04E-04	n/a	
S10V000526	A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	6.63E-05	n/a	n/a	n/a	n/a	5.19E-05	n/a	

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B - Estimated

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24HH9

Sample Depth: 45-47

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000526	A	15117-96-1	Uranium-235	ug/g	109	<1.10E-05	4.46E-03	n/a	n/a	n/a	n/a	1.14E-04	n/a	
S10V000526	A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	5.14E-05	n/a	n/a	n/a	n/a	4.15E-05	n/a	
S10V000526	A	13994-20-2	Neptunium-237	ug/g	109	<5.30E-05	<5.50E-04	n/a	n/a	n/a	n/a	5.50E-04	n/a	U
S10V000526	A	U-238	Uranium-238	ug/g	117	<5.50E-04	0.656	n/a	n/a	n/a	n/a	5.71E-03	n/a	
S10V000526	A	7440-22-4	Silver	ug/g	111	<8.00E-03	<0.0830	n/a	n/a	n/a	n/a	0.0830	n/a	U
S10V000526	A	7440-38-2	Arsenic	ug/g	94.6	<0.0420	3.66	n/a	n/a	n/a	n/a	0.436	n/a	B
S10V000526	A	7440-43-9	Cadmium	ug/g	103	<3.00E-03	0.0945	n/a	n/a	n/a	n/a	0.0234	n/a	B
S10V000526	A	7439-92-1	Lead	ug/g	106	0.0210	5.98	n/a	n/a	n/a	n/a	0.0586	n/a	
S10V000526	A	7782-49-2	Selenium	ug/g	82.7	<0.0610	<0.633	n/a	n/a	n/a	n/a	0.633	n/a	U
S10V000526	A	7440-28-0	Thallium	ug/g	103	9.39E-03	0.256	n/a	n/a	n/a	n/a	0.0311	n/a	CB
S10V000527	S	14798-03-9	Ammonium	ug/g	101	0.228	1.65	n/a	n/a	n/a	n/a	0.474	n/a	CB
S10V000528	A	14133-76-7	Technetium-99	ug/g	98.4	<3.00E-06	7.06E-05	n/a	n/a	n/a	n/a	3.60E-05	n/a	
S10V000528	A	SN-117	Tin-117	ug/g	105	<1.00E-03	0.0157	n/a	n/a	n/a	n/a	9.97E-03	n/a	EN
S10V000528	A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	<1.99E-04	n/a	n/a	n/a	n/a	1.99E-04	n/a	EUN
S10V000529	E	CM-243/244	Curium-243/244	uCi/g	n/a	<2.47E-07	<1.59E-07	n/a	n/a	n/a	n/a	1.59E-07	n/a	U
S10V000529	E	14596-10-2	Americium-241	uCi/g	96.9	<6.18E-07	<3.98E-07	n/a	n/a	n/a	n/a	3.98E-07	n/a	U
S10V000529	E	15510-73-3	Curium-242	uCi/g	n/a	<2.47E-07	<1.59E-07	n/a	n/a	n/a	n/a	1.59E-07	n/a	U
S10V000529	E	PU-239/240	Plutonium-239/240	uCi/g	102	<2.88E-07	<2.44E-07	n/a	n/a	n/a	n/a	2.44E-07	n/a	U
S10V000529	E	13981-16-3	Plutonium-238	uCi/g	n/a	<2.88E-07	<2.44E-07	n/a	n/a	n/a	n/a	2.44E-07	n/a	U
S10V000530	E	SR-89/90	Strontium-89/90	uCi/g	99.3	<1.68E-07	<2.10E-07	n/a	n/a	n/a	n/a	2.10E-07	n/a	U
S10V000531	E	13981-37-8	Nickel-63	uCi/g	105	<6.25E-06	5.15E-06	n/a	n/a	n/a	n/a	4.86E-06	100.215	
S10V000531	E	15758-45-9	Selenium-79	uCi/g	n/a	1.27E-06	<1.34E-06	n/a	n/a	n/a	n/a	1.34E-06	n/a	U
S10V002085	A	7440-36-0	Antimony	ug/g	103	<2.00E-04	0.258	n/a	n/a	n/a	n/a	9.75E-03	n/a	
S10V002086	W	14762-75-5	Carbon-14	uCi/g	96.5	<2.53E-07	<2.47E-06	n/a	n/a	n/a	n/a	2.47E-06	n/a	U
S10V002086	W	10028-17-8	Tritium	uCi/g	86.0	<4.83E-07	<3.89E-06	n/a	n/a	n/a	n/a	3.89E-06	n/a	U

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DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24HH9A

Sample Depth: 45-47

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000488			BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.05	n/a	n/a	n/a	n/a	n/a	n/a	

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B - Blank Contamination

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DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24HH9C

Sample Depth: 45-47

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000490		BULKDENSI	Bulk Density	g/mL	n/a	n/a	1.96	n/a	n/a	n/a	n/a	n/a	n/a	

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B - Estimated

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24HJ0

Sample Depth: 62-64

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000492		%WATERA	%WATER-APD	%	n/a	n/a	14.08	n/a	n/a	n/a	n/a	0.01000	n/a	
S10V000492		57-12-5	Cyanide	ug/g	101	<0.0370	<2.57	<2.69	n/a	n/a	88.3	2.57	n/a	U
S10V000492		WT%SOLID	Weight percent solids	%	n/a	n/a	85.9	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000492		7439-97-6	Mercury	ug/g	103	<1.00E-04	<0.0199	n/a	n/a	n/a	n/a	0.0199	n/a	U
S10V000492		12597-04-5	Sulfide	ug/g	96.9	<0.180	7.15	8.21	7.68	13.8	93.2	7.07	n/a	B
S10V000496		CONDUCT	Conductivity	uMHO/cm	101	1.22	196	196	196	0.0511	n/a	0.0100	n/a	
S10V000496		PH	pH	unitless	n/a	5.40	7.81	7.85	7.83	0.511	n/a	0.0100	n/a	
S10V000497	W	16984-48-8	Fluoride	ug/g	103	<1.61E-03	1.59	1.45	1.52	9.53	103	0.0161	n/a	
S10V000497	W	GLYCOLAT	Glycolate	ug/g	99.1	<9.37E-03	<0.0936	<0.0935	n/a	n/a	97.9	0.0936	n/a	U
S10V000497	W	71-50-1	Acetate	ug/g	96.1	<6.04E-03	0.272	0.233	0.252	15.4	95.2	0.0604	n/a	B
S10V000497	W	FORMATE	Formate	ug/g	100	<4.67E-03	0.557	0.462	0.509	18.5	100	0.0467	n/a	B
S10V000497	W	16887-00-6	Chloride	ug/g	100	<9.98E-03	1.21	1.20	1.21	0.263	100	0.0997	n/a	
S10V000497	W	14797-65-0	Nitrite	ug/g	101	<0.0192	0.891	0.534	0.712	50.2	100	0.192	n/a	B
S10V000497	W	14808-79-8	Sulfate	ug/g	103	0.0282	23.2	22.6	22.9	2.24	101	0.187	n/a	
S10V000497	W	338-70-5	Oxalate	ug/g	102	<0.0231	1.12	0.917	1.02	20.2	99.9	0.231	n/a	B
S10V000497	W	24959-67-9	Bromide	ug/g	104	<0.0580	<0.580	<0.579	n/a	n/a	100	0.580	n/a	U
S10V000497	W	14797-55-8	Nitrate	ug/g	101	<0.0208	11.2	11.0	11.1	1.53	99.2	0.208	n/a	
S10V000497	W	14265-44-2	Phosphate	ug/g	101	<0.0167	1.10	1.02	1.06	7.95	99.8	0.167	n/a	B
S10V000498	A	7429-90-5	Aluminum	ug/g	84.3	<0.0300	1.46E+04	1.43E+04	1.44E+04	2.00	3.30E+03	7.17	n/a	
S10V000498	A	7440-39-3	Barium	ug/g	91.6	<3.00E-03	134	128	131	4.09	109	0.717	n/a	
S10V000498	A	7440-41-7	Beryllium	ug/g	93.6	<1.00E-03	0.454	0.442	0.448	2.87	102	0.239	n/a	B
S10V000498	A	7440-69-9	Bismuth	ug/g	81.9	<0.100	25.3	n/a	n/a	n/a	88.0	23.9	n/a	CB
S10V000498	A	7440-70-2	Calcium	ug/g	81.6	0.504	1.04E+04	1.03E+04	1.03E+04	1.17	688	12.0	n/a	
S10V000498	A	7440-45-1	Cerium	ug/g	95.1	<0.0300	35.3	n/a	n/a	n/a	110	7.17	n/a	B
S10V000498	A	7440-48-4	Cobalt	ug/g	85.5	<0.0100	9.81	9.92	9.87	1.07	105	2.39	n/a	B
S10V000498	A	7440-47-3	Chromium	ug/g	84.6	<5.00E-03	25.9	26.2	26.0	0.912	104	1.20	n/a	
S10V000498	A	7440-50-8	Copper	ug/g	92.3	<5.00E-03	14.6	14.6	14.6	0.161	105	1.20	n/a	
S10V000498	A	7439-89-6	Iron	ug/g	85.8	<5.00E-03	2.55E+04	2.49E+04	2.52E+04	2.42	363	1.20	n/a	
S10V000498	A	7440-09-7	Potassium	ug/g	96.8	<0.500	2.63E+03	3.09E+03	2.86E+03	16.1	1.35E+03	120	n/a	

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Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24HJ0

Sample Depth: 62-64

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000498	A	7439-91-0	Lanthanum	ug/g	92.6	<3.00E-03	17.3	n/a	n/a	n/a	103	0.717	n/a	
S10V000498	A	7439-93-2	Lithium	ug/g	105	<3.00E-03	16.3	18.0	17.2	10.3	118	0.717	n/a	
S10V000498	A	7439-95-4	Magnesium	ug/g	79.7	<0.0500	6.32E+03	6.29E+03	6.30E+03	0.524	500	12.0	n/a	
S10V000498	A	7439-96-5	Manganese	ug/g	85.0	<3.00E-03	461	457	459	0.930	128	0.717	n/a	
S10V000498	A	7440-23-5	Sodium	ug/g	101	<0.100	376	397	386	5.37	392	23.9	n/a	
S10V000498	A	7440-02-0	Nickel	ug/g	83.5	<0.0200	19.8	19.8	19.8	0.346	105	4.78	n/a	B
S10V000498	A	7723-14-0	Phosphorus	ug/g	90.9	<0.0500	621	616	618	0.912	91.3	12.0	n/a	
S10V000498	A	7704-34-9	Sulfur	ug/g	90.1	<0.100	35.3	33.3	34.3	6.08	108	23.9	n/a	B
S10V000498	A	7440-21-3	Silicon	ug/g	76.4	<0.0300	159	167	163	5.31	-13.8	7.17	n/a	N
S10V000498	A	7440-24-6	Strontium	ug/g	91.9	<3.00E-03	43.4	41.8	42.6	3.66	107	0.717	n/a	
S10V000498	A	7440-32-6	Titanium	ug/g	88.8	<5.00E-03	1.33E+03	1.29E+03	1.31E+03	3.08	220	1.20	n/a	
S10V000498	A	7440-62-2	Vanadium	ug/g	102	<5.00E-03	51.3	49.8	50.5	2.97	107	1.20	n/a	
S10V000498	A	7440-65-5	Yttrium	ug/g	89.1	<2.00E-03	9.61	9.13	9.37	5.07	97.8	0.478	n/a	
S10V000498	A	7440-66-6	Zinc	ug/g	86.9	5.17E-03	53.6	52.8	53.2	1.58	106	1.20	n/a	
S10V000498	A	7440-67-7	Zirconium	ug/g	86.1	<5.00E-03	15.1	13.8	14.4	9.11	47.7	1.20	n/a	N
S10V000498	A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	1.05E-04	<8.39E-05	n/a	n/a	n/a	8.37E-05	n/a	
S10V000498	A	TH-232	Thorium-232	ug/g	108	<1.70E-04	6.36	5.67	6.01	11.4	104	2.03E-03	n/a	
S10V000498	A	13968-55-3	Uranium-233	ug/g	n/a	<1.00E-05	2.42E-04	<1.20E-04	n/a	n/a	n/a	1.20E-04	n/a	
S10V000498	A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	<5.98E-05	7.69E-05	n/a	n/a	n/a	5.98E-05	n/a	U
S10V000498	A	15117-96-1	Uranium-235	ug/g	109	<1.10E-05	6.04E-03	5.42E-03	5.73E-03	10.9	84.6	1.31E-04	n/a	
S10V000498	A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<4.78E-05	<4.80E-05	n/a	n/a	n/a	4.78E-05	n/a	U
S10V000498	A	13994-20-2	Neptunium-237	ug/g	109	<5.30E-05	<6.34E-04	<6.35E-04	n/a	n/a	111	6.34E-04	n/a	U
S10V000498	A	U-238	Uranium-238	ug/g	117	<5.50E-04	0.867	0.820	0.844	5.60	99.6	6.57E-03	n/a	
S10V000498	A	7440-22-4	Silver	ug/g	111	<8.00E-03	0.0999	0.100	0.100	0.316	101	0.0956	n/a	B
S10V000498	A	7440-38-2	Arsenic	ug/g	94.6	<0.0420	5.59	5.68	5.63	1.66	81.0	0.502	n/a	
S10V000498	A	7440-43-9	Cadmium	ug/g	103	<3.00E-03	0.151	0.134	0.143	11.8	111	0.0228	n/a	B
S10V000498	A	7439-92-1	Lead	ug/g	106	0.0210	8.41	8.40	8.41	0.152	109	0.0570	n/a	
S10V000498	A	7782-49-2	Selenium	ug/g	82.7	<0.0610	<0.729	<0.731	n/a	n/a	100	0.729	n/a	U
S10V000498	A	7440-28-0	Thallium	ug/g	103	9.39E-03	0.322	0.293	0.307	9.23	104	0.0359	n/a	CB

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Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24HJ0

Sample Depth: 62-64

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000499	S	14798-03-9	Ammonium	ug/g	101	0.228	1.37	1.99	1.68	36.6	90.0	0.474	n/a	CB
S10V000500	A	14133-76-7	Technetium-99	ug/g	98.4	<3.00E-06	6.07E-05	6.25E-05	6.16E-05	2.95	84.7	3.60E-05	n/a	
S10V000500	A	SN-117	Tin-117	ug/g	105	<1.00E-03	0.0176	0.0166	0.0171	5.85	34.2	9.96E-03	n/a	EN
S10V000500	A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	2.67E-04	2.37E-04	2.52E-04	12.0	n/a	1.99E-04	n/a	EN
S10V000501		10198-40-0	Cobalt-60	uCi/g	99.6	<2.13E-07	<2.27E-07	<2.30E-07	n/a	n/a	n/a	2.27E-07	n/a	U
S10V000501		14234-35-6	Antimony-125	uCi/g	n/a	<5.22E-07	<5.94E-07	<5.90E-07	n/a	n/a	n/a	5.94E-07	n/a	U
S10V000501		10045-97-3	Cesium-137	uCi/g	103	<2.41E-07	<2.65E-07	<2.64E-07	n/a	n/a	n/a	2.65E-07	n/a	U
S10V000501		14683-23-9	Europium-152	uCi/g	n/a	<1.04E-06	<1.13E-06	<1.09E-06	n/a	n/a	n/a	1.13E-06	n/a	U
S10V000501		15585-10-1	Europium-154	uCi/g	n/a	<6.64E-07	<7.19E-07	<7.23E-07	n/a	n/a	n/a	7.19E-07	n/a	U
S10V000501		14391-16-3	Europium-155	uCi/g	n/a	<4.07E-07	<4.71E-07	<4.58E-07	n/a	n/a	n/a	4.71E-07	n/a	U
S10V000501		15092-94-1	Lead-212	uCi/g	n/a	n/a	1.35E-06	7.78E-07	1.06E-06	53.4	n/a	4.34E-07	21.35	
S10V000501		14733-03-0	Bismuth-214	uCi/g	n/a	n/a	6.68E-07	n/a	n/a	n/a	n/a	5.21E-07	46.03	
S10V000501		15067-28-4	Lead-214	uCi/g	n/a	n/a	7.22E-07	7.82E-07	7.52E-07	7.89	n/a	5.11E-07	32.94	
S10V000501		14274-82-9	Thorium-228	uCi/g	n/a	<1.07E-05	<1.16E-05	<1.20E-05	n/a	n/a	n/a	1.16E-05	n/a	U
S10V000501		15065-10-8	Thorium-234	uCi/g	n/a	<8.09E-06	<1.03E-05	<1.03E-05	n/a	n/a	n/a	1.03E-05	n/a	U
S10V000501		15046-84-1	Iodine-129	uCi/g	101	<2.20E-07	<2.29E-07	<2.10E-07	n/a	n/a	n/a	2.29E-07	n/a	U
S10V000502	E	CM-243/244	Curium-243/244	uCi/g	n/a	<2.47E-07	<2.14E-07	<2.41E-07	n/a	n/a	n/a	2.14E-07	n/a	U
S10V000502	E	14596-10-2	Americium-241	uCi/g	96.9	<6.18E-07	<5.34E-07	<6.02E-07	n/a	n/a	112	5.34E-07	n/a	U
S10V000502	E	15510-73-3	Curium-242	uCi/g	n/a	<2.47E-07	<2.14E-07	<2.41E-07	n/a	n/a	n/a	2.14E-07	n/a	U
S10V000502	E	PU-239/240	Plutonium-239/240	uCi/g	102	<2.88E-07	<2.81E-07	<2.70E-07	n/a	n/a	96.9	2.81E-07	n/a	U
S10V000502	E	13981-16-3	Plutonium-238	uCi/g	n/a	<2.88E-07	<2.81E-07	<2.70E-07	n/a	n/a	n/a	2.81E-07	n/a	U
S10V000503	E	SR-89/90	Strontium-89/90	uCi/g	99.3	<1.68E-07	<5.83E-07	<1.84E-07	n/a	n/a	n/a	5.83E-07	n/a	U
S10V000504	E	13981-37-8	Nickel-63	uCi/g	105	<6.25E-06	<4.85E-06	<4.39E-06	n/a	n/a	101	4.85E-06	n/a	U
S10V000504	E	15758-45-9	Selenium-79	uCi/g	n/a	1.27E-06	<2.51E-06	<1.20E-06	n/a	n/a	n/a	2.51E-06	n/a	U
S10V002083	A	7440-36-0	Antimony	ug/g	103	<2.00E-04	0.272	0.255	0.264	6.50	76.1	9.59E-03	n/a	
S10V002084	W	14762-75-5	Carbon-14	uCi/g	96.5	<2.53E-07	2.99E-06	3.18E-06	3.08E-06	6.16	91.1	2.65E-06	217.533	
S10V002084	W	10028-17-8	Tritium	uCi/g	86.0	<4.83E-07	<3.91E-06	<4.32E-06	n/a	n/a	94.1	3.91E-06	n/a	U

NA = Not Analyzed, ND = Not Detected

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B - Blank Contamination
E - Estimated by Interference
B - Estimated

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Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24HJ0A

Sample Depth: 62-64

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000505		BULKDENSI	Bulk Density	g/mL	n/a	n/a	1.92	n/a	n/a	n/a	n/a	n/a	n/a	

NA = Not Analyzed, ND = Not Detected

N - MS/MSD Outside Range
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C - Blank Contamination
B - Blank Contamination
E - Estimated by Interference
B - Estimated

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DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24HJ0B

Sample Depth: 62-64

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000506		BULKDENSI	Bulk Density	g/mL	n/a	n/a	1.91	n/a	n/a	n/a	n/a	n/a	n/a	

NA = Not Analyzed, ND = Not Detected

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

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DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24HJ0C

Sample Depth: 62-64

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000507			BULKDENSI	Bulk Density	g/mL	n/a	n/a	1.97	n/a	n/a	n/a	n/a	n/a	n/a	

NA = Not Analyzed, ND = Not Detected

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E - Estimated by Interference
U - Less Than Detection Limit
B - Estimated
C - Blank Contamination
B - Blank Contamination

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV1

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000532		%WATERA	%WATER-APD	%	n/a	n/a	11.81	n/a	n/a	n/a	n/a	0.01000	n/a	
S10V000532		57-12-5	Cyanide	ug/g	98.3	<0.0370	<2.77	<2.75	n/a	n/a	89.9	2.77	n/a	U
S10V000532		WT%SOLID	Weight percent solids	%	n/a	n/a	88.2	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000532		7439-97-6	Mercury	ug/g	103	<1.00E-04	<0.0190	n/a	n/a	n/a	n/a	0.0190	n/a	U
S10V000532		12597-04-5	Sulfide	ug/g	105	<0.180	<7.04	<7.12	n/a	n/a	103	7.04	n/a	U
S10V000533		10198-40-0	Cobalt-60	uCi/g	99.6	<2.13E-07	<2.15E-07	n/a	n/a	n/a	n/a	2.15E-07	n/a	U
S10V000533		14234-35-6	Antimony-125	uCi/g	n/a	<5.22E-07	<5.68E-07	n/a	n/a	n/a	n/a	5.68E-07	n/a	U
S10V000533		10045-97-3	Cesium-137	uCi/g	103	<2.41E-07	<2.59E-07	n/a	n/a	n/a	n/a	2.59E-07	n/a	U
S10V000533		14683-23-9	Europium-152	uCi/g	n/a	<1.04E-06	<1.14E-06	n/a	n/a	n/a	n/a	1.14E-06	n/a	U
S10V000533		15585-10-1	Europium-154	uCi/g	n/a	<6.64E-07	<7.10E-07	n/a	n/a	n/a	n/a	7.10E-07	n/a	U
S10V000533		14391-16-3	Europium-155	uCi/g	n/a	<4.07E-07	<4.34E-07	n/a	n/a	n/a	n/a	4.34E-07	n/a	U
S10V000533		15092-94-1	Lead-212	uCi/g	n/a	n/a	9.10E-07	n/a	n/a	n/a	n/a	2.81E-07	15.15	
S10V000533		14274-82-9	Thorium-228	uCi/g	n/a	<1.07E-05	<1.14E-05	n/a	n/a	n/a	n/a	1.14E-05	n/a	U
S10V000533		15065-10-8	Thorium-234	uCi/g	n/a	<8.09E-06	<9.71E-06	n/a	n/a	n/a	n/a	9.71E-06	n/a	U
S10V000533		15046-84-1	Iodine-129	uCi/g	101	<2.20E-07	<5.98E-07	n/a	n/a	n/a	n/a	5.98E-07	n/a	U
S10V000535		CONDUCT	Conductivity	uMHO/cm	102	0.540	196	196	196	0.0511	n/a	0.0100	n/a	
S10V000535		PH	pH	unitless	n/a	n/a	7.80	7.84	7.82	0.512	n/a	0.0100	n/a	
S10V000536	W	16984-48-8	Fluoride	ug/g	103	<1.61E-03	1.11	n/a	n/a	n/a	n/a	0.0160	n/a	
S10V000536	W	GLYCOLAT	Glycolate	ug/g	99.1	<9.37E-03	<0.0934	n/a	n/a	n/a	n/a	0.0934	n/a	U
S10V000536	W	71-50-1	Acetate	ug/g	96.1	<6.04E-03	0.223	n/a	n/a	n/a	n/a	0.0602	n/a	B
S10V000536	W	FORMATE	Formate	ug/g	100	<4.67E-03	0.453	n/a	n/a	n/a	n/a	0.0465	n/a	B
S10V000536	W	16887-00-6	Chloride	ug/g	100	<9.98E-03	2.08	n/a	n/a	n/a	n/a	0.0995	n/a	
S10V000536	W	14797-65-0	Nitrite	ug/g	101	<0.0192	1.27	n/a	n/a	n/a	n/a	0.191	n/a	B
S10V000536	W	14808-79-8	Sulfate	ug/g	103	0.0282	18.5	n/a	n/a	n/a	n/a	0.186	n/a	
S10V000536	W	338-70-5	Oxalate	ug/g	102	<0.0231	1.13	n/a	n/a	n/a	n/a	0.230	n/a	B
S10V000536	W	24959-67-9	Bromide	ug/g	104	<0.0580	<0.578	n/a	n/a	n/a	n/a	0.578	n/a	U
S10V000536	W	14797-55-8	Nitrate	ug/g	101	<0.0208	16.5	n/a	n/a	n/a	n/a	0.207	n/a	
S10V000536	W	14265-44-2	Phosphate	ug/g	101	<0.0167	0.847	n/a	n/a	n/a	n/a	0.166	n/a	B
S10V000537	A	7429-90-5	Aluminum	ug/g	84.3	<0.0300	1.05E+04	n/a	n/a	n/a	n/a	6.27	n/a	

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E - Estimated by Interference
B - Estimated

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV1

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000537	A	7440-39-3	Barium	ug/g	91.6	<3.00E-03	90.5	n/a	n/a	n/a	n/a	0.627	n/a	
S10V000537	A	7440-41-7	Beryllium	ug/g	93.6	<1.00E-03	0.315	n/a	n/a	n/a	n/a	0.209	n/a	B
S10V000537	A	7440-70-2	Calcium	ug/g	81.6	0.504	9.93E+03	n/a	n/a	n/a	n/a	10.4	n/a	
S10V000537	A	7440-45-1	Cerium	ug/g	95.1	<0.0300	34.1	n/a	n/a	n/a	n/a	6.27	n/a	B
S10V000537	A	7440-48-4	Cobalt	ug/g	85.5	<0.0100	6.80	n/a	n/a	n/a	n/a	2.09	n/a	B
S10V000537	A	7440-47-3	Chromium	ug/g	84.6	<5.00E-03	32.2	n/a	n/a	n/a	n/a	1.04	n/a	
S10V000537	A	7440-50-8	Copper	ug/g	92.3	<5.00E-03	14.2	n/a	n/a	n/a	n/a	1.04	n/a	
S10V000537	A	7439-89-6	Iron	ug/g	85.8	<5.00E-03	1.94E+04	n/a	n/a	n/a	n/a	1.04	n/a	
S10V000537	A	7440-09-7	Potassium	ug/g	96.8	<0.500	1.96E+03	n/a	n/a	n/a	n/a	104	n/a	
S10V000537	A	7439-91-0	Lanthanum	ug/g	92.6	<3.00E-03	15.6	n/a	n/a	n/a	n/a	0.627	n/a	
S10V000537	A	7439-93-2	Lithium	ug/g	105	<3.00E-03	13.0	n/a	n/a	n/a	n/a	0.627	n/a	
S10V000537	A	7439-95-4	Magnesium	ug/g	79.7	<0.0500	5.38E+03	n/a	n/a	n/a	n/a	10.4	n/a	
S10V000537	A	7439-96-5	Manganese	ug/g	85.0	<3.00E-03	340	n/a	n/a	n/a	n/a	0.627	n/a	
S10V000537	A	7440-23-5	Sodium	ug/g	101	<0.100	296	n/a	n/a	n/a	n/a	20.9	n/a	
S10V000537	A	7440-02-0	Nickel	ug/g	83.5	<0.0200	22.0	n/a	n/a	n/a	n/a	4.18	n/a	B
S10V000537	A	7723-14-0	Phosphorus	ug/g	90.9	<0.0500	638	n/a	n/a	n/a	n/a	10.4	n/a	
S10V000537	A	7704-34-9	Sulfur	ug/g	90.1	<0.100	27.4	n/a	n/a	n/a	n/a	20.9	n/a	B
S10V000537	A	7440-21-3	Silicon	ug/g	76.4	<0.0300	144	n/a	n/a	n/a	n/a	6.27	n/a	N
S10V000537	A	7440-24-6	Strontium	ug/g	91.9	<3.00E-03	40.7	n/a	n/a	n/a	n/a	0.627	n/a	
S10V000537	A	7440-32-6	Titanium	ug/g	88.8	<5.00E-03	911	n/a	n/a	n/a	n/a	1.04	n/a	
S10V000537	A	7440-62-2	Vanadium	ug/g	107	<5.00E-03	41.1	n/a	n/a	n/a	n/a	1.04	n/a	
S10V000537	A	7440-65-5	Yttrium	ug/g	89.1	<2.00E-03	7.25	n/a	n/a	n/a	n/a	0.418	n/a	
S10V000537	A	7440-66-6	Zinc	ug/g	86.9	5.17E-03	41.2	n/a	n/a	n/a	n/a	1.04	n/a	
S10V000537	A	7440-67-7	Zirconium	ug/g	86.1	<5.00E-03	5.55	n/a	n/a	n/a	n/a	1.04	n/a	BN
S10V000537	A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<7.31E-05	n/a	n/a	n/a	n/a	7.31E-05	n/a	U
S10V000537	A	TH-232	Thorium-232	ug/g	108	<1.70E-04	5.76	n/a	n/a	n/a	n/a	1.78E-03	n/a	
S10V000537	A	13968-55-3	Uranium-233	ug/g	n/a	<1.00E-05	1.36E-04	n/a	n/a	n/a	n/a	1.04E-04	n/a	
S10V000537	A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	9.27E-05	n/a	n/a	n/a	n/a	5.22E-05	n/a	
S10V000537	A	15117-96-1	Uranium-235	ug/g	109	<1.10E-05	5.70E-03	n/a	n/a	n/a	n/a	1.15E-04	n/a	

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Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV1

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000537	A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<4.18E-05	n/a	n/a	n/a	n/a	4.18E-05	n/a	U
S10V000537	A	13994-20-2	Neptunium-237	ug/g	109	<5.30E-05	<5.54E-04	n/a	n/a	n/a	n/a	5.54E-04	n/a	U
S10V000537	A	U-238	Uranium-238	ug/g	117	<5.50E-04	0.798	n/a	n/a	n/a	n/a	5.75E-03	n/a	
S10V000537	A	7440-22-4	Silver	ug/g	111	<8.00E-03	<0.0836	n/a	n/a	n/a	n/a	0.0836	n/a	U
S10V000537	A	7440-38-2	Arsenic	ug/g	94.6	<0.0420	5.44	n/a	n/a	n/a	n/a	0.439	n/a	
S10V000537	A	7440-43-9	Cadmium	ug/g	103	<3.00E-03	0.0955	n/a	n/a	n/a	n/a	0.0234	n/a	B
S10V000537	A	7439-92-1	Lead	ug/g	106	0.0210	5.90	n/a	n/a	n/a	n/a	0.0586	n/a	
S10V000537	A	7782-49-2	Selenium	ug/g	82.7	<0.0610	<0.637	n/a	n/a	n/a	n/a	0.637	n/a	U
S10V000537	A	7440-28-0	Thallium	ug/g	103	9.39E-03	0.208	n/a	n/a	n/a	n/a	0.0313	n/a	CB
S10V000538	S	14798-03-9	Ammonium	ug/g	99.5	0.246	1.64	1.69	1.66	3.15	94.8	0.477	n/a	B
S10V000539	A	14133-76-7	Technetium-99	ug/g	98.4	<3.00E-06	3.81E-05	n/a	n/a	n/a	n/a	3.33E-05	n/a	
S10V000539	A	SN-117	Tin-117	ug/g	105	<1.00E-03	0.0167	n/a	n/a	n/a	n/a	9.88E-03	n/a	EN
S10V000539	A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	2.93E-04	n/a	n/a	n/a	n/a	1.98E-04	n/a	EN
S10V000540	E	CM-243/244	Curium-243/244	uCi/g	n/a	<2.47E-07	<2.31E-07	n/a	n/a	n/a	n/a	2.31E-07	n/a	U
S10V000540	E	14596-10-2	Americium-241	uCi/g	96.9	<6.18E-07	<5.78E-07	n/a	n/a	n/a	n/a	5.78E-07	n/a	U
S10V000540	E	15510-73-3	Curium-242	uCi/g	n/a	<2.47E-07	<2.31E-07	n/a	n/a	n/a	n/a	2.31E-07	n/a	U
S10V000540	E	PU-239/240	Plutonium-239/240	uCi/g	102	<2.88E-07	<2.46E-07	n/a	n/a	n/a	n/a	2.46E-07	n/a	U
S10V000540	E	13981-16-3	Plutonium-238	uCi/g	n/a	<2.88E-07	<2.46E-07	n/a	n/a	n/a	n/a	2.46E-07	n/a	U
S10V000541	E	SR-89/90	Strontium-89/90	uCi/g	99.3	<1.68E-07	<7.72E-07	n/a	n/a	n/a	n/a	7.72E-07	n/a	U
S10V000542	E	13981-37-8	Nickel-63	uCi/g	105	<6.25E-06	<5.83E-06	n/a	n/a	n/a	n/a	5.83E-06	n/a	U
S10V000542	E	15758-45-9	Selenium-79	uCi/g	n/a	1.27E-06	<1.90E-06	n/a	n/a	n/a	n/a	1.90E-06	n/a	U
S10V002087	A	7440-36-0	Antimony	ug/g	103	<2.00E-04	0.298	n/a	n/a	n/a	n/a	9.90E-03	n/a	
S10V002088	W	14762-75-5	Carbon-14	uCi/g	96.5	<2.53E-07	6.29E-06	n/a	n/a	n/a	n/a	2.58E-06	41.316	
S10V002088	W	10028-17-8	Tritium	uCi/g	86.0	<4.83E-07	<4.60E-06	n/a	n/a	n/a	n/a	4.60E-06	n/a	U

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Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV1A

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000509		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.08	n/a	n/a	n/a	n/a	n/a	n/a	

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U - Less Than Detection Limit
B - Estimated
C - Blank Contamination
B - Blank Contamination

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV1B

Sample Depth: 96-98

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000510			BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.05	n/a	n/a	n/a	n/a	n/a	n/a	

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U - Less Than Detection Limit
C - Blank Contamination
B - Blank Contamination
E - Estimated by Interference
B - Estimated

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV2

Sample Depth: 127-129

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000543		%WATERA	%WATER-APD	%	n/a	n/a	11.31	n/a	n/a	n/a	n/a	0.01000	n/a	
S10V000543		57-12-5	Cyanide	ug/g	98.3	<0.0370	<2.80	n/a	n/a	n/a	n/a	2.80	n/a	U
S10V000543		WT%SOLID	Weight percent solids	%	n/a	n/a	88.7	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000543		7439-97-6	Mercury	ug/g	103	<1.00E-04	<0.0197	n/a	n/a	n/a	n/a	0.0197	n/a	U
S10V000543		12597-04-5	Sulfide	ug/g	105	<0.180	<6.93	n/a	n/a	n/a	n/a	6.93	n/a	U
S10V000544		10198-40-0	Cobalt-60	uCi/g	99.6	<2.13E-07	<2.36E-07	n/a	n/a	n/a	n/a	2.36E-07	n/a	U
S10V000544		14234-35-6	Antimony-125	uCi/g	n/a	<5.22E-07	<6.25E-07	n/a	n/a	n/a	n/a	6.25E-07	n/a	U
S10V000544		10045-97-3	Cesium-137	uCi/g	103	<2.41E-07	<2.81E-07	n/a	n/a	n/a	n/a	2.81E-07	n/a	U
S10V000544		14683-23-9	Europium-152	uCi/g	n/a	<1.04E-06	<1.15E-06	n/a	n/a	n/a	n/a	1.15E-06	n/a	U
S10V000544		15585-10-1	Europium-154	uCi/g	n/a	<6.64E-07	<7.81E-07	n/a	n/a	n/a	n/a	7.81E-07	n/a	U
S10V000544		14391-16-3	Europium-155	uCi/g	n/a	<4.07E-07	<4.77E-07	n/a	n/a	n/a	n/a	4.77E-07	n/a	U
S10V000544		15092-94-1	Lead-212	uCi/g	n/a	n/a	8.63E-07	n/a	n/a	n/a	n/a	3.81E-07	28.23	
S10V000544		14274-82-9	Thorium-228	uCi/g	n/a	<1.07E-05	<1.23E-05	n/a	n/a	n/a	n/a	1.23E-05	n/a	U
S10V000544		15065-10-8	Thorium-234	uCi/g	n/a	<8.09E-06	<1.06E-05	n/a	n/a	n/a	n/a	1.06E-05	n/a	U
S10V000544		15046-84-1	Iodine-129	uCi/g	101	<2.20E-07	<2.12E-07	n/a	n/a	n/a	n/a	2.12E-07	n/a	U
S10V000545	E	CM-243/244	Curium-243/244	uCi/g	n/a	<2.47E-07	<1.62E-07	n/a	n/a	n/a	n/a	1.62E-07	n/a	U
S10V000545	E	14596-10-2	Americium-241	uCi/g	96.9	<6.18E-07	<4.05E-07	n/a	n/a	n/a	n/a	4.05E-07	n/a	U
S10V000545	E	15510-73-3	Curium-242	uCi/g	n/a	<2.47E-07	<1.62E-07	n/a	n/a	n/a	n/a	1.62E-07	n/a	U
S10V000545	E	PU-239/240	Plutonium-239/240	uCi/g	102	<2.88E-07	<2.18E-07	n/a	n/a	n/a	n/a	2.18E-07	n/a	U
S10V000545	E	13981-16-3	Plutonium-238	uCi/g	n/a	<2.88E-07	<2.18E-07	n/a	n/a	n/a	n/a	2.18E-07	n/a	U
S10V000546	E	SR-89/90	Strontium-89/90	uCi/g	99.3	<1.68E-07	<2.18E-07	n/a	n/a	n/a	n/a	2.18E-07	n/a	U
S10V000547	E	13981-37-8	Nickel-63	uCi/g	105	<6.25E-06	<4.24E-06	n/a	n/a	n/a	n/a	4.24E-06	n/a	U
S10V000547	E	15758-45-9	Selenium-79	uCi/g	n/a	1.27E-06	<1.40E-06	n/a	n/a	n/a	n/a	1.40E-06	n/a	U
S10V000551		CONDUCT	Conductivity	uMHO/cm	102	0.540	188	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000551		PH	pH	unitless	n/a	n/a	7.75	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000552	W	16984-48-8	Fluoride	ug/g	103	<1.61E-03	1.24	n/a	n/a	n/a	n/a	0.0160	n/a	
S10V000552	W	GLYCOLAT	Glycolate	ug/g	99.1	<9.37E-03	<0.0933	n/a	n/a	n/a	n/a	0.0933	n/a	U
S10V000552	W	71-50-1	Acetate	ug/g	96.1	<6.04E-03	0.307	n/a	n/a	n/a	n/a	0.0602	n/a	B
S10V000552	W	FORMATE	Formate	ug/g	100	<4.67E-03	0.800	n/a	n/a	n/a	n/a	0.0465	n/a	B

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B - Estimated

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV2

Sample Depth: 127-129

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000552	W	16887-00-6	Chloride	ug/g	100	<9.98E-03	2.68	n/a	n/a	n/a	n/a	0.0994	n/a	
S10V000552	W	14797-65-0	Nitrite	ug/g	101	<0.0192	0.441	n/a	n/a	n/a	n/a	0.191	n/a	B
S10V000552	W	14808-79-8	Sulfate	ug/g	103	0.0282	12.5	n/a	n/a	n/a	n/a	0.186	n/a	
S10V000552	W	338-70-5	Oxalate	ug/g	102	<0.0231	1.85	n/a	n/a	n/a	n/a	0.230	n/a	B
S10V000552	W	24959-67-9	Bromide	ug/g	104	<0.0580	<0.578	n/a	n/a	n/a	n/a	0.578	n/a	U
S10V000552	W	14797-55-8	Nitrate	ug/g	101	<0.0208	12.9	n/a	n/a	n/a	n/a	0.207	n/a	
S10V000552	W	14265-44-2	Phosphate	ug/g	101	<0.0167	1.19	n/a	n/a	n/a	n/a	0.166	n/a	B
S10V000553	A	7429-90-5	Aluminum	ug/g	84.3	<0.0300	1.31E+04	n/a	n/a	n/a	n/a	6.60	n/a	
S10V000553	A	7440-39-3	Barium	ug/g	91.6	<3.00E-03	107	n/a	n/a	n/a	n/a	0.660	n/a	
S10V000553	A	7440-41-7	Beryllium	ug/g	93.6	<1.00E-03	0.401	n/a	n/a	n/a	n/a	0.220	n/a	B
S10V000553	A	7440-69-9	Bismuth	ug/g	81.9	<0.100	29.2	n/a	n/a	n/a	n/a	22.0	n/a	CB
S10V000553	A	7440-70-2	Calcium	ug/g	81.6	0.504	1.26E+04	n/a	n/a	n/a	n/a	11.0	n/a	
S10V000553	A	7440-45-1	Cerium	ug/g	95.1	<0.0300	37.5	n/a	n/a	n/a	n/a	6.60	n/a	B
S10V000553	A	7440-48-4	Cobalt	ug/g	85.5	<0.0100	8.16	n/a	n/a	n/a	n/a	2.20	n/a	B
S10V000553	A	7440-47-3	Chromium	ug/g	84.6	<5.00E-03	29.5	n/a	n/a	n/a	n/a	1.10	n/a	
S10V000553	A	7440-50-8	Copper	ug/g	92.3	<5.00E-03	19.9	n/a	n/a	n/a	n/a	1.10	n/a	
S10V000553	A	7439-89-6	Iron	ug/g	85.8	<5.00E-03	2.22E+04	n/a	n/a	n/a	n/a	1.10	n/a	
S10V000553	A	7440-09-7	Potassium	ug/g	96.8	<0.500	2.38E+03	n/a	n/a	n/a	n/a	110	n/a	
S10V000553	A	7439-91-0	Lanthanum	ug/g	92.6	<3.00E-03	17.9	n/a	n/a	n/a	n/a	0.660	n/a	
S10V000553	A	7439-93-2	Lithium	ug/g	105	<3.00E-03	17.7	n/a	n/a	n/a	n/a	0.660	n/a	
S10V000553	A	7439-95-4	Magnesium	ug/g	79.7	<0.0500	6.28E+03	n/a	n/a	n/a	n/a	11.0	n/a	
S10V000553	A	7439-96-5	Manganese	ug/g	85.0	<3.00E-03	359	n/a	n/a	n/a	n/a	0.660	n/a	
S10V000553	A	7440-23-5	Sodium	ug/g	101	<0.100	287	n/a	n/a	n/a	n/a	22.0	n/a	
S10V000553	A	7440-02-0	Nickel	ug/g	83.5	<0.0200	21.1	n/a	n/a	n/a	n/a	4.40	n/a	B
S10V000553	A	7723-14-0	Phosphorus	ug/g	90.9	<0.0500	671	n/a	n/a	n/a	n/a	11.0	n/a	
S10V000553	A	7704-34-9	Sulfur	ug/g	90.1	<0.100	22.7	n/a	n/a	n/a	n/a	22.0	n/a	B
S10V000553	A	7440-21-3	Silicon	ug/g	76.4	<0.0300	150	n/a	n/a	n/a	n/a	6.60	n/a	N
S10V000553	A	7440-24-6	Strontium	ug/g	91.9	<3.00E-03	43.4	n/a	n/a	n/a	n/a	0.660	n/a	
S10V000553	A	7440-32-6	Titanium	ug/g	88.8	<5.00E-03	976	n/a	n/a	n/a	n/a	1.10	n/a	

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Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV2

Sample Depth: 127-129

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000553	A	7440-62-2	Vanadium	ug/g	107	<5.00E-03	42.3	n/a	n/a	n/a	n/a	1.10	n/a	
S10V000553	A	7440-65-5	Yttrium	ug/g	89.1	<2.00E-03	8.57	n/a	n/a	n/a	n/a	0.440	n/a	
S10V000553	A	7440-66-6	Zinc	ug/g	86.9	5.17E-03	55.8	n/a	n/a	n/a	n/a	1.10	n/a	
S10V000553	A	7440-67-7	Zirconium	ug/g	86.1	<5.00E-03	9.02	n/a	n/a	n/a	n/a	1.10	n/a	BN
S10V000553	A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	1.22E-04	n/a	n/a	n/a	n/a	7.70E-05	n/a	
S10V000553	A	TH-232	Thorium-232	ug/g	108	<1.70E-04	6.69	n/a	n/a	n/a	n/a	1.87E-03	n/a	
S10V000553	A	13968-55-3	Uranium-233	ug/g	n/a	<1.00E-05	1.80E-04	n/a	n/a	n/a	n/a	1.10E-04	n/a	
S10V000553	A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	<5.50E-05	n/a	n/a	n/a	n/a	5.50E-05	n/a	U
S10V000553	A	15117-96-1	Uranium-235	ug/g	109	<1.10E-05	6.19E-03	n/a	n/a	n/a	n/a	1.21E-04	n/a	
S10V000553	A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<4.40E-05	n/a	n/a	n/a	n/a	4.40E-05	n/a	U
S10V000553	A	13994-20-2	Neptunium-237	ug/g	109	<5.30E-05	<5.83E-04	n/a	n/a	n/a	n/a	5.83E-04	n/a	U
S10V000553	A	U-238	Uranium-238	ug/g	117	<5.50E-04	0.937	n/a	n/a	n/a	n/a	6.05E-03	n/a	
S10V000553	A	7440-22-4	Silver	ug/g	111	<8.00E-03	0.0912	n/a	n/a	n/a	n/a	0.0880	n/a	B
S10V000553	A	7440-38-2	Arsenic	ug/g	94.6	<0.0420	3.78	n/a	n/a	n/a	n/a	0.462	n/a	B
S10V000553	A	7440-43-9	Cadmium	ug/g	103	<3.00E-03	0.157	n/a	n/a	n/a	n/a	0.0236	n/a	B
S10V000553	A	7439-92-1	Lead	ug/g	106	0.0210	8.52	n/a	n/a	n/a	n/a	0.0591	n/a	
S10V000553	A	7782-49-2	Selenium	ug/g	82.7	<0.0610	<0.671	n/a	n/a	n/a	n/a	0.671	n/a	U
S10V000553	A	7440-28-0	Thallium	ug/g	103	9.39E-03	0.266	n/a	n/a	n/a	n/a	0.0330	n/a	CB
S10V000554	S	14798-03-9	Ammonium	ug/g	99.5	0.246	1.71	n/a	n/a	n/a	n/a	0.479	n/a	B
S10V000555	A	14133-76-7	Technetium-99	ug/g	98.4	<3.00E-06	1.77E-04	n/a	n/a	n/a	n/a	3.13E-05	n/a	
S10V000555	A	SN-117	Tin-117	ug/g	105	<1.00E-03	0.0177	n/a	n/a	n/a	n/a	9.94E-03	n/a	EN
S10V000555	A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	4.37E-04	n/a	n/a	n/a	n/a	1.99E-04	n/a	EN
S10V002089	A	7440-36-0	Antimony	ug/g	103	<2.00E-04	0.383	n/a	n/a	n/a	n/a	9.64E-03	n/a	
S10V002090	W	14762-75-5	Carbon-14	uCi/g	96.5	<2.53E-07	3.93E-06	n/a	n/a	n/a	n/a	2.63E-06	118.782	
S10V002090	W	10028-17-8	Tritium	uCi/g	86.0	<4.83E-07	4.15E-06	n/a	n/a	n/a	n/a	2.69E-06	127.164	

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B - Estimated

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV2A

Sample Depth: 127-129

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000513		BULKDENSI	Bulk Density	g/mL	n/a	n/a	1.78	n/a	n/a	n/a	n/a	n/a	n/a	

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C - Blank Contamination
B - Blank Contamination
E - Estimated by Interference
B - Estimated

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV2B

Sample Depth: 127-129

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000514		BULKDENSI	Bulk Density	g/mL	n/a	n/a	1.84	n/a	n/a	n/a	n/a	n/a	n/a	

NA = Not Analyzed, ND = Not Detected

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

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV2C

Sample Depth: 127-129

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000515		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.01	n/a	n/a	n/a	n/a	n/a	n/a	

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E - Estimated by Interference
U - Less Than Detection Limit
B - Estimated
C - Blank Contamination
B - Blank Contamination

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV3

Sample Depth: 159-161

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000548		%WATERA	%WATER-APD	%	n/a	n/a	4.720	n/a	n/a	n/a	n/a	0.01000	n/a	
S10V000548		57-12-5	Cyanide	ug/g	98.3	<0.0370	<2.69	n/a	n/a	n/a	n/a	2.69	n/a	U
S10V000548		WT%SOLID	Weight percent solids	%	n/a	n/a	95.3	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000548		7439-97-6	Mercury	ug/g	103	<1.00E-04	<0.0193	n/a	n/a	n/a	n/a	0.0193	n/a	U
S10V000548		12597-04-5	Sulfide	ug/g	94.5	<0.180	<7.23	<7.22	n/a	n/a	96.3	7.23	n/a	U
S10V000549		10198-40-0	Cobalt-60	uCi/g	99.6	<2.13E-07	<2.26E-07	n/a	n/a	n/a	n/a	2.26E-07	n/a	U
S10V000549		14234-35-6	Antimony-125	uCi/g	n/a	<5.22E-07	<5.64E-07	n/a	n/a	n/a	n/a	5.64E-07	n/a	U
S10V000549		10045-97-3	Cesium-137	uCi/g	103	<2.41E-07	<2.51E-07	n/a	n/a	n/a	n/a	2.51E-07	n/a	U
S10V000549		14683-23-9	Europium-152	uCi/g	n/a	<1.04E-06	<1.11E-06	n/a	n/a	n/a	n/a	1.11E-06	n/a	U
S10V000549		15585-10-1	Europium-154	uCi/g	n/a	<6.64E-07	<7.13E-07	n/a	n/a	n/a	n/a	7.13E-07	n/a	U
S10V000549		14391-16-3	Europium-155	uCi/g	n/a	<4.07E-07	<4.39E-07	n/a	n/a	n/a	n/a	4.39E-07	n/a	U
S10V000549		15092-94-1	Lead-212	uCi/g	n/a	n/a	1.00E-06	n/a	n/a	n/a	n/a	2.53E-07	15.34	
S10V000549		14733-03-0	Bismuth-214	uCi/g	n/a	n/a	6.05E-07	n/a	n/a	n/a	n/a	4.35E-07	43.64	
S10V000549		15067-28-4	Lead-214	uCi/g	n/a	n/a	7.12E-07	n/a	n/a	n/a	n/a	4.91E-07	32.55	
S10V000549		14331-83-0	Actinium-228	uCi/g	n/a	n/a	1.11E-06	n/a	n/a	n/a	n/a	9.26E-07	30.95	
S10V000549		14274-82-9	Thorium-228	uCi/g	n/a	<1.07E-05	<1.12E-05	n/a	n/a	n/a	n/a	1.12E-05	n/a	U
S10V000549		15065-10-8	Thorium-234	uCi/g	n/a	<8.09E-06	<9.69E-06	n/a	n/a	n/a	n/a	9.69E-06	n/a	U
S10V000549		15046-84-1	Iodine-129	uCi/g	101	<2.20E-07	<2.20E-07	n/a	n/a	n/a	n/a	2.20E-07	n/a	U
S10V000557		CONDUCT	Conductivity	uMHO/cm	102	0.540	137	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000557		PH	pH	unitless	n/a	n/a	7.97	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000558	W	16984-48-8	Fluoride	ug/g	103	<1.61E-03	1.50	n/a	n/a	n/a	n/a	0.0160	n/a	
S10V000558	W	GLYCOLAT	Glycolate	ug/g	99.1	<9.37E-03	<0.0928	n/a	n/a	n/a	n/a	0.0928	n/a	U
S10V000558	W	71-50-1	Acetate	ug/g	96.1	<6.04E-03	2.86	n/a	n/a	n/a	n/a	0.0599	n/a	
S10V000558	W	FORMATE	Formate	ug/g	100	<4.67E-03	0.922	n/a	n/a	n/a	n/a	0.0463	n/a	
S10V000558	W	16887-00-6	Chloride	ug/g	100	<9.98E-03	1.33	n/a	n/a	n/a	n/a	0.0989	n/a	
S10V000558	W	14797-65-0	Nitrite	ug/g	101	<0.0192	1.18	n/a	n/a	n/a	n/a	0.190	n/a	B
S10V000558	W	14808-79-8	Sulfate	ug/g	103	0.0282	8.33	n/a	n/a	n/a	n/a	0.185	n/a	
S10V000558	W	338-70-5	Oxalate	ug/g	102	<0.0231	2.26	n/a	n/a	n/a	n/a	0.229	n/a	B
S10V000558	W	24959-67-9	Bromide	ug/g	104	<0.0580	<0.575	n/a	n/a	n/a	n/a	0.575	n/a	U

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Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV3

Sample Depth: 159-161

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000558	W	14797-55-8	Nitrate	ug/g	101	<0.0208	6.43	n/a	n/a	n/a	n/a	0.206	n/a	
S10V000558	W	14265-44-2	Phosphate	ug/g	101	<0.0167	1.57	n/a	n/a	n/a	n/a	0.165	n/a	B
S10V000559	A	7429-90-5	Aluminum	ug/g	84.3	<0.0300	9.93E+03	n/a	n/a	n/a	n/a	6.28	n/a	
S10V000559	A	7440-39-3	Barium	ug/g	91.6	<3.00E-03	57.5	n/a	n/a	n/a	n/a	0.628	n/a	
S10V000559	A	7440-41-7	Beryllium	ug/g	93.6	<1.00E-03	0.311	n/a	n/a	n/a	n/a	0.209	n/a	B
S10V000559	A	7440-70-2	Calcium	ug/g	81.6	0.504	3.79E+03	n/a	n/a	n/a	n/a	10.5	n/a	
S10V000559	A	7440-45-1	Cerium	ug/g	95.1	<0.0300	37.8	n/a	n/a	n/a	n/a	6.28	n/a	B
S10V000559	A	7440-48-4	Cobalt	ug/g	85.5	<0.0100	6.01	n/a	n/a	n/a	n/a	2.09	n/a	B
S10V000559	A	7440-47-3	Chromium	ug/g	84.6	<5.00E-03	18.2	n/a	n/a	n/a	n/a	1.05	n/a	
S10V000559	A	7440-50-8	Copper	ug/g	92.3	<5.00E-03	14.4	n/a	n/a	n/a	n/a	1.05	n/a	
S10V000559	A	7439-89-6	Iron	ug/g	85.8	<5.00E-03	1.92E+04	n/a	n/a	n/a	n/a	1.05	n/a	
S10V000559	A	7440-09-7	Potassium	ug/g	96.8	<0.500	1.55E+03	n/a	n/a	n/a	n/a	105	n/a	
S10V000559	A	7439-91-0	Lanthanum	ug/g	92.6	<3.00E-03	20.1	n/a	n/a	n/a	n/a	0.628	n/a	
S10V000559	A	7439-93-2	Lithium	ug/g	105	<3.00E-03	12.5	n/a	n/a	n/a	n/a	0.628	n/a	
S10V000559	A	7439-95-4	Magnesium	ug/g	79.7	<0.0500	5.35E+03	n/a	n/a	n/a	n/a	10.5	n/a	
S10V000559	A	7439-96-5	Manganese	ug/g	85.0	<3.00E-03	320	n/a	n/a	n/a	n/a	0.628	n/a	
S10V000559	A	7440-23-5	Sodium	ug/g	101	<0.100	224	n/a	n/a	n/a	n/a	20.9	n/a	
S10V000559	A	7440-02-0	Nickel	ug/g	83.5	<0.0200	14.4	n/a	n/a	n/a	n/a	4.19	n/a	B
S10V000559	A	7723-14-0	Phosphorus	ug/g	90.9	<0.0500	494	n/a	n/a	n/a	n/a	10.5	n/a	
S10V000559	A	7440-21-3	Silicon	ug/g	76.4	<0.0300	98.6	n/a	n/a	n/a	n/a	6.28	n/a	N
S10V000559	A	7440-24-6	Strontium	ug/g	91.9	<3.00E-03	20.8	n/a	n/a	n/a	n/a	0.628	n/a	
S10V000559	A	7440-32-6	Titanium	ug/g	88.8	<5.00E-03	812	n/a	n/a	n/a	n/a	1.05	n/a	
S10V000559	A	7440-62-2	Vanadium	ug/g	107	<5.00E-03	32.6	n/a	n/a	n/a	n/a	1.05	n/a	
S10V000559	A	7440-65-5	Yttrium	ug/g	89.1	<2.00E-03	8.24	n/a	n/a	n/a	n/a	0.419	n/a	
S10V000559	A	7440-66-6	Zinc	ug/g	86.9	5.17E-03	39.3	n/a	n/a	n/a	n/a	1.05	n/a	
S10V000559	A	7440-67-7	Zirconium	ug/g	86.1	<5.00E-03	11.4	n/a	n/a	n/a	n/a	1.05	n/a	N
S10V000559	A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<7.33E-05	n/a	n/a	n/a	n/a	7.33E-05	n/a	U
S10V000559	A	TH-232	Thorium-232	ug/g	108	<1.70E-04	6.53	n/a	n/a	n/a	n/a	1.78E-03	n/a	
S10V000559	A	13968-55-3	Uranium-233	ug/g	n/a	<1.00E-05	2.00E-04	n/a	n/a	n/a	n/a	1.05E-04	n/a	

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U - Less Than Detection Limit
C - Blank Contamination
B - Blank Contamination
E - Estimated by Interference
B - Estimated

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV3

Sample Depth: 159-161

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000559	A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	6.65E-05	n/a	n/a	n/a	n/a	5.23E-05	n/a	
S10V000559	A	15117-96-1	Uranium-235	ug/g	109	<1.10E-05	4.95E-03	n/a	n/a	n/a	n/a	1.15E-04	n/a	
S10V000559	A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<4.19E-05	n/a	n/a	n/a	n/a	4.19E-05	n/a	U
S10V000559	A	13994-20-2	Neptunium-237	ug/g	109	<5.30E-05	<5.55E-04	n/a	n/a	n/a	n/a	5.55E-04	n/a	U
S10V000559	A	U-238	Uranium-238	ug/g	117	<5.50E-04	0.682	n/a	n/a	n/a	n/a	5.76E-03	n/a	
S10V000559	A	7440-22-4	Silver	ug/g	111	<8.00E-03	<0.0838	n/a	n/a	n/a	n/a	0.0838	n/a	U
S10V000559	A	7440-38-2	Arsenic	ug/g	94.6	<0.0420	3.86	n/a	n/a	n/a	n/a	0.440	n/a	B
S10V000559	A	7440-43-9	Cadmium	ug/g	103	<3.00E-03	0.0640	n/a	n/a	n/a	n/a	0.0268	n/a	B
S10V000559	A	7439-92-1	Lead	ug/g	106	0.0210	5.95	n/a	n/a	n/a	n/a	0.0669	n/a	
S10V000559	A	7782-49-2	Selenium	ug/g	82.7	<0.0610	<0.639	n/a	n/a	n/a	n/a	0.639	n/a	U
S10V000559	A	7440-28-0	Thallium	ug/g	103	9.39E-03	0.205	n/a	n/a	n/a	n/a	0.0314	n/a	CB
S10V000560	S	14798-03-9	Ammonium	ug/g	98.8	0.251	0.986	0.896	0.941	9.59	98.9	0.471	n/a	CB
S10V000561	A	14133-76-7	Technetium-99	ug/g	98.4	<3.00E-06	4.93E-05	n/a	n/a	n/a	n/a	3.29E-05	n/a	
S10V000561	A	SN-117	Tin-117	ug/g	105	<1.00E-03	0.0120	n/a	n/a	n/a	n/a	9.99E-03	n/a	EN
S10V000561	A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	3.00E-04	n/a	n/a	n/a	n/a	2.00E-04	n/a	EN
S10V000562	E	CM-243/244	Curium-243/244	uCi/g	n/a	<2.47E-07	<1.90E-07	n/a	n/a	n/a	n/a	1.90E-07	n/a	U
S10V000562	E	14596-10-2	Americium-241	uCi/g	96.9	<6.18E-07	<4.74E-07	n/a	n/a	n/a	n/a	4.74E-07	n/a	U
S10V000562	E	15510-73-3	Curium-242	uCi/g	n/a	<2.47E-07	<1.90E-07	n/a	n/a	n/a	n/a	1.90E-07	n/a	U
S10V000562	E	PU-239/240	Plutonium-239/240	uCi/g	102	<2.88E-07	<2.03E-07	n/a	n/a	n/a	n/a	2.03E-07	n/a	U
S10V000562	E	13981-16-3	Plutonium-238	uCi/g	n/a	<2.88E-07	<2.03E-07	n/a	n/a	n/a	n/a	2.03E-07	n/a	U
S10V000563	E	SR-89/90	Strontium-89/90	uCi/g	99.3	<1.68E-07	<9.59E-07	n/a	n/a	n/a	n/a	9.59E-07	n/a	U
S10V000564	E	13981-37-8	Nickel-63	uCi/g	105	<6.25E-06	<6.45E-06	n/a	n/a	n/a	n/a	6.45E-06	n/a	U
S10V000564	E	15758-45-9	Selenium-79	uCi/g	n/a	1.27E-06	<1.21E-06	n/a	n/a	n/a	n/a	1.21E-06	n/a	U
S10V002091	A	7440-36-0	Antimony	ug/g	103	<2.00E-04	0.221	n/a	n/a	n/a	n/a	9.59E-03	n/a	
S10V002092	W	14762-75-5	Carbon-14	uCi/g	96.5	<2.53E-07	2.82E-06	n/a	n/a	n/a	n/a	2.62E-06	207.709	
S10V002092	W	10028-17-8	Tritium	uCi/g	86.0	<4.83E-07	<3.06E-06	n/a	n/a	n/a	n/a	3.06E-06	n/a	U

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Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV3A

Sample Depth: 159-161

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000517		BULKDENSI	Bulk Density	g/mL	n/a	n/a	1.98	n/a	n/a	n/a	n/a	n/a	n/a	

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E - Estimated by Interference
U - Less Than Detection Limit
B - Estimated
C - Blank Contamination
B - Blank Contamination

Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV3B

Sample Depth: 159-161

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000518		BULKDENSI	Bulk Density	g/mL	n/a	n/a	1.95	n/a	n/a	n/a	n/a	n/a	n/a	

NA = Not Analyzed, ND = Not Detected

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

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Data Summary Report

Sample Group: 20100311

Core Number: C7738

Customer Sample ID: B24KV3C

Sample Depth: 159-161

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000519		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.00	n/a	n/a	n/a	n/a	n/a	n/a	

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U - Less Than Detection Limit
C - Blank Contamination
B - Blank Contamination
E - Estimated by Interference
B - Estimated

Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW0

Sample Depth: 40-42

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000728		%WATERA	%WATER-APD	%	n/a	n/a	9.540	n/a	n/a	n/a	n/a	0.01000	n/a	
S10V000728		57-12-5	Cyanide	ug/g	97.0	<0.0360	<2.37	<2.60	n/a	n/a	100	2.37	n/a	U
S10V000728		WT%SOLID	Weight percent solids	%	n/a	n/a	90.5	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000728		7439-97-6	Mercury	ug/g	103	<1.00E-04	<9.04E-03	n/a	n/a	n/a	101	9.04E-03	n/a	U
S10V000728		12597-04-5	Sulfide	ug/g	108	<0.180	11.3	9.50	10.4	17.0	105	7.11	n/a	B
S10V000731		13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.34E-05	1.34E-05	1.34E-05	0.149	n/a	4.65E-06	23.00	
S10V000731		10198-40-0	Cobalt-60	uCi/g	102	<1.95E-07	<1.95E-07	<1.98E-07	n/a	n/a	n/a	1.95E-07	n/a	U
S10V000731		14234-35-6	Antimony-125	uCi/g	n/a	<4.96E-07	<5.22E-07	<5.27E-07	n/a	n/a	n/a	5.22E-07	n/a	U
S10V000731		10045-97-3	Cesium-137	uCi/g	105	<2.36E-07	<2.42E-07	<2.39E-07	n/a	n/a	n/a	2.42E-07	n/a	U
S10V000731		14683-23-9	Europium-152	uCi/g	n/a	<9.95E-07	<9.86E-07	<1.00E-06	n/a	n/a	n/a	9.86E-07	n/a	U
S10V000731		15585-10-1	Europium-154	uCi/g	n/a	<6.39E-07	<6.75E-07	<6.64E-07	n/a	n/a	n/a	6.75E-07	n/a	U
S10V000731		14391-16-3	Europium-155	uCi/g	n/a	<3.84E-07	<4.04E-07	<4.06E-07	n/a	n/a	n/a	4.04E-07	n/a	U
S10V000731		15092-94-1	Lead-212	uCi/g	n/a	n/a	1.17E-06	5.46E-07	8.60E-07	73.0	n/a	3.53E-07	20.89	
S10V000731		14733-03-0	Bismuth-214	uCi/g	n/a	n/a	7.12E-07	6.62E-07	6.87E-07	7.20	n/a	4.32E-07	37.27	
S10V000731		15067-28-4	Lead-214	uCi/g	n/a	n/a	7.97E-07	8.42E-07	8.19E-07	5.48	n/a	5.04E-07	35.05	
S10V000731		14274-82-9	Thorium-228	uCi/g	n/a	<9.93E-06	<1.04E-05	<1.05E-05	n/a	n/a	n/a	1.04E-05	n/a	U
S10V000731		15065-10-8	Thorium-234	uCi/g	n/a	<8.31E-06	<9.28E-06	<9.22E-06	n/a	n/a	n/a	9.28E-06	n/a	U
S10V000731		15046-84-1	Iodine-129	uCi/g	115	<4.44E-07	<1.33E-06	<3.99E-07	n/a	n/a	n/a	1.33E-06	n/a	U
S10V000737		CONDUCT	Conductivity	uMHO/cm	103	0.360	246	259	252	5.23	n/a	0.0100	n/a	
S10V000737		PH	pH	unitless	n/a	n/a	7.84	7.92	7.88	1.02	n/a	0.0100	n/a	
S10V000740	W	16984-48-8	Fluoride	ug/g	98.5	<1.61E-03	2.03	2.02	2.03	0.726	98.7	0.0165	n/a	
S10V000740	W	GLYCOLAT	Glycolate	ug/g	93.7	<9.37E-03	0.377	0.284	0.331	28.3	94.6	0.0962	n/a	B
S10V000740	W	71-50-1	Acetate	ug/g	92.9	<6.04E-03	2.63	2.02	2.33	26.4	94.6	0.0620	n/a	
S10V000740	W	FORMATE	Formate	ug/g	96.2	6.49E-03	3.94	3.29	3.61	18.2	97.3	0.0479	n/a	
S10V000740	W	16887-00-6	Chloride	ug/g	100	<9.98E-03	2.92	2.61	2.77	11.0	97.7	0.102	n/a	
S10V000740	W	14797-65-0	Nitrite	ug/g	100	<0.0192	1.14	0.697	0.916	47.9	97.8	0.197	n/a	B
S10V000740	W	14808-79-8	Sulfate	ug/g	99.5	0.0313	23.3	21.5	22.4	8.05	98.2	0.192	n/a	
S10V000740	W	338-70-5	Oxalate	ug/g	99.4	<0.0231	11.3	8.39	9.86	29.8	98.4	0.237	n/a	
S10V000740	W	24959-67-9	Bromide	ug/g	99.4	<0.0580	<0.595	<0.596	n/a	n/a	99.2	0.595	n/a	U

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B - Estimated

Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW0

Sample Depth: 40-42

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000740	W	14797-55-8	Nitrate	ug/g	98.0	0.0300	7.71	8.70	8.20	12.0	96.7	0.213	n/a	
S10V000740	W	14265-44-2	Phosphate	ug/g	97.3	<0.0167	0.709	0.774	0.742	8.76	96.5	0.171	n/a	B
S10V000743	A	7429-90-5	Aluminum	ug/g	84.3	<0.0300	1.08E+04	n/a	n/a	n/a	n/a	6.82	n/a	
S10V000743	A	7440-39-3	Barium	ug/g	91.6	<3.00E-03	92.2	n/a	n/a	n/a	n/a	0.682	n/a	
S10V000743	A	7440-41-7	Beryllium	ug/g	93.6	<1.00E-03	0.298	n/a	n/a	n/a	n/a	0.227	n/a	B
S10V000743	A	7440-70-2	Calcium	ug/g	81.6	0.504	1.12E+04	n/a	n/a	n/a	n/a	11.4	n/a	
S10V000743	A	7440-45-1	Cerium	ug/g	95.1	<0.0300	26.6	n/a	n/a	n/a	n/a	6.82	n/a	B
S10V000743	A	7440-48-4	Cobalt	ug/g	85.5	<0.0100	9.22	n/a	n/a	n/a	n/a	2.27	n/a	B
S10V000743	A	7440-47-3	Chromium	ug/g	84.6	<5.00E-03	30.8	n/a	n/a	n/a	n/a	1.14	n/a	
S10V000743	A	7440-50-8	Copper	ug/g	92.3	<5.00E-03	28.4	n/a	n/a	n/a	n/a	1.14	n/a	
S10V000743	A	7439-89-6	Iron	ug/g	85.8	<5.00E-03	2.59E+04	n/a	n/a	n/a	n/a	1.14	n/a	
S10V000743	A	7440-09-7	Potassium	ug/g	96.8	<0.500	2.13E+03	n/a	n/a	n/a	n/a	114	n/a	
S10V000743	A	7439-91-0	Lanthanum	ug/g	92.6	<3.00E-03	13.0	n/a	n/a	n/a	n/a	0.682	n/a	
S10V000743	A	7439-93-2	Lithium	ug/g	105	<3.00E-03	13.2	n/a	n/a	n/a	n/a	0.682	n/a	
S10V000743	A	7439-95-4	Magnesium	ug/g	79.7	<0.0500	5.17E+03	n/a	n/a	n/a	n/a	11.4	n/a	
S10V000743	A	7439-96-5	Manganese	ug/g	85.0	<3.00E-03	409	n/a	n/a	n/a	n/a	0.682	n/a	
S10V000743	A	7439-98-7	Molybdenum	ug/g	89.0	<0.0200	6.96	n/a	n/a	n/a	n/a	4.54	n/a	B
S10V000743	A	7440-23-5	Sodium	ug/g	101	<0.100	487	n/a	n/a	n/a	n/a	22.7	n/a	
S10V000743	A	7440-02-0	Nickel	ug/g	83.5	<0.0200	23.2	n/a	n/a	n/a	n/a	4.54	n/a	B
S10V000743	A	7723-14-0	Phosphorus	ug/g	90.9	<0.0500	651	n/a	n/a	n/a	n/a	11.4	n/a	
S10V000743	A	7704-34-9	Sulfur	ug/g	90.1	<0.100	48.3	n/a	n/a	n/a	n/a	22.7	n/a	B
S10V000743	A	7440-21-3	Silicon	ug/g	76.4	<0.0300	144	n/a	n/a	n/a	n/a	6.82	n/a	N
S10V000743	A	7440-24-6	Strontium	ug/g	91.9	<3.00E-03	41.3	n/a	n/a	n/a	n/a	0.682	n/a	
S10V000743	A	7440-32-6	Titanium	ug/g	88.8	<5.00E-03	1.23E+03	n/a	n/a	n/a	n/a	1.14	n/a	
S10V000743	A	7440-62-2	Vanadium	ug/g	107	<5.00E-03	51.1	n/a	n/a	n/a	n/a	1.14	n/a	
S10V000743	A	7440-65-5	Yttrium	ug/g	89.1	<2.00E-03	8.28	n/a	n/a	n/a	n/a	0.454	n/a	
S10V000743	A	7440-66-6	Zinc	ug/g	86.9	5.17E-03	47.1	n/a	n/a	n/a	n/a	1.14	n/a	
S10V000743	A	7440-67-7	Zirconium	ug/g	86.1	<5.00E-03	12.4	n/a	n/a	n/a	n/a	1.14	n/a	N
S10V000743	A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<7.95E-05	n/a	n/a	n/a	n/a	7.95E-05	n/a	U

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B - Estimated

Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW0

Sample Depth: 40-42

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000743	A	TH-232	Thorium-232	ug/g	108	<1.70E-04	4.15	n/a	n/a	n/a	n/a	1.93E-03	n/a	
S10V000743	A	13968-55-3	Uranium-233	ug/g	n/a	<1.00E-05	1.57E-04	n/a	n/a	n/a	n/a	1.14E-04	n/a	
S10V000743	A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	5.87E-05	n/a	n/a	n/a	n/a	5.68E-05	n/a	
S10V000743	A	15117-96-1	Uranium-235	ug/g	109	<1.10E-05	4.28E-03	n/a	n/a	n/a	n/a	1.25E-04	n/a	
S10V000743	A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<4.54E-05	n/a	n/a	n/a	n/a	4.54E-05	n/a	U
S10V000743	A	13994-20-2	Neptunium-237	ug/g	109	<5.30E-05	<6.02E-04	n/a	n/a	n/a	n/a	6.02E-04	n/a	U
S10V000743	A	U-238	Uranium-238	ug/g	117	<5.50E-04	0.631	n/a	n/a	n/a	n/a	6.25E-03	n/a	
S10V000743	A	7440-22-4	Silver	ug/g	111	<8.00E-03	<0.0909	n/a	n/a	n/a	n/a	0.0909	n/a	U
S10V000743	A	7440-38-2	Arsenic	ug/g	94.6	<0.0420	3.60	n/a	n/a	n/a	n/a	0.477	n/a	B
S10V000743	A	7440-43-9	Cadmium	ug/g	103	<3.00E-03	0.102	n/a	n/a	n/a	n/a	0.0247	n/a	B
S10V000743	A	7439-92-1	Lead	ug/g	106	0.0210	5.80	n/a	n/a	n/a	n/a	0.0616	n/a	
S10V000743	A	7782-49-2	Selenium	ug/g	82.7	<0.0610	<0.693	n/a	n/a	n/a	n/a	0.693	n/a	U
S10V000743	A	7440-28-0	Thallium	ug/g	103	9.39E-03	0.254	n/a	n/a	n/a	n/a	0.0341	n/a	CB
S10V000746	S	14798-03-9	Ammonium	ug/g	90.5	0.195	2.19	2.20	2.20	0.628	95.1	0.468	n/a	CB
S10V000749	A	14133-76-7	Technetium-99	ug/g	98.4	<3.00E-06	7.70E-05	n/a	n/a	n/a	n/a	3.17E-05	n/a	
S10V000749	A	SN-117	Tin-117	ug/g	105	<1.00E-03	0.0231	n/a	n/a	n/a	n/a	0.0100	n/a	EN
S10V000749	A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	2.43E-04	n/a	n/a	n/a	n/a	2.01E-04	n/a	EN
S10V000752	E	CM-243/244	Curium-243/244	uCi/g	n/a	<1.70E-07	<1.84E-07	<1.74E-07	n/a	n/a	n/a	1.84E-07	n/a	U
S10V000752	E	14596-10-2	Americium-241	uCi/g	103	<4.24E-07	<4.61E-07	<4.34E-07	n/a	n/a	100	4.61E-07	n/a	U
S10V000752	E	15510-73-3	Curium-242	uCi/g	n/a	<1.70E-07	<1.84E-07	<1.74E-07	n/a	n/a	n/a	1.84E-07	n/a	U
S10V000752	E	PU-239/240	Plutonium-239/240	uCi/g	91.9	<2.49E-07	<2.39E-07	<2.39E-07	n/a	n/a	97.5	2.39E-07	n/a	U
S10V000752	E	13981-16-3	Plutonium-238	uCi/g	n/a	<2.49E-07	<2.39E-07	<2.39E-07	n/a	n/a	n/a	2.39E-07	n/a	U
S10V000755	E	SR-89/90	Strontium-89/90	uCi/g	99.4	<1.93E-07	<5.43E-07	<1.87E-07	n/a	n/a	n/a	5.43E-07	n/a	U
S10V000758	E	13981-37-8	Nickel-63	uCi/g	103	<5.32E-06	1.93E-05	<2.11E-05	n/a	n/a	108	1.07E-05	60.858	
S10V000758	E	15758-45-9	Selenium-79	uCi/g	n/a	<2.49E-06	<2.43E-06	<1.78E-06	n/a	n/a	n/a	2.43E-06	n/a	U
S10V002093	A	7440-36-0	Antimony	ug/g	103	<2.00E-04	0.301	n/a	n/a	n/a	n/a	9.50E-03	n/a	
S10V002094	W	14762-75-5	Carbon-14	uCi/g	96.5	<2.53E-07	<2.53E-06	n/a	n/a	n/a	n/a	2.53E-06	n/a	U
S10V002094	W	10028-17-8	Tritium	uCi/g	86.0	<4.83E-07	<2.91E-06	n/a	n/a	n/a	n/a	2.91E-06	n/a	U

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B - Estimated

Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW0B

Sample Depth: 40-42

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000717		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.03	n/a	n/a	n/a	n/a	n/a	n/a	

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B - Estimated

Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW0C

Sample Depth: 40-42

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000718		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.18	n/a	n/a	n/a	n/a	n/a	n/a	

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E - Estimated by Interference
U - Less Than Detection Limit
B - Estimated
C - Blank Contamination
B - Blank Contamination

Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW1

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000729		%WATERA	%WATER-APD	%	n/a	n/a	11.51	n/a	n/a	n/a	n/a	0.01000	n/a	
S10V000729		57-12-5	Cyanide	ug/g	99.5	<0.0370	<2.61	<2.61	n/a	n/a	99.6	2.61	n/a	U
S10V000729		WT%SOLID	Weight percent solids	%	n/a	n/a	88.5	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000729		7439-97-6	Mercury	ug/g	103	<1.00E-04	<8.21E-03	n/a	n/a	n/a	n/a	8.21E-03	n/a	U
S10V000729		12597-04-5	Sulfide	ug/g	106	<0.180	9.31	8.55	8.93	8.53	107	7.19	n/a	B
S10V000732		13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.54E-05	n/a	n/a	n/a	n/a	4.81E-06	21.00	
S10V000732		10198-40-0	Cobalt-60	uCi/g	102	<1.95E-07	<2.09E-07	n/a	n/a	n/a	n/a	2.09E-07	n/a	U
S10V000732		14234-35-6	Antimony-125	uCi/g	n/a	<4.96E-07	<5.50E-07	n/a	n/a	n/a	n/a	5.50E-07	n/a	U
S10V000732		10045-97-3	Cesium-137	uCi/g	105	<2.36E-07	<2.51E-07	n/a	n/a	n/a	n/a	2.51E-07	n/a	U
S10V000732		14683-23-9	Europium-152	uCi/g	n/a	<9.95E-07	<1.06E-06	n/a	n/a	n/a	n/a	1.06E-06	n/a	U
S10V000732		15585-10-1	Europium-154	uCi/g	n/a	<6.39E-07	<6.81E-07	n/a	n/a	n/a	n/a	6.81E-07	n/a	U
S10V000732		14391-16-3	Europium-155	uCi/g	n/a	<3.84E-07	<4.03E-07	n/a	n/a	n/a	n/a	4.03E-07	n/a	U
S10V000732		15092-94-1	Lead-212	uCi/g	n/a	n/a	4.29E-07	n/a	n/a	n/a	n/a	3.42E-07	41.87	
S10V000732		14733-03-0	Bismuth-214	uCi/g	n/a	n/a	7.74E-07	n/a	n/a	n/a	n/a	5.38E-07	41.85	
S10V000732		15067-28-4	Lead-214	uCi/g	n/a	n/a	8.05E-07	n/a	n/a	n/a	n/a	5.07E-07	30.90	
S10V000732		14274-82-9	Thorium-228	uCi/g	n/a	<9.93E-06	<1.08E-05	n/a	n/a	n/a	n/a	1.08E-05	n/a	U
S10V000732		15065-10-8	Thorium-234	uCi/g	n/a	<8.31E-06	<9.42E-06	n/a	n/a	n/a	n/a	9.42E-06	n/a	U
S10V000732		15046-84-1	Iodine-129	uCi/g	115	<4.44E-07	<3.50E-07	n/a	n/a	n/a	n/a	3.50E-07	n/a	U
S10V000738		CONDUCT	Conductivity	uMHO/cm	107	<1.00	161	165	163	2.88	n/a	1.00	n/a	
S10V000738		PH	pH	unitless	n/a	n/a	7.79	7.90	7.84	1.40	n/a	0.0100	n/a	
S10V000741	W	16984-48-8	Fluoride	ug/g	102	<1.61E-03	1.96	2.16	2.06	9.74	n/a	0.0166	n/a	
S10V000741	W	GLYCOLAT	Glycolate	ug/g	98.5	<9.37E-03	<0.0967	<0.0969	n/a	n/a	n/a	0.0967	n/a	U
S10V000741	W	71-50-1	Acetate	ug/g	96.4	<6.04E-03	0.463	0.436	0.449	5.93	n/a	0.0624	n/a	B
S10V000741	W	FORMATE	Formate	ug/g	99.8	<4.67E-03	0.820	0.784	0.802	4.54	n/a	0.0482	n/a	
S10V000741	W	16887-00-6	Chloride	ug/g	99.1	<9.98E-03	2.01	2.01	2.01	0.192	n/a	0.103	n/a	
S10V000741	W	14797-65-0	Nitrite	ug/g	105	<0.0192	1.05	1.02	1.04	2.66	n/a	0.198	n/a	B
S10V000741	W	14808-79-8	Sulfate	ug/g	105	0.0266	18.7	16.2	17.4	14.7	n/a	0.193	n/a	
S10V000741	W	338-70-5	Oxalate	ug/g	102	<0.0231	1.49	1.22	1.35	19.3	n/a	0.238	n/a	B
S10V000741	W	24959-67-9	Bromide	ug/g	99.3	<0.0580	<0.599	<0.600	n/a	n/a	n/a	0.599	n/a	U

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Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW1

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000741	W	14797-55-8	Nitrate	ug/g	98.5	0.0427	7.28	7.29	7.29	0.0552	n/a	0.215	n/a	
S10V000741	W	14265-44-2	Phosphate	ug/g	99.9	<0.0167	1.18	1.42	1.30	18.8	n/a	0.172	n/a	B
S10V000744	A	7429-90-5	Aluminum	ug/g	84.3	<0.0300	9.87E+03	n/a	n/a	n/a	n/a	6.77	n/a	
S10V000744	A	7440-39-3	Barium	ug/g	91.6	<3.00E-03	83.7	n/a	n/a	n/a	n/a	0.677	n/a	
S10V000744	A	7440-41-7	Beryllium	ug/g	93.6	<1.00E-03	0.279	n/a	n/a	n/a	n/a	0.226	n/a	B
S10V000744	A	7440-70-2	Calcium	ug/g	81.6	0.504	9.41E+03	n/a	n/a	n/a	n/a	11.3	n/a	
S10V000744	A	7440-45-1	Cerium	ug/g	95.1	<0.0300	25.4	n/a	n/a	n/a	n/a	6.77	n/a	B
S10V000744	A	7440-48-4	Cobalt	ug/g	85.5	<0.0100	7.91	n/a	n/a	n/a	n/a	2.26	n/a	B
S10V000744	A	7440-47-3	Chromium	ug/g	84.6	<5.00E-03	26.9	n/a	n/a	n/a	n/a	1.13	n/a	
S10V000744	A	7440-50-8	Copper	ug/g	92.3	<5.00E-03	12.1	n/a	n/a	n/a	n/a	1.13	n/a	
S10V000744	A	7439-89-6	Iron	ug/g	85.8	<5.00E-03	1.87E+04	n/a	n/a	n/a	n/a	1.13	n/a	
S10V000744	A	7440-09-7	Potassium	ug/g	96.8	<0.500	1.91E+03	n/a	n/a	n/a	n/a	113	n/a	
S10V000744	A	7439-91-0	Lanthanum	ug/g	92.6	<3.00E-03	14.0	n/a	n/a	n/a	n/a	0.677	n/a	
S10V000744	A	7439-93-2	Lithium	ug/g	105	<3.00E-03	13.1	n/a	n/a	n/a	n/a	0.677	n/a	
S10V000744	A	7439-95-4	Magnesium	ug/g	79.7	<0.0500	5.33E+03	n/a	n/a	n/a	n/a	11.3	n/a	
S10V000744	A	7439-96-5	Manganese	ug/g	85.0	<3.00E-03	328	n/a	n/a	n/a	n/a	0.677	n/a	
S10V000744	A	7440-23-5	Sodium	ug/g	101	<0.100	295	n/a	n/a	n/a	n/a	22.6	n/a	
S10V000744	A	7440-02-0	Nickel	ug/g	83.5	<0.0200	20.2	n/a	n/a	n/a	n/a	4.51	n/a	B
S10V000744	A	7723-14-0	Phosphorus	ug/g	90.9	<0.0500	598	n/a	n/a	n/a	n/a	11.3	n/a	
S10V000744	A	7704-34-9	Sulfur	ug/g	90.1	<0.100	36.0	n/a	n/a	n/a	n/a	22.6	n/a	B
S10V000744	A	7440-21-3	Silicon	ug/g	76.4	<0.0300	136	n/a	n/a	n/a	n/a	6.77	n/a	N
S10V000744	A	7440-24-6	Strontium	ug/g	91.9	<3.00E-03	38.5	n/a	n/a	n/a	n/a	0.677	n/a	
S10V000744	A	7440-32-6	Titanium	ug/g	88.8	<5.00E-03	937	n/a	n/a	n/a	n/a	1.13	n/a	
S10V000744	A	7440-62-2	Vanadium	ug/g	107	<5.00E-03	40.1	n/a	n/a	n/a	n/a	1.13	n/a	
S10V000744	A	7440-65-5	Yttrium	ug/g	89.1	<2.00E-03	6.86	n/a	n/a	n/a	n/a	0.451	n/a	
S10V000744	A	7440-66-6	Zinc	ug/g	86.9	5.17E-03	39.3	n/a	n/a	n/a	n/a	1.13	n/a	
S10V000744	A	7440-67-7	Zirconium	ug/g	86.1	<5.00E-03	5.80	n/a	n/a	n/a	n/a	1.13	n/a	BN
S10V000744	A	14269-63-7	Thorium-230	ug/g	n/a	<7.00E-06	<7.90E-05	n/a	n/a	n/a	n/a	7.90E-05	n/a	U
S10V000744	A	TH-232	Thorium-232	ug/g	108	<1.70E-04	5.08	n/a	n/a	n/a	n/a	1.92E-03	n/a	

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Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW1

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000744	A	13968-55-3	Uranium-233	ug/g	n/a	<1.00E-05	1.89E-04	n/a	n/a	n/a	n/a	1.13E-04	n/a	
S10V000744	A	13966-29-5	Uranium-234	ug/g	n/a	<5.00E-06	5.87E-05	n/a	n/a	n/a	n/a	5.64E-05	n/a	
S10V000744	A	15117-96-1	Uranium-235	ug/g	109	<1.10E-05	4.19E-03	n/a	n/a	n/a	n/a	1.24E-04	n/a	
S10V000744	A	13982-70-2	Uranium-236	ug/g	n/a	<4.00E-06	<4.51E-05	n/a	n/a	n/a	n/a	4.51E-05	n/a	U
S10V000744	A	13994-20-2	Neptunium-237	ug/g	109	<5.30E-05	<5.98E-04	n/a	n/a	n/a	n/a	5.98E-04	n/a	U
S10V000744	A	U-238	Uranium-238	ug/g	117	<5.50E-04	0.696	n/a	n/a	n/a	n/a	6.21E-03	n/a	
S10V000744	A	7440-22-4	Silver	ug/g	111	<8.00E-03	<0.0903	n/a	n/a	n/a	n/a	0.0903	n/a	U
S10V000744	A	7440-38-2	Arsenic	ug/g	94.6	<0.0420	4.25	n/a	n/a	n/a	n/a	0.474	n/a	B
S10V000744	A	7440-43-9	Cadmium	ug/g	103	<3.00E-03	0.213	n/a	n/a	n/a	n/a	0.0236	n/a	B
S10V000744	A	7439-92-1	Lead	ug/g	106	0.0210	10.8	n/a	n/a	n/a	n/a	0.0591	n/a	
S10V000744	A	7782-49-2	Selenium	ug/g	82.7	<0.0610	<0.688	n/a	n/a	n/a	n/a	0.688	n/a	U
S10V000744	A	7440-28-0	Thallium	ug/g	103	9.39E-03	0.240	n/a	n/a	n/a	n/a	0.0338	n/a	CB
S10V000747	S	14798-03-9	Ammonium	ug/g	91.4	<0.0120	1.41	1.15	1.28	20.4	93.5	0.476	n/a	B
S10V000750	A	14133-76-7	Technetium-99	ug/g	98.4	<3.00E-06	4.23E-05	n/a	n/a	n/a	n/a	3.50E-05	n/a	
S10V000750	A	SN-117	Tin-117	ug/g	105	<1.00E-03	0.0136	n/a	n/a	n/a	n/a	9.96E-03	n/a	EN
S10V000750	A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	2.65E-04	n/a	n/a	n/a	n/a	1.99E-04	n/a	EN
S10V000753	E	CM-243/244	Curium-243/244	uCi/g	n/a	<1.70E-07	<2.15E-07	n/a	n/a	n/a	n/a	2.15E-07	n/a	U
S10V000753	E	14596-10-2	Americium-241	uCi/g	103	<4.24E-07	<5.37E-07	n/a	n/a	n/a	n/a	5.37E-07	n/a	U
S10V000753	E	15510-73-3	Curium-242	uCi/g	n/a	<1.70E-07	<2.15E-07	n/a	n/a	n/a	n/a	2.15E-07	n/a	U
S10V000753	E	PU-239/240	Plutonium-239/240	uCi/g	91.9	<2.49E-07	<3.06E-07	n/a	n/a	n/a	n/a	3.06E-07	n/a	U
S10V000753	E	13981-16-3	Plutonium-238	uCi/g	n/a	<2.49E-07	<3.06E-07	n/a	n/a	n/a	n/a	3.06E-07	n/a	U
S10V000756	E	SR-89/90	Strontium-89/90	uCi/g	99.4	<1.93E-07	<6.58E-07	n/a	n/a	n/a	n/a	6.58E-07	n/a	U
S10V000759	E	13981-37-8	Nickel-63	uCi/g	103	<5.32E-06	2.81E-05	n/a	n/a	n/a	n/a	1.11E-05	45.834	
S10V000759	E	15758-45-9	Selenium-79	uCi/g	n/a	<2.49E-06	<3.34E-06	n/a	n/a	n/a	n/a	3.34E-06	n/a	U
S10V002095	A	7440-36-0	Antimony	ug/g	103	<2.00E-04	0.275	n/a	n/a	n/a	n/a	9.84E-03	n/a	
S10V002096	W	14762-75-5	Carbon-14	uCi/g	96.5	<2.53E-07	<2.57E-06	n/a	n/a	n/a	n/a	2.57E-06	n/a	U
S10V002096	W	10028-17-8	Tritium	uCi/g	86.0	<4.83E-07	<2.67E-06	n/a	n/a	n/a	n/a	2.67E-06	n/a	U

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Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW1A

Sample Depth: 96-98

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000720			BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.18	n/a	n/a	n/a	n/a	n/a	n/a	

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Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW1B

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000721		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.04	n/a	n/a	n/a	n/a	n/a	n/a	

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

Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW1C

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000722		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.05	n/a	n/a	n/a	n/a	n/a	n/a	

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N - MS/MSD Outside Range
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C - Blank Contamination
B - Blank Contamination
E - Estimated by Interference
B - Estimated

Data Summary Report

Sample Group: 20100347
Core Number: C7742
Customer Sample ID: B24YW6
Sample Depth: 135-137

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000783		%WATERA	%WATER-APD	%	n/a	n/a	12.35	14.31	13.33	14.70	n/a	0.01000	n/a	
S10V000783		57-12-5	Cyanide	ug/g	88.8	<0.0370	<2.76	n/a	n/a	n/a	n/a	2.76	n/a	U
S10V000783		WT%SOLID	Weight percent solids	%	n/a	n/a	87.6	85.7	86.7	2.26	n/a	0.0100	n/a	
S10V000783		7439-97-6	Mercury	ug/g	103	<1.00E-04	0.0106	n/a	n/a	n/a	n/a	8.28E-03	n/a	B
S10V000783		12597-04-5	Sulfide	ug/g	94.7	<0.180	<7.14	<7.21	n/a	n/a	101	7.14	n/a	U
S10V000786		13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.54E-05	n/a	n/a	n/a	n/a	4.77E-06	20.81	
S10V000786		10198-40-0	Cobalt-60	uCi/g	102	<1.95E-07	<2.03E-07	n/a	n/a	n/a	n/a	2.03E-07	n/a	U
S10V000786		14234-35-6	Antimony-125	uCi/g	n/a	<4.96E-07	<5.58E-07	n/a	n/a	n/a	n/a	5.58E-07	n/a	U
S10V000786		10045-97-3	Cesium-137	uCi/g	105	<2.36E-07	<2.82E-07	n/a	n/a	n/a	n/a	2.82E-07	n/a	U
S10V000786		14683-23-9	Europium-152	uCi/g	n/a	<9.95E-07	<1.05E-06	n/a	n/a	n/a	n/a	1.05E-06	n/a	U
S10V000786		15585-10-1	Europium-154	uCi/g	n/a	<6.39E-07	<6.84E-07	n/a	n/a	n/a	n/a	6.84E-07	n/a	U
S10V000786		14391-16-3	Europium-155	uCi/g	n/a	<3.84E-07	<4.30E-07	n/a	n/a	n/a	n/a	4.30E-07	n/a	U
S10V000786		15092-94-1	Lead-212	uCi/g	n/a	n/a	5.45E-07	n/a	n/a	n/a	n/a	3.55E-07	41.37	
S10V000786		14733-03-0	Bismuth-214	uCi/g	n/a	n/a	9.89E-07	n/a	n/a	n/a	n/a	5.07E-07	32.05	
S10V000786		15067-28-4	Lead-214	uCi/g	n/a	n/a	1.03E-06	n/a	n/a	n/a	n/a	6.87E-07	33.00	
S10V000786		14331-83-0	Actinium-228	uCi/g	n/a	n/a	9.85E-07	n/a	n/a	n/a	n/a	8.96E-07	34.03	
S10V000786		14274-82-9	Thorium-228	uCi/g	n/a	<9.93E-06	<1.13E-05	n/a	n/a	n/a	n/a	1.13E-05	n/a	U
S10V000786		15065-10-8	Thorium-234	uCi/g	n/a	<8.31E-06	<9.59E-06	n/a	n/a	n/a	n/a	9.59E-06	n/a	U
S10V000786		15046-84-1	Iodine-129	uCi/g	115	<4.44E-07	<3.80E-07	n/a	n/a	n/a	n/a	3.80E-07	n/a	U
S10V000792		CONDUCT	Conductivity	uMHO/cm	107	<1.00	391	n/a	n/a	n/a	n/a	1.00	n/a	
S10V000792		PH	pH	unitless	n/a	n/a	7.78	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000795	W	16984-48-8	Fluoride	ug/g	102	<1.61E-03	1.88	n/a	n/a	n/a	n/a	0.0163	n/a	
S10V000795	W	GLYCOLAT	Glycolate	ug/g	98.5	<9.37E-03	2.38	n/a	n/a	n/a	n/a	0.0949	n/a	
S10V000795	W	71-50-1	Acetate	ug/g	96.4	<6.04E-03	7.08	n/a	n/a	n/a	n/a	0.0612	n/a	
S10V000795	W	FORMATE	Formate	ug/g	99.8	<4.67E-03	15.0	n/a	n/a	n/a	n/a	0.0473	n/a	
S10V000795	W	16887-00-6	Chloride	ug/g	99.1	<9.98E-03	11.3	n/a	n/a	n/a	n/a	0.101	n/a	
S10V000795	W	14797-65-0	Nitrite	ug/g	105	<0.0192	0.239	n/a	n/a	n/a	n/a	0.195	n/a	B
S10V000795	W	14808-79-8	Sulfate	ug/g	105	0.0266	43.8	n/a	n/a	n/a	n/a	0.189	n/a	
S10V000795	W	338-70-5	Oxalate	ug/g	102	<0.0231	18.8	n/a	n/a	n/a	n/a	0.234	n/a	

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Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW6

Sample Depth: 135-137

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000795	W	24959-67-9	Bromide	ug/g	99.3	<0.0580	<0.588	n/a	n/a	n/a	n/a	0.588	n/a	U
S10V000795	W	14797-55-8	Nitrate	ug/g	98.5	0.0427	10.9	n/a	n/a	n/a	n/a	0.211	n/a	
S10V000795	W	14265-44-2	Phosphate	ug/g	99.9	<0.0167	1.30	n/a	n/a	n/a	n/a	0.169	n/a	B
S10V000798	A	7429-90-5	Aluminum	ug/g	88.4	<0.0300	1.16E+04	n/a	n/a	n/a	n/a	3.27	n/a	
S10V000798	A	7440-39-3	Barium	ug/g	93.3	<3.00E-03	106	n/a	n/a	n/a	n/a	0.327	n/a	
S10V000798	A	7440-41-7	Beryllium	ug/g	99.6	<1.00E-03	0.399	n/a	n/a	n/a	n/a	0.109	n/a	B
S10V000798	A	7440-69-9	Bismuth	ug/g	89.6	<0.100	<10.9	n/a	n/a	n/a	n/a	10.9	n/a	U
S10V000798	A	7440-70-2	Calcium	ug/g	87.8	0.0773	1.46E+04	n/a	n/a	n/a	n/a	5.45	n/a	
S10V000798	A	7440-45-1	Cerium	ug/g	96.9	<0.0300	29.8	n/a	n/a	n/a	n/a	3.27	n/a	B
S10V000798	A	7440-48-4	Cobalt	ug/g	90.8	<0.0100	10.1	n/a	n/a	n/a	n/a	1.09	n/a	B
S10V000798	A	7440-47-3	Chromium	ug/g	91.5	<5.00E-03	42.1	n/a	n/a	n/a	n/a	0.545	n/a	
S10V000798	A	7440-50-8	Copper	ug/g	92.6	<5.00E-03	56.6	n/a	n/a	n/a	n/a	0.545	n/a	
S10V000798	A	7439-89-6	Iron	ug/g	91.1	7.39E-03	2.70E+04	n/a	n/a	n/a	n/a	0.545	n/a	
S10V000798	A	7440-09-7	Potassium	ug/g	88.1	<0.500	2.39E+03	n/a	n/a	n/a	n/a	54.5	n/a	
S10V000798	A	7439-91-0	Lanthanum	ug/g	93.6	<3.00E-03	15.7	n/a	n/a	n/a	n/a	0.327	n/a	
S10V000798	A	7439-93-2	Lithium	ug/g	90.3	<3.00E-03	17.2	n/a	n/a	n/a	n/a	0.327	n/a	
S10V000798	A	7439-95-4	Magnesium	ug/g	86.3	<0.0500	6.63E+03	n/a	n/a	n/a	n/a	5.45	n/a	
S10V000798	A	7439-96-5	Manganese	ug/g	90.5	<3.00E-03	376	n/a	n/a	n/a	n/a	0.327	n/a	
S10V000798	A	7439-98-7	Molybdenum	ug/g	90.4	<0.0200	13.4	n/a	n/a	n/a	n/a	2.18	n/a	B
S10V000798	A	7440-23-5	Sodium	ug/g	89.3	<0.100	261	n/a	n/a	n/a	n/a	10.9	n/a	
S10V000798	A	7440-00-8	Neodymium	ug/g	94.7	<0.0100	16.7	n/a	n/a	n/a	n/a	1.09	n/a	
S10V000798	A	7440-02-0	Nickel	ug/g	88.9	<0.0200	31.0	n/a	n/a	n/a	n/a	2.18	n/a	
S10V000798	A	7723-14-0	Phosphorus	ug/g	88.7	<0.0500	519	n/a	n/a	n/a	n/a	5.45	n/a	
S10V000798	A	7704-34-9	Sulfur	ug/g	88.2	<0.100	47.2	n/a	n/a	n/a	n/a	10.9	n/a	B
S10V000798	A	7440-21-3	Silicon	ug/g	80.8	<0.0300	101	n/a	n/a	n/a	n/a	3.27	n/a	
S10V000798	A	7440-24-6	Strontium	ug/g	93.0	<3.00E-03	37.9	n/a	n/a	n/a	n/a	0.327	n/a	
S10V000798	A	7440-32-6	Titanium	ug/g	89.1	<5.00E-03	742	n/a	n/a	n/a	n/a	0.545	n/a	
S10V000798	A	7440-62-2	Vanadium	ug/g	93.1	<5.00E-03	28.7	n/a	n/a	n/a	n/a	0.545	n/a	
S10V000798	A	7440-65-5	Yttrium	ug/g	93.7	<2.00E-03	7.71	n/a	n/a	n/a	n/a	0.218	n/a	

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Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW6

Sample Depth: 135-137

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000798	A	7440-66-6	Zinc	ug/g	91.0	<5.00E-03	58.6	n/a	n/a	n/a	n/a	0.545	n/a	
S10V000798	A	7440-67-7	Zirconium	ug/g	84.8	<5.00E-03	7.13	n/a	n/a	n/a	n/a	0.545	n/a	N
S10V000798	A	14269-63-7	Thorium-230	ug/g	n/a	<3.50E-06	<3.82E-05	n/a	n/a	n/a	n/a	3.82E-05	n/a	U
S10V000798	A	TH-232	Thorium-232	ug/g	110	<8.50E-05	5.74	n/a	n/a	n/a	n/a	9.27E-04	n/a	
S10V000798	A	13968-55-3	Uranium-233	ug/g	n/a	<5.00E-06	2.97E-04	n/a	n/a	n/a	n/a	5.45E-05	n/a	
S10V000798	A	13966-29-5	Uranium-234	ug/g	n/a	<2.50E-06	5.18E-05	n/a	n/a	n/a	n/a	2.73E-05	n/a	
S10V000798	A	15117-96-1	Uranium-235	ug/g	102	<5.50E-06	8.80E-03	n/a	n/a	n/a	n/a	6.00E-05	n/a	
S10V000798	A	13982-70-2	Uranium-236	ug/g	n/a	<2.00E-06	<2.18E-05	n/a	n/a	n/a	n/a	2.18E-05	n/a	U
S10V000798	A	13994-20-2	Neptunium-237	ug/g	105	<2.65E-05	<2.89E-04	n/a	n/a	n/a	n/a	2.89E-04	n/a	U
S10V000798	A	U-238	Uranium-238	ug/g	107	<2.75E-04	1.26	n/a	n/a	n/a	n/a	3.00E-03	n/a	
S10V000798	A	7440-22-4	Silver	ug/g	89.4	<1.60E-03	0.0646	n/a	n/a	n/a	n/a	0.0175	n/a	B
S10V000798	A	7440-38-2	Arsenic	ug/g	110	<8.40E-03	5.82	n/a	n/a	n/a	n/a	0.0916	n/a	
S10V000798	A	7440-43-9	Cadmium	ug/g	90.5	<6.00E-04	0.164	n/a	n/a	n/a	n/a	6.55E-03	n/a	
S10V000798	A	7439-92-1	Lead	ug/g	110	<0.0124	9.70	n/a	n/a	n/a	n/a	0.135	n/a	
S10V000798	A	7782-49-2	Selenium	ug/g	89.0	<0.0122	0.410	n/a	n/a	n/a	n/a	0.133	n/a	B
S10V000798	A	7440-28-0	Thallium	ug/g	99.5	<1.20E-03	0.154	n/a	n/a	n/a	n/a	0.0131	n/a	
S10V000801	S	14798-03-9	Ammonium	ug/g	99.9	<0.0120	6.92	6.13	6.53	12.1	98.7	0.477	n/a	
S10V000804	A	14133-76-7	Technetium-99	ug/g	105	9.21E-05	<3.15E-04	n/a	n/a	n/a	n/a	3.15E-04	n/a	U
S10V000804	A	SN-117	Tin-117	ug/g	100	<1.10E-03	0.0337	n/a	n/a	n/a	n/a	0.0116	n/a	EN
S10V000804	A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	1.02E-03	n/a	n/a	n/a	n/a	2.10E-04	n/a	EN
S10V000807	E	CM-243/244	Curium-243/244	uCi/g	n/a	<1.70E-07	<1.94E-07	n/a	n/a	n/a	n/a	1.94E-07	n/a	U
S10V000807	E	14596-10-2	Americium-241	uCi/g	103	<4.24E-07	<4.84E-07	n/a	n/a	n/a	n/a	4.84E-07	n/a	U
S10V000807	E	15510-73-3	Curium-242	uCi/g	n/a	<1.70E-07	<1.94E-07	n/a	n/a	n/a	n/a	1.94E-07	n/a	U
S10V000807	E	PU-239/240	Plutonium-239/240	uCi/g	91.9	<2.49E-07	<2.69E-07	n/a	n/a	n/a	n/a	2.69E-07	n/a	U
S10V000807	E	13981-16-3	Plutonium-238	uCi/g	n/a	<2.49E-07	<2.69E-07	n/a	n/a	n/a	n/a	2.69E-07	n/a	U
S10V000810	E	SR-89/90	Strontium-89/90	uCi/g	99.4	<1.93E-07	<6.65E-07	n/a	n/a	n/a	n/a	6.65E-07	n/a	U
S10V000813	E	13981-37-8	Nickel-63	uCi/g	103	<5.32E-06	5.34E-05	n/a	n/a	n/a	n/a	1.55E-05	34.84	
S10V000813	E	15758-45-9	Selenium-79	uCi/g	n/a	<2.49E-06	2.16E-06	n/a	n/a	n/a	n/a	1.67E-06	109.867	
S10V002097	A	7440-36-0	Antimony	ug/g	103	<2.00E-04	0.869	n/a	n/a	n/a	n/a	9.45E-03	n/a	

NA = Not Analyzed, ND = Not Detected

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

Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW6

Sample Depth: 135-137

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V002098	W	14762-75-5	Carbon-14	uCi/g	96.5	<2.53E-07	<2.53E-06	n/a	n/a	n/a	n/a	2.53E-06	n/a	U
S10V002098	W	10028-17-8	Tritium	uCi/g	86.0	<4.83E-07	7.04E-06	n/a	n/a	n/a	n/a	2.70E-06	66.54	

NA = Not Analyzed, ND = Not Detected

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

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Data Summary Report

Sample Group: 20100347

Core Number: C7742

Customer Sample ID: B24YW6C

Sample Depth: 135-137

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000779		BULKDENSI	Bulk Density	g/mL	n/a	n/a	1.89	n/a	n/a	n/a	n/a	n/a	n/a	

NA = Not Analyzed, ND = Not Detected

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E - Estimated by Interference
U - Less Than Detection Limit
B - Estimated
C - Blank Contamination
B - Blank Contamination

Data Summary Report

Sample Group: 20100349

Core Number: C7740

Customer Sample ID: B25LB6

Sample Depth: Equipment Blank

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000761		16984-48-8	Fluoride	ug/mL	99.3	<1.61E-03	0.0695	0.0675	0.0685	2.83	102	1.61E-03	n/a	
S10V000761		GLYCOLAT	Glycolate	ug/mL	94.1	<9.37E-03	<9.37E-03	<9.37E-03	n/a	n/a	97.0	9.37E-03	n/a	U
S10V000761		71-50-1	Acetate	ug/mL	92.3	<6.04E-03	7.74E-03	8.88E-03	8.31E-03	13.7	95.9	6.04E-03	n/a	B
S10V000761		FORMATE	Formate	ug/mL	96.5	<4.67E-03	0.0498	0.0482	0.0490	3.39	99.3	4.67E-03	n/a	B
S10V000761		16887-00-6	Chloride	ug/mL	97.8	<9.98E-03	0.0277	0.0283	0.0280	1.89	99.6	9.98E-03	n/a	B
S10V000761		14797-65-0	Nitrite	ug/mL	96.7	<0.0192	<0.0192	<0.0192	n/a	n/a	98.0	0.0192	n/a	U
S10V000761		14808-79-8	Sulfate	ug/mL	100	<0.0187	<0.0187	<0.0187	n/a	n/a	102	0.0187	n/a	U
S10V000761		338-70-5	Oxalate	ug/mL	95.5	<0.0231	<0.0231	<0.0231	n/a	n/a	98.5	0.0231	n/a	U
S10V000761		24959-67-9	Bromide	ug/mL	103	<0.0580	<0.0580	<0.0580	n/a	n/a	100	0.0580	n/a	U
S10V000761		14797-55-8	Nitrate	ug/mL	98.8	<0.0208	0.0334	0.0310	0.0322	7.45	98.8	0.0208	n/a	B
S10V000761		14265-44-2	Phosphate	ug/mL	98.0	<0.0167	<0.0167	<0.0167	n/a	n/a	99.4	0.0167	n/a	U
S10V000761		PH	pH	unitless	n/a	n/a	4.72	4.71	4.72	0.212	n/a	0.0100	n/a	
S10V000766		7439-97-6	Mercury	ug/mL	104	<1.00E-04	<4.00E-04	n/a	n/a	n/a	75.3	4.00E-04	n/a	U
S10V000766		7440-22-4	Silver	ug/mL	96.1	<5.00E-03	<5.00E-03	<5.00E-03	n/a	n/a	97.0	5.00E-03	n/a	U
S10V000766		7429-90-5	Aluminum	ug/mL	102	<0.0300	<0.0300	<0.0300	n/a	n/a	103	0.0300	n/a	U
S10V000766		7440-38-2	Arsenic	ug/mL	100	<0.0500	<0.0500	<0.0500	n/a	n/a	103	0.0500	n/a	U
S10V000766		7440-39-3	Barium	ug/mL	101	<3.00E-03	<3.00E-03	<3.00E-03	n/a	n/a	103	3.00E-03	n/a	U
S10V000766		7440-41-7	Beryllium	ug/mL	101	<1.00E-03	<1.00E-03	<1.00E-03	n/a	n/a	101	1.00E-03	n/a	U
S10V000766		7440-70-2	Calcium	ug/mL	101	<0.0500	0.175	0.175	0.175	0.200	102	0.0500	n/a	B
S10V000766		7440-43-9	Cadmium	ug/mL	102	<5.00E-03	<5.00E-03	<5.00E-03	n/a	n/a	104	5.00E-03	n/a	U
S10V000766		7440-48-4	Cobalt	ug/mL	103	<0.0100	<0.0100	<0.0100	n/a	n/a	104	0.0100	n/a	U
S10V000766		7440-47-3	Chromium	ug/mL	103	<5.00E-03	<5.00E-03	<5.00E-03	n/a	n/a	104	5.00E-03	n/a	U
S10V000766		7440-50-8	Copper	ug/mL	99.0	<5.00E-03	<5.00E-03	9.41E-03	7.20E-03	61.2	102	5.00E-03	n/a	U
S10V000766		7439-89-6	Iron	ug/mL	102	<5.00E-03	0.0592	0.0576	0.0584	2.64	102	5.00E-03	n/a	
S10V000766		7440-09-7	Potassium	ug/mL	93.9	<0.500	<0.500	<0.500	n/a	n/a	92.6	0.500	n/a	U
S10V000766		7439-93-2	Lithium	ug/mL	98.8	<3.00E-03	<3.00E-03	<3.00E-03	n/a	n/a	96.2	3.00E-03	n/a	U
S10V000766		7439-95-4	Magnesium	ug/mL	101	<0.0500	<0.0500	<0.0500	n/a	n/a	101	0.0500	n/a	U
S10V000766		7439-96-5	Manganese	ug/mL	102	<3.00E-03	<3.00E-03	<3.00E-03	n/a	n/a	104	3.00E-03	n/a	U
S10V000766		7439-98-7	Molybdenum	ug/mL	103	<0.0200	<0.0200	<0.0200	n/a	n/a	103	0.0200	n/a	U

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B - Estimated

Data Summary Report

Sample Group: 20100349

Core Number: C7740

Customer Sample ID: B25LB6

Sample Depth: Equipment Blank

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000766		7440-23-5	Sodium	ug/mL	99.0	<0.100	0.740	0.713	0.726	3.68	97.4	0.100	n/a	B
S10V000766		7440-02-0	Nickel	ug/mL	101	<0.0200	<0.0200	<0.0200	n/a	n/a	102	0.0200	n/a	U
S10V000766		7723-14-0	Phosphorus	ug/mL	99.8	<0.0500	<0.0500	<0.0500	n/a	n/a	105	0.0500	n/a	U
S10V000766		7439-92-1	Lead	ug/mL	104	<0.0500	<0.0500	<0.0500	n/a	n/a	103	0.0500	n/a	U
S10V000766		7440-36-0	Antimony	ug/mL	100	<0.0500	<0.0500	<0.0500	n/a	n/a	102	0.0500	n/a	U
S10V000766		7782-49-2	Selenium	ug/mL	104	<0.100	<0.100	<0.100	n/a	n/a	105	0.100	n/a	U
S10V000766		7440-19-9	Samarium	ug/mL	99.3	<0.0200	<0.0200	<0.0200	n/a	n/a	100	0.0200	n/a	U
S10V000766		7440-24-6	Strontium	ug/mL	100	<3.00E-03	<3.00E-03	<3.00E-03	n/a	n/a	102	3.00E-03	n/a	U
S10V000766		7440-29-1	Thorium	ug/mL	102	<0.0500	<0.0500	<0.0500	n/a	n/a	104	0.0500	n/a	U
S10V000766		7440-28-0	Thallium	ug/mL	103	<0.100	<0.100	<0.100	n/a	n/a	105	0.100	n/a	U
S10V000766		7440-61-1	Uranium	ug/mL	106	<0.100	<0.100	<0.100	n/a	n/a	103	0.100	n/a	U
S10V000766		7440-62-2	Vanadium	ug/mL	104	<5.00E-03	<5.00E-03	<5.00E-03	n/a	n/a	103	5.00E-03	n/a	U
S10V000766		7440-66-6	Zinc	ug/mL	101	<5.00E-03	5.78E-03	1.28E-02	9.31E-03	75.8	101	5.00E-03	n/a	B
S10V000766		14269-63-7	Thorium-230	ug/mL	n/a	<7.00E-09	<1.40E-08	<1.40E-08	n/a	n/a	n/a	1.40E-08	n/a	U
S10V000766		TH-232	Thorium-232	ug/mL	102	<1.70E-07	<3.40E-07	4.03E-07	n/a	n/a	100	3.40E-07	n/a	U
S10V000766		13968-55-3	Uranium-233	ug/mL	n/a	<1.00E-08	<2.00E-08	<2.00E-08	n/a	n/a	n/a	2.00E-08	n/a	U
S10V000766		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
S10V000766		15117-96-1	Uranium-235	ug/mL	103	<1.10E-08	<2.20E-08	<2.20E-08	n/a	n/a	100	2.20E-08	n/a	U
S10V000766		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
S10V000766		13994-20-2	Neptunium-237	ug/mL	101	<5.30E-08	<1.06E-07	<1.06E-07	n/a	n/a	98.2	1.06E-07	n/a	U
S10V000766		U-238	Uranium-238	ug/mL	99.9	<5.50E-07	<1.10E-06	<1.10E-06	n/a	n/a	99.8	1.10E-06	n/a	U
S10V000766		14133-76-7	Technetium-99	ug/mL	95.6	<3.00E-07	<6.00E-07	<6.00E-07	n/a	n/a	100	6.00E-07	n/a	U
S10V000766		SN-117	Tin-117	ug/mL	104	<1.10E-05	<2.20E-05	<2.20E-05	n/a	n/a	105	2.20E-05	n/a	U
S10V000766		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
S10V000767		14762-75-5	Carbon-14	uCi/mL	93.8	<1.22E-07	<1.54E-07	<1.28E-07	n/a	n/a	94.0	1.54E-07	n/a	U
S10V000767		15046-84-1	Iodine-129	uCi/mL	110	<6.37E-08	<7.64E-08	<2.69E-07	n/a	n/a	n/a	7.64E-08	n/a	U
S10V000767		10028-17-8	Tritium	uCi/mL	90.4	<2.56E-07	<2.56E-07	<2.57E-07	n/a	n/a	89.8	2.56E-07	n/a	U
S10V000768		CM-243/244	Curium-243/244	uCi/mL	n/a	<8.27E-09	<9.14E-09	<7.71E-09	n/a	n/a	n/a	9.14E-09	n/a	U
S10V000768		14596-10-2	Americium-241	uCi/mL	101	<2.07E-08	<2.29E-08	<1.93E-08	n/a	n/a	105	2.29E-08	n/a	U

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B - Estimated

Data Summary Report

Sample Group: 20100349

Core Number: C7740

Customer Sample ID: B25LB6

Sample Depth: Equipment Blank

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000768		15510-73-3	Curium-242	uCi/mL	n/a	<8.27E-09	<9.14E-09	<7.71E-09	n/a	n/a	n/a	9.14E-09	n/a	U
S10V000768		10198-40-0	Cobalt-60	uCi/mL	98.0	<2.26E-07	<2.36E-07	<2.28E-07	n/a	n/a	n/a	2.36E-07	n/a	U
S10V000768		14234-35-6	Antimony-125	uCi/mL	n/a	<6.43E-07	<6.23E-07	<6.16E-07	n/a	n/a	n/a	6.23E-07	n/a	U
S10V000768		10045-97-3	Cesium-137	uCi/mL	100	<3.53E-07	<3.64E-07	<3.49E-07	n/a	n/a	n/a	3.64E-07	n/a	U
S10V000768		14683-23-9	Europium-152	uCi/mL	n/a	<1.20E-06	<1.14E-06	<1.18E-06	n/a	n/a	n/a	1.14E-06	n/a	U
S10V000768		15585-10-1	Europium-154	uCi/mL	n/a	<8.53E-07	<7.94E-07	<7.39E-07	n/a	n/a	n/a	7.94E-07	n/a	U
S10V000768		14391-16-3	Europium-155	uCi/mL	n/a	<7.14E-07	<6.66E-07	<6.72E-07	n/a	n/a	n/a	6.66E-07	n/a	U
S10V000768		14274-82-9	Thorium-228	uCi/mL	n/a	<1.65E-05	<1.64E-05	<1.56E-05	n/a	n/a	n/a	1.64E-05	n/a	U
S10V000768		15065-10-8	Thorium-234	uCi/mL	n/a	<1.23E-05	<1.22E-05	<1.18E-05	n/a	n/a	n/a	1.22E-05	n/a	U
S10V000768		13981-37-8	Nickel-63	uCi/mL	104	<2.22E-07	<2.35E-07	<2.15E-07	n/a	n/a	101	2.35E-07	n/a	U
S10V000768		PU-239/240	Plutonium-239/240	uCi/mL	94.9	<1.26E-08	<1.47E-08	<1.03E-08	n/a	n/a	94.2	1.47E-08	n/a	U
S10V000768		13981-16-3	Plutonium-238	uCi/mL	n/a	<1.26E-08	<1.47E-08	<1.03E-08	n/a	n/a	n/a	1.47E-08	n/a	U
S10V000768		15758-45-9	Selenium-79	uCi/mL	n/a	2.40E-07	<3.86E-07	2.13E-07	n/a	n/a	n/a	3.86E-07	n/a	U
S10V000768		SR-89/90	Strontium-89/90	uCi/mL	99.4	<5.99E-08	<8.42E-08	<8.14E-08	n/a	n/a	n/a	8.42E-08	n/a	U

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Data Summary Report

Sample Group: 20100350

Core Number: C7740

Customer Sample ID: B24YW4

Sample Depth: 40-42

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000781		%WATERA	%WATER-APD	%	n/a	n/a	8.440	n/a	n/a	n/a	n/a	0.01000	n/a	
S10V000781		57-12-5	Cyanide	ug/g	88.8	<0.0370	<2.75	<2.94	n/a	n/a	86.0	2.75	n/a	U
S10V000781		WT%SOLID	Weight percent solids	%	n/a	n/a	91.6	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000781		7439-97-6	Mercury	ug/g	103	<1.00E-04	<8.60E-03	n/a	n/a	n/a	n/a	8.60E-03	n/a	U
S10V000781		12597-04-5	Sulfide	ug/g	81.2	<0.180	8.15	<7.15	n/a	n/a	81.0	7.15	n/a	B
S10V000784		13966-00-2	Potassium-40	uCi/g	n/a	n/a	9.24E-06	1.22E-05	1.07E-05	27.6	n/a	6.68E-06	46.51	
S10V000784		10198-40-0	Cobalt-60	uCi/g	101	<3.52E-07	<3.80E-07	<3.43E-07	n/a	n/a	n/a	3.80E-07	n/a	U
S10V000784		14234-35-6	Antimony-125	uCi/g	n/a	<8.31E-07	<8.53E-07	<8.92E-07	n/a	n/a	n/a	8.53E-07	n/a	U
S10V000784		10045-97-3	Cesium-137	uCi/g	101	<4.20E-07	<4.37E-07	<4.18E-07	n/a	n/a	n/a	4.37E-07	n/a	U
S10V000784		14683-23-9	Europium-152	uCi/g	n/a	<1.54E-06	<1.54E-06	<1.65E-06	n/a	n/a	n/a	1.54E-06	n/a	U
S10V000784		15585-10-1	Europium-154	uCi/g	n/a	<9.70E-07	<1.05E-06	<1.18E-06	n/a	n/a	n/a	1.05E-06	n/a	U
S10V000784		14391-16-3	Europium-155	uCi/g	n/a	<5.12E-07	<5.40E-07	<5.64E-07	n/a	n/a	n/a	5.40E-07	n/a	U
S10V000784		14274-82-9	Thorium-228	uCi/g	n/a	<9.49E-06	<1.02E-05	<1.06E-05	n/a	n/a	n/a	1.02E-05	n/a	U
S10V000784		15065-10-8	Thorium-234	uCi/g	n/a	<3.13E-06	<3.47E-06	<3.59E-06	n/a	n/a	n/a	3.47E-06	n/a	U
S10V000784		15046-84-1	Iodine-129	uCi/g	119	<1.65E-07	<1.77E-07	<1.86E-07	n/a	n/a	n/a	1.77E-07	n/a	U
S10V000790		CONDUCT	Conductivity	uMHO/cm	100	0.450	232	227	230	2.13	n/a	0.0100	n/a	
S10V000790		PH	pH	unitless	n/a	7.20	8.30	8.28	8.29	0.241	n/a	0.0100	n/a	
S10V000793	W	14762-75-5	Carbon-14	uCi/g	95.1	4.37E-06	5.01E-06	6.47E-06	5.74E-06	25.4	88.9	2.62E-06	726.053	B
S10V000793	W	16984-48-8	Fluoride	ug/g	102	<1.61E-03	1.76	1.37	1.57	24.9	95.9	0.0160	n/a	
S10V000793	W	GLYCOLAT	Glycolate	ug/g	98.2	<9.37E-03	<0.0932	<0.0931	n/a	n/a	91.3	0.0932	n/a	U
S10V000793	W	71-50-1	Acetate	ug/g	95.1	0.0183	0.916	0.739	0.828	21.5	89.7	0.0601	n/a	B
S10V000793	W	FORMATE	Formate	ug/g	99.4	<4.67E-03	0.437	0.414	0.425	5.38	92.5	0.0465	n/a	B
S10V000793	W	16887-00-6	Chloride	ug/g	100	0.0122	0.947	0.954	0.951	0.767	93.4	0.0993	n/a	
S10V000793	W	14797-65-0	Nitrite	ug/g	98.1	0.109	0.396	0.993	0.694	86.1	91.3	0.191	n/a	CB
S10V000793	W	14808-79-8	Sulfate	ug/g	102	<0.0187	25.1	21.6	23.3	15.0	93.6	0.186	n/a	
S10V000793	W	338-70-5	Oxalate	ug/g	99.5	<0.0231	0.479	0.445	0.462	7.48	92.2	0.230	n/a	B
S10V000793	W	24959-67-9	Bromide	ug/g	99.7	<0.0580	<0.577	<0.576	n/a	n/a	92.6	0.577	n/a	U
S10V000793	W	14797-55-8	Nitrate	ug/g	99.3	0.0894	5.06	4.90	4.98	3.24	92.6	0.207	n/a	
S10V000793	W	14265-44-2	Phosphate	ug/g	100	<0.0167	0.793	0.691	0.742	13.8	93.2	0.166	n/a	B

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U - Less Than Detection Limit
C - Blank Contamination
B - Blank Contamination
E - Estimated by Interference
B - Estimated

Data Summary Report

Sample Group: 20100350

Core Number: C7740

Customer Sample ID: B24YW4

Sample Depth: 40-42

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000793	W	10028-17-8	Tritium	uCi/g	91.6	<4.56E-06	5.51E-06	<4.89E-06	n/a	n/a	96.1	2.44E-06	55.796	
S10V000796	A	7429-90-5	Aluminum	ug/g	88.4	<0.0300	1.03E+04	1.02E+04	1.03E+04	1.62	3.68E+03	3.08	n/a	
S10V000796	A	7440-39-3	Barium	ug/g	93.3	<3.00E-03	123	109	116	11.8	116	0.308	n/a	
S10V000796	A	7440-41-7	Beryllium	ug/g	99.6	<1.00E-03	0.196	0.227	0.212	14.9	96.3	0.103	n/a	B
S10V000796	A	7440-69-9	Bismuth	ug/g	89.6	<0.100	25.3	27.2	26.2	7.22	98.9	10.3	n/a	B
S10V000796	A	7440-70-2	Calcium	ug/g	87.8	0.0773	1.25E+04	1.25E+04	1.25E+04	0.0888	3.07E+03	5.13	n/a	
S10V000796	A	7440-45-1	Cerium	ug/g	96.9	<0.0300	25.1	22.7	23.9	10.3	94.5	3.08	n/a	B
S10V000796	A	7440-48-4	Cobalt	ug/g	90.8	<0.0100	12.5	12.9	12.7	3.12	99.3	1.03	n/a	
S10V000796	A	7440-47-3	Chromium	ug/g	91.5	<5.00E-03	18.9	17.6	18.2	7.39	92.0	0.513	n/a	
S10V000796	A	7440-50-8	Copper	ug/g	92.6	<5.00E-03	13.0	12.5	12.7	4.22	106	0.513	n/a	
S10V000796	A	7439-89-6	Iron	ug/g	91.1	7.39E-03	2.91E+04	2.83E+04	2.87E+04	2.82	859	0.513	n/a	
S10V000796	A	7440-09-7	Potassium	ug/g	88.1	<0.500	1.44E+03	1.37E+03	1.41E+03	4.56	939	51.3	n/a	
S10V000796	A	7439-91-0	Lanthanum	ug/g	93.6	<3.00E-03	11.1	10.5	10.8	4.93	97.5	0.308	n/a	
S10V000796	A	7439-93-2	Lithium	ug/g	90.3	<3.00E-03	8.13	7.83	7.98	3.84	124	0.308	n/a	
S10V000796	A	7439-95-4	Magnesium	ug/g	86.3	<0.0500	5.12E+03	5.10E+03	5.11E+03	0.503	1.48E+03	5.13	n/a	
S10V000796	A	7439-96-5	Manganese	ug/g	90.5	<3.00E-03	466	467	466	0.327	123	0.308	n/a	
S10V000796	A	7439-98-7	Molybdenum	ug/g	90.4	<0.0200	<2.05	<2.08	n/a	n/a	97.8	2.05	n/a	U
S10V000796	A	7440-23-5	Sodium	ug/g	89.3	<0.100	430	399	414	7.47	617	10.3	n/a	
S10V000796	A	7440-00-8	Neodymium	ug/g	94.7	<0.0100	16.5	15.4	16.0	7.41	87.8	1.03	n/a	
S10V000796	A	7440-02-0	Nickel	ug/g	88.9	<0.0200	14.2	13.3	13.8	6.36	96.3	2.05	n/a	B
S10V000796	A	7723-14-0	Phosphorus	ug/g	88.7	<0.0500	704	666	685	5.46	171	5.13	n/a	
S10V000796	A	7704-34-9	Sulfur	ug/g	88.2	<0.100	58.0	51.8	54.9	11.4	113	10.3	n/a	B
S10V000796	A	7440-21-3	Silicon	ug/g	80.8	<0.0300	90.4	91.1	90.8	0.751	100	3.08	n/a	
S10V000796	A	7440-24-6	Strontium	ug/g	93.0	<3.00E-03	42.7	42.3	42.5	0.879	107	0.308	n/a	
S10V000796	A	7440-32-6	Titanium	ug/g	89.1	<5.00E-03	2.06E+03	1.96E+03	2.01E+03	5.23	381	0.513	n/a	
S10V000796	A	7440-62-2	Vanadium	ug/g	93.1	<5.00E-03	74.5	70.6	72.6	5.33	99.2	0.513	n/a	
S10V000796	A	7440-65-5	Yttrium	ug/g	93.7	<2.00E-03	10.3	9.99	10.2	3.29	91.6	0.205	n/a	
S10V000796	A	7440-66-6	Zinc	ug/g	91.0	<5.00E-03	43.8	43.0	43.4	1.83	107	0.513	n/a	
S10V000796	A	7440-67-7	Zirconium	ug/g	84.8	<5.00E-03	4.16	4.00	4.08	4.00	69.8	0.513	n/a	BN

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E - Estimated by Interference
B - Estimated

Data Summary Report

Sample Group: 20100350

Core Number: C7740

Customer Sample ID: B24YW4

Sample Depth: 40-42

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000796	A	14269-63-7	Thorium-230	ug/g	n/a	<3.50E-06	<3.59E-05	<3.64E-05	n/a	n/a	n/a	3.59E-05	n/a	U
S10V000796	A	TH-232	Thorium-232	ug/g	110	<8.50E-05	2.99	2.90	2.95	3.01	98.2	8.72E-04	n/a	
S10V000796	A	13968-55-3	Uranium-233	ug/g	n/a	<5.00E-06	1.74E-04	1.42E-04	1.58E-04	19.8	n/a	5.13E-05	n/a	
S10V000796	A	13966-29-5	Uranium-234	ug/g	n/a	<2.50E-06	<2.56E-05	<2.60E-05	n/a	n/a	n/a	2.56E-05	n/a	U
S10V000796	A	15117-96-1	Uranium-235	ug/g	102	<5.50E-06	3.63E-03	3.89E-03	3.76E-03	7.04	103	5.64E-05	n/a	
S10V000796	A	13982-70-2	Uranium-236	ug/g	n/a	<2.00E-06	<2.05E-05	<2.08E-05	n/a	n/a	n/a	2.05E-05	n/a	U
S10V000796	A	13994-20-2	Neptunium-237	ug/g	105	<2.65E-05	<2.72E-04	<2.76E-04	n/a	n/a	111	2.72E-04	n/a	U
S10V000796	A	U-238	Uranium-238	ug/g	107	<2.75E-04	0.539	0.571	0.555	5.66	106	2.82E-03	n/a	
S10V000796	A	7440-22-4	Silver	ug/g	89.4	<1.60E-03	0.0310	0.0305	0.0308	1.68	95.1	0.0164	n/a	B
S10V000796	A	7440-38-2	Arsenic	ug/g	110	<8.40E-03	3.06	3.43	3.24	11.6	93.5	0.0861	n/a	
S10V000796	A	7440-43-9	Cadmium	ug/g	90.5	<6.00E-04	0.0793	0.0743	0.0768	6.56	n/a	6.15E-03	n/a	
S10V000796	A	7439-92-1	Lead	ug/g	110	<0.0124	4.76	4.67	4.71	1.90	87.7	0.127	n/a	
S10V000796	A	7782-49-2	Selenium	ug/g	89.0	<0.0122	0.537	0.522	0.530	2.83	92.0	0.125	n/a	CB
S10V000796	A	7440-28-0	Thallium	ug/g	99.5	<1.20E-03	0.114	0.116	0.115	1.54	103	0.0123	n/a	B
S10V000799	S	14798-03-9	Ammonium	ug/g	96.7	<0.0120	1.47	1.45	1.46	1.33	88.0	0.479	n/a	B
S10V000802	A	14133-76-7	Technetium-99	ug/g	105	9.21E-05	<3.28E-04	<3.26E-04	n/a	n/a	105	3.28E-04	n/a	U
S10V000802	A	SN-117	Tin-117	ug/g	100	<1.10E-03	0.0129	0.0125	0.0127	3.20	47.2	0.0120	n/a	EN
S10V000802	A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	3.24E-04	3.40E-04	3.32E-04	4.92	n/a	2.19E-04	n/a	EN
S10V000805	E	CM-243/244	Curium-243/244	uCi/g	n/a	<1.77E-06	<2.02E-07	<2.12E-07	n/a	n/a	n/a	2.02E-07	n/a	U
S10V000805	E	14596-10-2	Americium-241	uCi/g	105	<4.43E-06	<5.04E-07	<5.29E-07	n/a	n/a	105	5.04E-07	n/a	U
S10V000805	E	15510-73-3	Curium-242	uCi/g	n/a	<1.77E-06	<2.02E-07	<2.12E-07	n/a	n/a	n/a	2.02E-07	n/a	U
S10V000805	E	PU-239/240	Plutonium-239/240	uCi/g	94.7	<3.07E-07	<2.77E-07	<2.95E-07	n/a	n/a	98.1	2.77E-07	n/a	U
S10V000805	E	13981-16-3	Plutonium-238	uCi/g	n/a	<3.07E-07	<2.77E-07	<2.95E-07	n/a	n/a	n/a	2.77E-07	n/a	U
S10V000808	E	SR-89/90	Strontium-89/90	uCi/g	100	<1.89E-07	<6.69E-07	<2.09E-07	n/a	n/a	n/a	6.69E-07	n/a	U
S10V000811	E	13981-37-8	Nickel-63	uCi/g	91.0	<5.41E-06	<4.65E-06	<4.66E-06	n/a	n/a	90.8	4.65E-06	n/a	U
S10V000811	E	15758-45-9	Selenium-79	uCi/g	n/a	<1.42E-06	<1.32E-06	<1.36E-06	n/a	n/a	n/a	1.32E-06	n/a	U
S11V004567	A	7440-36-0	Antimony	ug/g	96.8	<2.00E-04	0.194	0.189	0.192	2.64	92.7	9.83E-03	n/a	

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DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20100350

Core Number: C7740

Customer Sample ID: B24YW4A

Sample Depth: 40-42

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000769		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.13	n/a	n/a	n/a	n/a	n/a	n/a	

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B - Estimated
C - Blank Contamination
B - Blank Contamination

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DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20100350

Core Number: C7740

Customer Sample ID: B24YW4B

Sample Depth: 40-42

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000770			BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.06	n/a	n/a	n/a	n/a	n/a	n/a	

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E - Estimated by Interference
B - Estimated

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DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20100350

Core Number: C7740

Customer Sample ID: B24YW4C

Sample Depth: 40-42

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000771		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.03	n/a	n/a	n/a	n/a	n/a	n/a	

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U - Less Than Detection Limit
B - Estimated
C - Blank Contamination
B - Blank Contamination

Data Summary Report

Sample Group: 20100350

Core Number: C7740

Customer Sample ID: B24YW5

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000782		%WATERA	%WATER-APD	%	n/a	n/a	11.62	n/a	n/a	n/a	n/a	0.01000	n/a	
S10V000782		57-12-5	Cyanide	ug/g	100	<0.0370	<2.56	<2.59	n/a	n/a	94.0	2.56	n/a	U
S10V000782		WT%SOLID	Weight percent solids	%	n/a	n/a	88.4	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V000782		7439-97-6	Mercury	ug/g	103	<1.00E-04	<8.36E-03	n/a	n/a	n/a	n/a	8.36E-03	n/a	U
S10V000782		12597-04-5	Sulfide	ug/g	87.5	<0.180	<7.06	<7.17	n/a	n/a	97.5	7.06	n/a	U
S10V000785		13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.36E-05	n/a	n/a	n/a	n/a	6.24E-06	30.86	
S10V000785		10198-40-0	Cobalt-60	uCi/g	101	<3.52E-07	<2.96E-07	n/a	n/a	n/a	n/a	2.96E-07	n/a	U
S10V000785		14234-35-6	Antimony-125	uCi/g	n/a	<8.31E-07	<8.20E-07	n/a	n/a	n/a	n/a	8.20E-07	n/a	U
S10V000785		10045-97-3	Cesium-137	uCi/g	101	<4.20E-07	<3.92E-07	n/a	n/a	n/a	n/a	3.92E-07	n/a	U
S10V000785		14683-23-9	Europium-152	uCi/g	n/a	<1.54E-06	<1.68E-06	n/a	n/a	n/a	n/a	1.68E-06	n/a	U
S10V000785		15585-10-1	Europium-154	uCi/g	n/a	<9.70E-07	<1.05E-06	n/a	n/a	n/a	n/a	1.05E-06	n/a	U
S10V000785		14391-16-3	Europium-155	uCi/g	n/a	<5.12E-07	<5.28E-07	n/a	n/a	n/a	n/a	5.28E-07	n/a	U
S10V000785		15092-94-1	Lead-212	uCi/g	n/a	n/a	9.76E-07	n/a	n/a	n/a	n/a	6.21E-07	26.89	
S10V000785		14274-82-9	Thorium-228	uCi/g	n/a	<9.49E-06	<1.01E-05	n/a	n/a	n/a	n/a	1.01E-05	n/a	U
S10V000785		15065-10-8	Thorium-234	uCi/g	n/a	<3.13E-06	<3.55E-06	n/a	n/a	n/a	n/a	3.55E-06	n/a	U
S10V000785		15046-84-1	Iodine-129	uCi/g	119	<1.65E-07	<1.88E-07	n/a	n/a	n/a	n/a	1.88E-07	n/a	U
S10V000791		CONDUCT	Conductivity	uMHO/cm	102	0.302	200	199	200	0.701	n/a	0.0100	n/a	
S10V000791		PH	pH	unitless	n/a	n/a	7.65	7.55	7.60	1.32	n/a	0.0100	n/a	
S10V000794	W	14762-75-5	Carbon-14	uCi/g	95.1	4.37E-06	2.63E-06	n/a	n/a	n/a	n/a	2.57E-06	653.595	B
S10V000794	W	16984-48-8	Fluoride	ug/g	102	<1.61E-03	1.29	n/a	n/a	n/a	n/a	0.0161	n/a	
S10V000794	W	GLYCOLAT	Glycolate	ug/g	98.2	<9.37E-03	<0.0937	n/a	n/a	n/a	n/a	0.0937	n/a	U
S10V000794	W	71-50-1	Acetate	ug/g	95.1	0.0183	0.361	n/a	n/a	n/a	n/a	0.0604	n/a	CB
S10V000794	W	FORMATE	Formate	ug/g	99.4	<4.67E-03	0.363	n/a	n/a	n/a	n/a	0.0467	n/a	B
S10V000794	W	16887-00-6	Chloride	ug/g	100	0.0122	4.09	n/a	n/a	n/a	n/a	0.0998	n/a	
S10V000794	W	14797-65-0	Nitrite	ug/g	98.1	0.109	1.63	n/a	n/a	n/a	n/a	0.192	n/a	CB
S10V000794	W	14808-79-8	Sulfate	ug/g	102	<0.0187	29.0	n/a	n/a	n/a	n/a	0.187	n/a	
S10V000794	W	338-70-5	Oxalate	ug/g	99.5	<0.0231	0.649	n/a	n/a	n/a	n/a	0.231	n/a	B
S10V000794	W	24959-67-9	Bromide	ug/g	99.7	<0.0580	<0.580	n/a	n/a	n/a	n/a	0.580	n/a	U
S10V000794	W	14797-55-8	Nitrate	ug/g	99.3	0.0894	12.6	n/a	n/a	n/a	n/a	0.208	n/a	

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B - Estimated

Data Summary Report

Sample Group: 20100350

Core Number: C7740

Customer Sample ID: B24YW5

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000794	W	14265-44-2	Phosphate	ug/g	100	<0.0167	0.785	n/a	n/a	n/a	n/a	0.167	n/a	B
S10V000794	W	10028-17-8	Tritium	uCi/g	91.6	<4.56E-06	<3.31E-06	n/a	n/a	n/a	n/a	3.31E-06	n/a	U
S10V000797	A	7429-90-5	Aluminum	ug/g	88.4	<0.0300	8.27E+03	n/a	n/a	n/a	n/a	3.12	n/a	
S10V000797	A	7440-39-3	Barium	ug/g	93.3	<3.00E-03	69.7	n/a	n/a	n/a	n/a	0.312	n/a	
S10V000797	A	7440-41-7	Beryllium	ug/g	99.6	<1.00E-03	0.244	n/a	n/a	n/a	n/a	0.104	n/a	B
S10V000797	A	7440-69-9	Bismuth	ug/g	89.6	<0.100	<10.4	n/a	n/a	n/a	n/a	10.4	n/a	U
S10V000797	A	7440-70-2	Calcium	ug/g	87.8	0.0773	8.60E+03	n/a	n/a	n/a	n/a	5.20	n/a	
S10V000797	A	7440-45-1	Cerium	ug/g	96.9	<0.0300	24.3	n/a	n/a	n/a	n/a	3.12	n/a	B
S10V000797	A	7440-48-4	Cobalt	ug/g	90.8	<0.0100	6.31	n/a	n/a	n/a	n/a	1.04	n/a	B
S10V000797	A	7440-47-3	Chromium	ug/g	91.5	<5.00E-03	22.3	n/a	n/a	n/a	n/a	0.520	n/a	
S10V000797	A	7440-50-8	Copper	ug/g	92.6	<5.00E-03	10.8	n/a	n/a	n/a	n/a	0.520	n/a	
S10V000797	A	7439-89-6	Iron	ug/g	91.1	7.39E-03	1.57E+04	n/a	n/a	n/a	n/a	0.520	n/a	
S10V000797	A	7440-09-7	Potassium	ug/g	88.1	<0.500	1.85E+03	n/a	n/a	n/a	n/a	52.0	n/a	
S10V000797	A	7439-91-0	Lanthanum	ug/g	93.6	<3.00E-03	11.5	n/a	n/a	n/a	n/a	0.312	n/a	
S10V000797	A	7439-93-2	Lithium	ug/g	90.3	<3.00E-03	12.2	n/a	n/a	n/a	n/a	0.312	n/a	
S10V000797	A	7439-95-4	Magnesium	ug/g	86.3	<0.0500	4.97E+03	n/a	n/a	n/a	n/a	5.20	n/a	
S10V000797	A	7439-96-5	Manganese	ug/g	90.5	<3.00E-03	276	n/a	n/a	n/a	n/a	0.312	n/a	
S10V000797	A	7439-98-7	Molybdenum	ug/g	90.4	<0.0200	<2.08	n/a	n/a	n/a	n/a	2.08	n/a	U
S10V000797	A	7440-23-5	Sodium	ug/g	89.3	<0.100	242	n/a	n/a	n/a	n/a	10.4	n/a	
S10V000797	A	7440-00-8	Neodymium	ug/g	94.7	<0.0100	13.1	n/a	n/a	n/a	n/a	1.04	n/a	
S10V000797	A	7440-02-0	Nickel	ug/g	88.9	<0.0200	17.0	n/a	n/a	n/a	n/a	2.08	n/a	B
S10V000797	A	7723-14-0	Phosphorus	ug/g	88.7	<0.0500	514	n/a	n/a	n/a	n/a	5.20	n/a	
S10V000797	A	7704-34-9	Sulfur	ug/g	88.2	<0.100	27.9	n/a	n/a	n/a	n/a	10.4	n/a	B
S10V000797	A	7440-21-3	Silicon	ug/g	80.8	<0.0300	81.5	n/a	n/a	n/a	n/a	3.12	n/a	
S10V000797	A	7440-24-6	Strontium	ug/g	93.0	<3.00E-03	32.4	n/a	n/a	n/a	n/a	0.312	n/a	
S10V000797	A	7440-32-6	Titanium	ug/g	89.1	<5.00E-03	724	n/a	n/a	n/a	n/a	0.520	n/a	
S10V000797	A	7440-62-2	Vanadium	ug/g	93.1	<5.00E-03	31.7	n/a	n/a	n/a	n/a	0.520	n/a	
S10V000797	A	7440-65-5	Yttrium	ug/g	93.7	<2.00E-03	5.95	n/a	n/a	n/a	n/a	0.208	n/a	
S10V000797	A	7440-66-6	Zinc	ug/g	91.0	<5.00E-03	33.2	n/a	n/a	n/a	n/a	0.520	n/a	

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U - Less Than Detection Limit
C - Blank Contamination
B - Blank Contamination
E - Estimated by Interference
B - Estimated

Data Summary Report

Sample Group: 20100350

Core Number: C7740

Customer Sample ID: B24YW5

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000797	A	7440-67-7	Zirconium	ug/g	84.8	<5.00E-03	5.20	n/a	n/a	n/a	n/a	0.520	n/a	N
S10V000797	A	14269-63-7	Thorium-230	ug/g	n/a	<3.50E-06	4.08E-05	n/a	n/a	n/a	n/a	3.64E-05	n/a	
S10V000797	A	TH-232	Thorium-232	ug/g	110	<8.50E-05	4.07	n/a	n/a	n/a	n/a	8.84E-04	n/a	
S10V000797	A	13968-55-3	Uranium-233	ug/g	n/a	<5.00E-06	1.51E-04	n/a	n/a	n/a	n/a	5.20E-05	n/a	
S10V000797	A	13966-29-5	Uranium-234	ug/g	n/a	<2.50E-06	<2.60E-05	n/a	n/a	n/a	n/a	2.60E-05	n/a	U
S10V000797	A	15117-96-1	Uranium-235	ug/g	102	<5.50E-06	4.34E-03	n/a	n/a	n/a	n/a	5.72E-05	n/a	
S10V000797	A	13982-70-2	Uranium-236	ug/g	n/a	<2.00E-06	<2.08E-05	n/a	n/a	n/a	n/a	2.08E-05	n/a	U
S10V000797	A	13994-20-2	Neptunium-237	ug/g	105	<2.65E-05	<2.76E-04	n/a	n/a	n/a	n/a	2.76E-04	n/a	U
S10V000797	A	U-238	Uranium-238	ug/g	107	<2.75E-04	0.600	n/a	n/a	n/a	n/a	2.86E-03	n/a	
S10V000797	A	7440-22-4	Silver	ug/g	89.4	<1.60E-03	0.0471	n/a	n/a	n/a	n/a	0.0166	n/a	B
S10V000797	A	7440-38-2	Arsenic	ug/g	110	<8.40E-03	4.82	n/a	n/a	n/a	n/a	0.0874	n/a	
S10V000797	A	7440-43-9	Cadmium	ug/g	90.5	<6.00E-04	0.0788	n/a	n/a	n/a	n/a	6.24E-03	n/a	
S10V000797	A	7439-92-1	Lead	ug/g	110	<0.0124	5.27	n/a	n/a	n/a	n/a	0.129	n/a	
S10V000797	A	7782-49-2	Selenium	ug/g	89.0	<0.0122	0.422	n/a	n/a	n/a	n/a	0.127	n/a	B
S10V000797	A	7440-28-0	Thallium	ug/g	99.5	<1.20E-03	0.100	n/a	n/a	n/a	n/a	0.0125	n/a	B
S10V000800	S	14798-03-9	Ammonium	ug/g	98.3	0.0736	2.32	1.70	2.01	30.9	95.0	0.473	n/a	CB
S10V000803	A	14133-76-7	Technetium-99	ug/g	105	9.21E-05	<3.10E-04	n/a	n/a	n/a	n/a	3.10E-04	n/a	U
S10V000803	A	SN-117	Tin-117	ug/g	100	<1.10E-03	<0.0114	n/a	n/a	n/a	n/a	0.0114	n/a	EUN
S10V000803	A	15832-50-5	Tin-126	ug/g	n/a	<2.00E-05	7.36E-04	n/a	n/a	n/a	n/a	2.07E-04	n/a	EN
S10V000806	E	CM-243/244	Curium-243/244	uCi/g	n/a	<1.77E-06	<2.12E-07	n/a	n/a	n/a	n/a	2.12E-07	n/a	U
S10V000806	E	14596-10-2	Americium-241	uCi/g	105	<4.43E-06	<5.30E-07	n/a	n/a	n/a	n/a	5.30E-06	n/a	U
S10V000806	E	15510-73-3	Curium-242	uCi/g	n/a	<1.77E-06	<2.12E-07	n/a	n/a	n/a	n/a	2.12E-07	n/a	U
S10V000806	E	PU-239/240	Plutonium-239/240	uCi/g	94.7	<3.07E-07	<2.47E-07	n/a	n/a	n/a	n/a	2.47E-07	n/a	U
S10V000806	E	13981-16-3	Plutonium-238	uCi/g	n/a	<3.07E-07	<2.47E-07	n/a	n/a	n/a	n/a	2.47E-07	n/a	U
S10V000809	E	SR-89/90	Strontium-89/90	uCi/g	100	<1.89E-07	<1.97E-07	n/a	n/a	n/a	n/a	1.97E-07	n/a	U
S10V000812	E	13981-37-8	Nickel-63	uCi/g	101	<7.83E-06	<4.73E-06	n/a	n/a	n/a	n/a	4.73E-06	n/a	U
S10V000812	E	15758-45-9	Selenium-79	uCi/g	n/a	<1.42E-06	<1.14E-06	n/a	n/a	n/a	n/a	1.14E-06	n/a	U
S11V004568	A	7440-36-0	Antimony	ug/g	96.8	<2.00E-04	0.320	n/a	n/a	n/a	n/a	9.92E-03	n/a	

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Data Summary Report

Sample Group: 20100350

Core Number: C7740

Customer Sample ID: B24YW5A

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000773		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.15	n/a	n/a	n/a	n/a	n/a	n/a	

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DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20100350

Core Number: C7740

Customer Sample ID: B24YW5B

Sample Depth: 96-98

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000774			BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.11	n/a	n/a	n/a	n/a	n/a	n/a	

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B - Estimated
C - Blank Contamination
B - Blank Contamination

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DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20100350

Core Number: C7740

Customer Sample ID: B24YW5C

Sample Depth: 96-98

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V000775			BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.13	n/a	n/a	n/a	n/a	n/a	n/a	

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B - Blank Contamination

Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX2

Sample Depth: 44-46

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001020		%WATERA	%WATER-APD	%	n/a	n/a	11.41	11.72	11.56	2.680	n/a	0.01000	n/a	
S10V001020		57-12-5	Cyanide	ug/g	105	<0.0370	<2.54	<2.60	n/a	n/a	111	2.54	n/a	U
S10V001020		WT%SOLID	Weight percent solids	%	n/a	n/a	88.6	88.3	88.4	0.351	n/a	0.0100	n/a	
S10V001020		7439-97-6	Mercury	ug/g	101	<1.00E-04	8.08E-03	n/a	n/a	n/a	99.8	8.00E-03	n/a	B
S10V001020		12597-04-5	Sulfide	ug/g	102	<0.180	15.6	15.1	15.4	2.82	90.7	7.17	n/a	B
S10V001021		10198-40-0	Cobalt-60	uCi/g	98.8	<4.45E-07	<4.41E-07	<4.72E-07	n/a	n/a	n/a	4.41E-07	n/a	U
S10V001021		14234-35-6	Antimony-125	uCi/g	n/a	<1.06E-06	<1.13E-06	<1.18E-06	n/a	n/a	n/a	1.13E-06	n/a	U
S10V001021		10045-97-3	Cesium-137	uCi/g	102	<6.18E-07	<6.20E-07	<6.22E-07	n/a	n/a	n/a	6.20E-07	n/a	U
S10V001021		14683-23-9	Europium-152	uCi/g	n/a	<1.89E-06	<2.31E-06	<2.32E-06	n/a	n/a	n/a	2.31E-06	n/a	U
S10V001021		15585-10-1	Europium-154	uCi/g	n/a	<1.31E-06	<1.46E-06	<1.48E-06	n/a	n/a	n/a	1.46E-06	n/a	U
S10V001021		14391-16-3	Europium-155	uCi/g	n/a	<1.06E-06	<1.19E-06	<1.17E-06	n/a	n/a	n/a	1.19E-06	n/a	U
S10V001021		14274-82-9	Thorium-228	uCi/g	n/a	<2.54E-05	<2.84E-05	<2.98E-05	n/a	n/a	n/a	2.84E-05	n/a	U
S10V001021		15065-10-8	Thorium-234	uCi/g	n/a	<1.84E-05	<2.22E-05	<2.32E-05	n/a	n/a	n/a	2.22E-05	n/a	U
S10V001021		15046-84-1	Iodine-129	uCi/g	100	2.62E-07	<1.62E-07	<1.64E-07	n/a	n/a	n/a	1.62E-07	n/a	U
S10V001023		CONDUCT	Conductivity	uMHO/cm	104	0.299	176	177	177	0.396	n/a	0.0100	n/a	
S10V001023		PH	pH	unitless	n/a	n/a	8.15	8.14	8.14	0.123	n/a	0.0100	n/a	
S10V001024	W	16984-48-8	Fluoride	ug/g	100	<1.61E-03	2.44	2.66	2.55	8.64	101	0.0161	n/a	
S10V001024	W	GLYCOLAT	Glycolate	ug/g	93.9	<9.37E-03	<0.0937	<0.0954	n/a	n/a	96.0	0.0937	n/a	U
S10V001024	W	71-50-1	Acetate	ug/g	92.9	<6.04E-03	0.192	0.196	0.194	1.98	93.3	0.0602	n/a	B
S10V001024	W	FORMATE	Formate	ug/g	94.6	<4.67E-03	0.393	0.274	0.333	35.8	97.3	0.0467	n/a	B
S10V001024	W	16887-00-6	Chloride	ug/g	97.8	<9.98E-03	1.15	0.941	1.04	19.6	99.1	0.0998	n/a	
S10V001024	W	14797-65-0	Nitrite	ug/g	99.4	0.0530	0.707	0.709	0.708	0.292	98.6	0.192	n/a	CB
S10V001024	W	14808-79-8	Sulfate	ug/g	101	0.0306	13.7	11.8	12.7	14.9	100	0.187	n/a	
S10V001024	W	338-70-5	Oxalate	ug/g	95.0	<0.0231	0.915	0.754	0.835	19.4	96.5	0.231	n/a	B
S10V001024	W	24959-67-9	Bromide	ug/g	106	<0.0580	<0.580	<0.591	n/a	n/a	105	0.580	n/a	U
S10V001024	W	14797-55-8	Nitrate	ug/g	100	0.0533	8.66	6.89	7.77	22.8	99.8	0.208	n/a	
S10V001024	W	14265-44-2	Phosphate	ug/g	98.6	<0.0167	1.06	1.07	1.06	0.996	99.3	0.167	n/a	B
S10V001025	A	7429-90-5	Aluminum	ug/g	87.2	0.0716	1.02E+04	1.00E+04	1.01E+04	1.47	2.19E+03	2.97	n/a	
S10V001025	A	7440-42-8	Boron	ug/g	88.7	<0.0300	<2.97	<2.99	n/a	n/a	90.6	2.97	n/a	U

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B - Estimated

Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX2

Sample Depth: 44-46

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001025	A	7440-39-3	Barium	ug/g	92.3	4.07E-03	119	116	118	3.07	84.3	0.297	n/a	
S10V001025	A	7440-41-7	Beryllium	ug/g	82.2	3.66E-03	0.329	0.323	0.326	1.71	88.1	0.0990	n/a	CB
S10V001025	A	7440-70-2	Calcium	ug/g	68.4	0.0953	9.72E+03	9.84E+03	9.78E+03	1.29	-204	4.95	n/a	
S10V001025	A	7440-45-1	Cerium	ug/g	89.3	<0.0300	21.9	22.7	22.3	3.85	113	2.97	n/a	B
S10V001025	A	7440-48-4	Cobalt	ug/g	81.9	<0.0100	10.7	11.2	11.0	4.74	86.8	0.990	n/a	
S10V001025	A	7440-47-3	Chromium	ug/g	79.1	<5.00E-03	14.1	15.1	14.6	7.25	82.7	0.495	n/a	
S10V001025	A	7440-50-8	Copper	ug/g	101	<5.00E-03	15.0	14.6	14.8	2.88	109	0.495	n/a	
S10V001025	A	7439-89-6	Iron	ug/g	83.5	0.0714	2.18E+04	2.15E+04	2.16E+04	1.39	-1.92E+03	0.495	n/a	
S10V001025	A	7440-09-7	Potassium	ug/g	95.5	<0.500	1.48E+03	1.47E+03	1.48E+03	0.777	-101	49.5	n/a	
S10V001025	A	7439-91-0	Lanthanum	ug/g	94.2	3.19E-03	10.5	9.84	10.2	6.35	94.9	0.297	n/a	
S10V001025	A	7439-93-2	Lithium	ug/g	100	4.86E-03	9.87	9.61	9.74	2.68	102	0.297	n/a	
S10V001025	A	7439-95-4	Magnesium	ug/g	88.2	<0.0500	5.40E+03	5.32E+03	5.36E+03	1.52	190	4.95	n/a	
S10V001025	A	7439-96-5	Manganese	ug/g	80.0	4.41E-03	421	416	418	1.21	27.9	0.297	n/a	
S10V001025	A	7439-98-7	Molybdenum	ug/g	83.6	<0.0200	<1.98	<2.00	n/a	n/a	68.5	1.98	n/a	UN
S10V001025	A	7440-23-5	Sodium	ug/g	105	<0.100	367	361	364	1.71	220	9.90	n/a	
S10V001025	A	7440-02-0	Nickel	ug/g	82.8	<0.0200	15.3	15.3	15.3	0.203	89.5	1.98	n/a	B
S10V001025	A	7723-14-0	Phosphorus	ug/g	84.5	<0.0500	601	583	592	3.13	52.4	4.95	n/a	
S10V001025	A	7704-34-9	Sulfur	ug/g	86.3	<0.100	39.5	38.0	38.7	3.88	81.6	9.90	n/a	B
S10V001025	A	7440-21-3	Silicon	ug/g	80.8	<0.0300	10.8	14.5	12.6	29.8	22.2	2.97	n/a	BN
S10V001025	A	7440-24-6	Strontium	ug/g	91.9	4.01E-03	39.7	40.2	39.9	1.36	98.5	0.297	n/a	
S10V001025	A	7440-32-6	Titanium	ug/g	84.9	<5.00E-03	942	940	941	0.167	205	0.495	n/a	
S10V001025	A	7440-62-2	Vanadium	ug/g	84.8	<5.00E-03	44.3	43.9	44.1	0.986	86.1	0.495	n/a	
S10V001025	A	7440-65-5	Yttrium	ug/g	80.8	<2.00E-03	9.13	8.80	8.97	3.63	92.4	0.198	n/a	
S10V001025	A	7440-66-6	Zinc	ug/g	84.2	<5.00E-03	36.1	35.8	36.0	0.832	89.7	0.495	n/a	
S10V001025	A	7440-67-7	Zirconium	ug/g	82.6	<5.00E-03	20.6	20.2	20.4	2.17	79.5	0.495	n/a	
S10V001025	A	14269-63-7	Thorium-230	ug/g	n/a	<2.80E-06	5.07E-05	<2.79E-05	n/a	n/a	n/a	2.77E-05	n/a	
S10V001025	A	TH-232	Thorium-232	ug/g	102	<2.00E-04	3.67	3.44	3.56	6.62	78.8	1.98E-03	n/a	
S10V001025	A	13968-55-3	Uranium-233	ug/g	n/a	<4.00E-06	1.50E-04	2.79E-04	2.15E-04	60.0	n/a	3.96E-05	n/a	
S10V001025	A	13966-29-5	Uranium-234	ug/g	n/a	<2.00E-06	3.08E-05	4.58E-05	3.83E-05	39.0	n/a	1.98E-05	n/a	

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C - Blank Contamination
B - Blank Contamination
E - Estimated by Interference
B - Estimated

Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX2

Sample Depth: 44-46

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001025	A	15117-96-1	Uranium-235	ug/g	93.5	<4.00E-06	4.20E-03	4.09E-03	4.15E-03	2.65	95.9	3.96E-05	n/a	
S10V001025	A	13982-70-2	Uranium-236	ug/g	n/a	<1.60E-06	<1.58E-05	<1.60E-05	n/a	n/a	n/a	1.58E-05	n/a	U
S10V001025	A	13994-20-2	Neptunium-237	ug/g	107	<4.00E-05	<3.96E-04	<3.99E-04	n/a	n/a	81.1	3.96E-04	n/a	U
S10V001025	A	U-238	Uranium-238	ug/g	100	<2.00E-04	0.652	0.594	0.623	9.26	99.1	1.98E-03	n/a	
S10V001025	A	7440-22-4	Silver	ug/g	102	<1.60E-03	0.0488	0.0819	0.0654	50.6	65.1	0.0158	n/a	BN
S10V001025	A	7440-38-2	Arsenic	ug/g	96.2	<8.40E-03	2.75	2.76	2.75	0.437	77.7	0.0832	n/a	
S10V001025	A	7440-43-9	Cadmium	ug/g	103	<3.00E-03	0.0967	n/a	n/a	n/a	n/a	0.0265	n/a	B
S10V001025	A	7439-92-1	Lead	ug/g	106	0.0111	5.39	5.22	5.31	3.21	112	0.0614	n/a	
S10V001025	A	7782-49-2	Selenium	ug/g	107	0.0154	0.483	0.526	0.505	8.41	76.2	0.121	n/a	CB
S10V001025	A	7440-28-0	Thallium	ug/g	99.3	1.12E-03	0.126	0.124	0.125	1.94	96.0	5.94E-03	n/a	
S10V001026	S	14798-03-9	Ammonium	ug/g	98.8	<0.0120	2.05	1.93	1.99	5.91	94.2	0.473	n/a	B
S10V001027	A	14133-76-7	Technetium-99	ug/g	106	<1.50E-05	<1.49E-04	<1.48E-04	n/a	n/a	98.2	1.49E-04	n/a	U
S10V001027	A	SN-117	Tin-117	ug/g	104	<5.00E-04	0.0132	0.0133	0.0132	1.31	35.4	4.98E-03	n/a	EN
S10V001027	A	15832-50-5	Tin-126	ug/g	n/a	<1.00E-05	3.66E-04	3.81E-04	3.73E-04	4.02	n/a	9.96E-05	n/a	EN
S10V001028	E	CM-243/244	Curium-243/244	uCi/g	n/a	<2.36E-07	<1.90E-07	<1.93E-07	n/a	n/a	n/a	1.90E-07	n/a	U
S10V001028	E	14596-10-2	Americium-241	uCi/g	105	<5.91E-07	<4.74E-07	<4.83E-07	n/a	n/a	n/a	4.74E-07	n/a	U
S10V001028	E	15510-73-3	Curium-242	uCi/g	n/a	<2.36E-07	<1.90E-07	<1.93E-07	n/a	n/a	n/a	1.90E-07	n/a	U
S10V001028	E	PU-239/240	Plutonium-239/240	uCi/g	105	<3.46E-07	<3.32E-07	<3.82E-07	n/a	n/a	n/a	3.32E-07	n/a	U
S10V001028	E	13981-16-3	Plutonium-238	uCi/g	n/a	<3.46E-07	<3.32E-07	<3.82E-07	n/a	n/a	n/a	3.32E-07	n/a	U
S10V001029	E	SR-89/90	Strontium-89/90	uCi/g	93.0	<6.29E-07	<1.55E-07	<1.76E-07	n/a	n/a	n/a	1.55E-07	n/a	U
S10V001030	E	13981-37-8	Nickel-63	uCi/g	90.8	<7.29E-06	<5.29E-06	<5.08E-06	n/a	n/a	87.2	5.29E-06	n/a	U
S10V001030	E	15758-45-9	Selenium-79	uCi/g	n/a	<2.24E-06	<3.55E-06	3.23E-06	n/a	n/a	n/a	3.55E-06	n/a	U
S10V002105	A	7440-36-0	Antimony	ug/g	97.8	<4.40E-03	<0.205	<0.205	n/a	n/a	40.4	0.205	n/a	UN
S10V002106	W	14762-75-5	Carbon-14	uCi/g	96.5	<2.53E-07	<3.73E-06	n/a	n/a	n/a	n/a	3.73E-06	n/a	U
S10V002106	W	10028-17-8	Tritium	uCi/g	86.0	<4.83E-07	<5.37E-06	n/a	n/a	n/a	n/a	5.37E-06	n/a	U

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Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX2A

Sample Depth: 44-46

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001016		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.19	n/a	n/a	n/a	n/a	n/a	n/a	

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DSR.Jar v. 2.7.27

Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX2B

Sample Depth: 44-46

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001017		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.20	n/a	n/a	n/a	n/a	n/a	n/a	

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

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Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX2C

Sample Depth: 44-46

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001018		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.13	n/a	n/a	n/a	n/a	n/a	n/a	

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U - Less Than Detection Limit
B - Estimated
C - Blank Contamination
B - Blank Contamination

Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX3

Sample Depth: 94-96

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001035		%WATERA	%WATER-APD	%	n/a	n/a	5.650	n/a	n/a	n/a	n/a	0.01000	n/a	
S10V001035		57-12-5	Cyanide	ug/g	99.3	<0.0370	<2.48	<2.47	n/a	n/a	97.8	2.48	n/a	U
S10V001035		WT%SOLID	Weight percent solids	%	n/a	n/a	94.4	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V001035		7439-97-6	Mercury	ug/g	99.9	<1.00E-04	<9.53E-03	n/a	n/a	n/a	106	9.53E-03	n/a	U
S10V001035		12597-04-5	Sulfide	ug/g	97.6	<0.180	<7.20	<7.21	n/a	n/a	99.6	7.20	n/a	U
S10V001036		10198-40-0	Cobalt-60	uCi/g	98.8	<4.45E-07	<4.74E-07	n/a	n/a	n/a	n/a	4.74E-07	n/a	U
S10V001036		14234-35-6	Antimony-125	uCi/g	n/a	<1.06E-06	<1.19E-06	n/a	n/a	n/a	n/a	1.19E-06	n/a	U
S10V001036		10045-97-3	Cesium-137	uCi/g	102	<6.18E-07	<6.66E-07	n/a	n/a	n/a	n/a	6.66E-07	n/a	U
S10V001036		14683-23-9	Europium-152	uCi/g	n/a	<1.89E-06	<2.00E-06	n/a	n/a	n/a	n/a	2.00E-06	n/a	U
S10V001036		15585-10-1	Europium-154	uCi/g	n/a	<1.31E-06	<1.44E-06	n/a	n/a	n/a	n/a	1.44E-06	n/a	U
S10V001036		14391-16-3	Europium-155	uCi/g	n/a	<1.06E-06	<1.18E-06	n/a	n/a	n/a	n/a	1.18E-06	n/a	U
S10V001036		14274-82-9	Thorium-228	uCi/g	n/a	<2.54E-05	<3.00E-05	n/a	n/a	n/a	n/a	3.00E-05	n/a	U
S10V001036		15065-10-8	Thorium-234	uCi/g	n/a	<1.84E-05	<2.21E-05	n/a	n/a	n/a	n/a	2.21E-05	n/a	U
S10V001036		15046-84-1	Iodine-129	uCi/g	100	2.62E-07	<1.74E-07	n/a	n/a	n/a	n/a	1.74E-07	n/a	U
S10V001038		CONDUCT	Conductivity	uMHO/cm	102	0.248	154	153	153	0.391	n/a	0.0100	n/a	
S10V001038		PH	pH	unitless	n/a	n/a	8.60	8.63	8.62	0.348	n/a	0.0100	n/a	
S10V001039	W	16984-48-8	Fluoride	ug/g	102	<1.61E-03	0.656	n/a	n/a	n/a	n/a	0.0161	n/a	
S10V001039	W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0935	n/a	n/a	n/a	n/a	0.0935	n/a	U
S10V001039	W	71-50-1	Acetate	ug/g	98.1	<6.04E-03	0.281	n/a	n/a	n/a	n/a	0.0603	n/a	B
S10V001039	W	FORMATE	Formate	ug/g	103	<4.67E-03	0.494	n/a	n/a	n/a	n/a	0.0466	n/a	B
S10V001039	W	16887-00-6	Chloride	ug/g	98.0	<9.98E-03	1.40	n/a	n/a	n/a	n/a	0.0996	n/a	
S10V001039	W	14797-65-0	Nitrite	ug/g	102	<0.0192	1.35	n/a	n/a	n/a	n/a	0.192	n/a	B
S10V001039	W	14808-79-8	Sulfate	ug/g	96.0	<0.0187	6.42	n/a	n/a	n/a	n/a	0.187	n/a	
S10V001039	W	338-70-5	Oxalate	ug/g	101	<0.0231	<0.231	n/a	n/a	n/a	n/a	0.231	n/a	U
S10V001039	W	24959-67-9	Bromide	ug/g	96.4	<0.0580	<0.579	n/a	n/a	n/a	n/a	0.579	n/a	U
S10V001039	W	14797-55-8	Nitrate	ug/g	101	<0.0208	3.19	n/a	n/a	n/a	n/a	0.208	n/a	
S10V001039	W	14265-44-2	Phosphate	ug/g	99.8	<0.0167	0.311	n/a	n/a	n/a	n/a	0.167	n/a	B
S10V001040	A	7429-90-5	Aluminum	ug/g	87.2	0.0716	7.81E+03	n/a	n/a	n/a	n/a	2.96	n/a	
S10V001040	A	7440-42-8	Boron	ug/g	88.7	<0.0300	<2.96	n/a	n/a	n/a	n/a	2.96	n/a	U

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Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX3

Sample Depth: 94-96

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001040	A	7440-39-3	Barium	ug/g	92.3	4.07E-03	79.1	n/a	n/a	n/a	n/a	0.296	n/a	
S10V001040	A	7440-41-7	Beryllium	ug/g	82.2	3.66E-03	0.259	n/a	n/a	n/a	n/a	0.0986	n/a	CB
S10V001040	A	7440-70-2	Calcium	ug/g	68.4	0.0953	8.67E+03	n/a	n/a	n/a	n/a	4.93	n/a	
S10V001040	A	7440-45-1	Cerium	ug/g	89.3	<0.0300	18.7	n/a	n/a	n/a	n/a	2.96	n/a	B
S10V001040	A	7440-48-4	Cobalt	ug/g	81.9	<0.0100	6.95	n/a	n/a	n/a	n/a	0.986	n/a	B
S10V001040	A	7440-47-3	Chromium	ug/g	79.1	<5.00E-03	20.3	n/a	n/a	n/a	n/a	0.493	n/a	
S10V001040	A	7440-50-8	Copper	ug/g	101	<5.00E-03	10.6	n/a	n/a	n/a	n/a	0.493	n/a	
S10V001040	A	7439-89-6	Iron	ug/g	83.5	0.0714	1.48E+04	n/a	n/a	n/a	n/a	0.493	n/a	
S10V001040	A	7440-09-7	Potassium	ug/g	95.5	<0.500	1.53E+03	n/a	n/a	n/a	n/a	49.3	n/a	
S10V001040	A	7439-91-0	Lanthanum	ug/g	94.2	3.19E-03	8.96	n/a	n/a	n/a	n/a	0.296	n/a	
S10V001040	A	7439-93-2	Lithium	ug/g	100	4.86E-03	10.7	n/a	n/a	n/a	n/a	0.296	n/a	
S10V001040	A	7439-95-4	Magnesium	ug/g	88.2	<0.0500	5.19E+03	n/a	n/a	n/a	n/a	4.93	n/a	
S10V001040	A	7439-96-5	Manganese	ug/g	80.0	4.41E-03	317	n/a	n/a	n/a	n/a	0.296	n/a	
S10V001040	A	7439-98-7	Molybdenum	ug/g	83.6	<0.0200	2.14	n/a	n/a	n/a	n/a	1.97	n/a	BN
S10V001040	A	7440-23-5	Sodium	ug/g	105	<0.100	160	n/a	n/a	n/a	n/a	9.86	n/a	
S10V001040	A	7440-02-0	Nickel	ug/g	82.8	<0.0200	17.1	n/a	n/a	n/a	n/a	1.97	n/a	B
S10V001040	A	7723-14-0	Phosphorus	ug/g	84.5	<0.0500	473	n/a	n/a	n/a	n/a	4.93	n/a	
S10V001040	A	7704-34-9	Sulfur	ug/g	86.3	<0.100	24.5	n/a	n/a	n/a	n/a	9.86	n/a	B
S10V001040	A	7440-21-3	Silicon	ug/g	80.8	<0.0300	14.1	n/a	n/a	n/a	n/a	2.96	n/a	BN
S10V001040	A	7440-24-6	Strontium	ug/g	91.9	4.01E-03	31.2	n/a	n/a	n/a	n/a	0.296	n/a	
S10V001040	A	7440-32-6	Titanium	ug/g	84.9	<5.00E-03	525	n/a	n/a	n/a	n/a	0.493	n/a	
S10V001040	A	7440-62-2	Vanadium	ug/g	84.8	<5.00E-03	25.2	n/a	n/a	n/a	n/a	0.493	n/a	
S10V001040	A	7440-65-5	Yttrium	ug/g	80.8	<2.00E-03	5.46	n/a	n/a	n/a	n/a	0.197	n/a	
S10V001040	A	7440-66-6	Zinc	ug/g	84.2	<5.00E-03	39.6	n/a	n/a	n/a	n/a	0.493	n/a	
S10V001040	A	7440-67-7	Zirconium	ug/g	82.6	<5.00E-03	5.42	n/a	n/a	n/a	n/a	0.493	n/a	
S10V001040	A	14269-63-7	Thorium-230	ug/g	n/a	<2.80E-06	<2.76E-05	n/a	n/a	n/a	n/a	2.76E-05	n/a	U
S10V001040	A	TH-232	Thorium-232	ug/g	102	<2.00E-04	4.23	n/a	n/a	n/a	n/a	1.97E-03	n/a	
S10V001040	A	13968-55-3	Uranium-233	ug/g	n/a	<4.00E-06	3.49E-04	n/a	n/a	n/a	n/a	3.95E-05	n/a	
S10V001040	A	13966-29-5	Uranium-234	ug/g	n/a	<2.00E-06	3.02E-05	n/a	n/a	n/a	n/a	1.97E-05	n/a	

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B - Estimated

Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX3

Sample Depth: 94-96

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001040	A	15117-96-1	Uranium-235	ug/g	93.5	<4.00E-06	3.67E-03	n/a	n/a	n/a	n/a	3.95E-05	n/a	
S10V001040	A	13982-70-2	Uranium-236	ug/g	n/a	<1.60E-06	<1.58E-05	n/a	n/a	n/a	n/a	1.58E-05	n/a	U
S10V001040	A	13994-20-2	Neptunium-237	ug/g	107	<4.00E-05	<3.95E-04	n/a	n/a	n/a	n/a	3.95E-04	n/a	U
S10V001040	A	U-238	Uranium-238	ug/g	100	<2.00E-04	0.531	n/a	n/a	n/a	n/a	1.97E-03	n/a	
S10V001040	A	7440-22-4	Silver	ug/g	102	<1.60E-03	0.0439	n/a	n/a	n/a	n/a	0.0158	n/a	BN
S10V001040	A	7440-38-2	Arsenic	ug/g	96.2	<8.40E-03	4.38	n/a	n/a	n/a	n/a	0.0829	n/a	
S10V001040	A	7440-43-9	Cadmium	ug/g	103	<3.00E-03	0.0877	n/a	n/a	n/a	n/a	0.0239	n/a	B
S10V001040	A	7439-92-1	Lead	ug/g	106	0.0111	5.94	n/a	n/a	n/a	n/a	0.0612	n/a	
S10V001040	A	7782-49-2	Selenium	ug/g	107	0.0154	0.234	n/a	n/a	n/a	n/a	0.120	n/a	CB
S10V001040	A	7440-28-0	Thallium	ug/g	99.3	1.12E-03	0.107	n/a	n/a	n/a	n/a	5.92E-03	n/a	
S10V001041	S	14798-03-9	Ammonium	ug/g	110	<0.0120	1.88	1.20	1.54	44.2	99.8	0.463	n/a	B
S10V001042	A	14133-76-7	Technetium-99	ug/g	106	<1.50E-05	<1.48E-04	n/a	n/a	n/a	n/a	1.48E-04	n/a	U
S10V001042	A	SN-117	Tin-117	ug/g	104	<5.00E-04	0.0126	n/a	n/a	n/a	n/a	4.94E-03	n/a	EN
S10V001042	A	15832-50-5	Tin-126	ug/g	n/a	<1.00E-05	5.49E-04	n/a	n/a	n/a	n/a	9.88E-05	n/a	EN
S10V001043	E	CM-243/244	Curium-243/244	uCi/g	n/a	<2.36E-07	<1.88E-07	n/a	n/a	n/a	n/a	1.88E-07	n/a	U
S10V001043	E	14596-10-2	Americium-241	uCi/g	105	<5.91E-07	<4.69E-07	n/a	n/a	n/a	n/a	4.69E-07	n/a	U
S10V001043	E	15510-73-3	Curium-242	uCi/g	n/a	<2.36E-07	<1.88E-07	n/a	n/a	n/a	n/a	1.88E-07	n/a	U
S10V001043	E	PU-239/240	Plutonium-239/240	uCi/g	105	<3.46E-07	<3.69E-07	n/a	n/a	n/a	n/a	3.69E-07	n/a	U
S10V001043	E	13981-16-3	Plutonium-238	uCi/g	n/a	<3.46E-07	<3.69E-07	n/a	n/a	n/a	n/a	3.69E-07	n/a	U
S10V001044	E	SR-89/90	Strontium-89/90	uCi/g	93.0	<6.29E-07	<5.76E-07	n/a	n/a	n/a	n/a	5.76E-07	n/a	U
S10V001045	E	13981-37-8	Nickel-63	uCi/g	90.8	<7.29E-06	<5.26E-06	n/a	n/a	n/a	n/a	5.26E-06	n/a	U
S10V001045	E	15758-45-9	Selenium-79	uCi/g	n/a	<2.24E-06	1.71E-06	n/a	n/a	n/a	n/a	1.39E-06	119.253	
S10V002107	A	7440-36-0	Antimony	ug/g	97.8	<4.40E-03	4.55E-03	n/a	n/a	n/a	n/a	4.12E-03	n/a	BN
S10V002108	W	14762-75-5	Carbon-14	uCi/g	96.5	<2.53E-07	<2.62E-06	n/a	n/a	n/a	n/a	2.62E-06	n/a	U
S10V002108	W	10028-17-8	Tritium	uCi/g	86.0	<4.83E-07	3.12E-06	n/a	n/a	n/a	n/a	2.70E-06	252.433	

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B - Estimated

Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX3A

Sample Depth: 94-96

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001031		BULKDENSI	Bulk Density	g/mL	n/a	n/a	1.96	n/a	n/a	n/a	n/a	n/a	n/a	

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Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX3B

Sample Depth: 94-96

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001032		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.00	n/a	n/a	n/a	n/a	n/a	n/a	

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E - Estimated by Interference
U - Less Than Detection Limit
B - Estimated
C - Blank Contamination
B - Blank Contamination

Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX3C

Sample Depth: 94-96

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001033		BULKDENSI	Bulk Density	g/mL	n/a	n/a	1.92	n/a	n/a	n/a	n/a	n/a	n/a	

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B - Estimated

Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX4

Sample Depth: 144-146

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001050		%WATERA	%WATER-APD	%	n/a	n/a	21.04	n/a	n/a	n/a	n/a	0.01000	n/a	
S10V001050		57-12-5	Cyanide	ug/g	99.3	<0.0370	<2.56	n/a	n/a	n/a	n/a	2.56	n/a	U
S10V001050		WT%SOLID	Weight percent solids	%	n/a	n/a	79.0	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V001050		7439-97-6	Mercury	ug/g	99.9	<1.00E-04	0.0195	n/a	n/a	n/a	n/a	9.43E-03	n/a	B
S10V001050		12597-04-5	Sulfide	ug/g	86.6	<0.180	<7.27	<7.13	n/a	n/a	93.7	7.27	n/a	U
S10V001051		13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.61E-05	n/a	n/a	n/a	n/a	1.07E-05	43.24	
S10V001051		10198-40-0	Cobalt-60	uCi/g	98.8	<4.45E-07	<5.35E-07	n/a	n/a	n/a	n/a	5.35E-07	n/a	U
S10V001051		14234-35-6	Antimony-125	uCi/g	n/a	<1.06E-06	<1.46E-06	n/a	n/a	n/a	n/a	1.46E-06	n/a	U
S10V001051		10045-97-3	Cesium-137	uCi/g	102	<6.18E-07	<7.64E-07	n/a	n/a	n/a	n/a	7.64E-07	n/a	U
S10V001051		14683-23-9	Europium-152	uCi/g	n/a	<1.89E-06	<2.55E-06	n/a	n/a	n/a	n/a	2.55E-06	n/a	U
S10V001051		15585-10-1	Europium-154	uCi/g	n/a	<1.31E-06	<1.62E-06	n/a	n/a	n/a	n/a	1.62E-06	n/a	U
S10V001051		14391-16-3	Europium-155	uCi/g	n/a	<1.06E-06	<1.38E-06	n/a	n/a	n/a	n/a	1.38E-06	n/a	U
S10V001051		14274-82-9	Thorium-228	uCi/g	n/a	<2.54E-05	<3.24E-05	n/a	n/a	n/a	n/a	3.24E-05	n/a	U
S10V001051		15065-10-8	Thorium-234	uCi/g	n/a	<1.84E-05	<2.66E-05	n/a	n/a	n/a	n/a	2.66E-05	n/a	U
S10V001051		15046-84-1	Iodine-129	uCi/g	100	2.62E-07	<1.46E-07	n/a	n/a	n/a	n/a	1.46E-07	n/a	U
S10V001053		CONDUCT	Conductivity	uMHO/cm	94.4	0.210	291	285	288	2.05	n/a	0.0100	n/a	
S10V001053		PH	pH	unitless	n/a	n/a	8.12	8.14	8.13	0.246	n/a	0.0100	n/a	
S10V001054	W	16984-48-8	Fluoride	ug/g	102	<1.61E-03	0.996	n/a	n/a	n/a	n/a	0.0161	n/a	
S10V001054	W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0936	n/a	n/a	n/a	n/a	0.0936	n/a	U
S10V001054	W	71-50-1	Acetate	ug/g	98.1	<6.04E-03	0.203	n/a	n/a	n/a	n/a	0.0604	n/a	B
S10V001054	W	FORMATE	Formate	ug/g	103	<4.67E-03	1.30	n/a	n/a	n/a	n/a	0.0467	n/a	B
S10V001054	W	16887-00-6	Chloride	ug/g	98.0	<9.98E-03	7.54	n/a	n/a	n/a	n/a	0.0997	n/a	
S10V001054	W	14797-65-0	Nitrite	ug/g	102	<0.0192	0.673	n/a	n/a	n/a	n/a	0.192	n/a	B
S10V001054	W	14808-79-8	Sulfate	ug/g	96.0	<0.0187	28.0	n/a	n/a	n/a	n/a	0.187	n/a	
S10V001054	W	338-70-5	Oxalate	ug/g	101	<0.0231	1.26	n/a	n/a	n/a	n/a	0.231	n/a	B
S10V001054	W	24959-67-9	Bromide	ug/g	96.4	<0.0580	<0.580	n/a	n/a	n/a	n/a	0.580	n/a	U
S10V001054	W	14797-55-8	Nitrate	ug/g	101	<0.0208	12.9	n/a	n/a	n/a	n/a	0.208	n/a	
S10V001054	W	14265-44-2	Phosphate	ug/g	99.8	<0.0167	0.430	n/a	n/a	n/a	n/a	0.167	n/a	B
S10V001055	A	7429-90-5	Aluminum	ug/g	87.2	0.0716	1.45E+04	n/a	n/a	n/a	n/a	2.98	n/a	

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Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX4

Sample Depth: 144-146

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001055	A	7440-42-8	Boron	ug/g	88.7	<0.0300	3.31	n/a	n/a	n/a	n/a	2.98	n/a	B
S10V001055	A	7440-39-3	Barium	ug/g	92.3	4.07E-03	124	n/a	n/a	n/a	n/a	0.298	n/a	
S10V001055	A	7440-41-7	Beryllium	ug/g	82.2	3.66E-03	0.545	n/a	n/a	n/a	n/a	0.0994	n/a	CB
S10V001055	A	7440-70-2	Calcium	ug/g	68.4	0.0953	1.45E+04	n/a	n/a	n/a	n/a	4.97	n/a	
S10V001055	A	7440-45-1	Cerium	ug/g	89.3	<0.0300	37.6	n/a	n/a	n/a	n/a	2.98	n/a	
S10V001055	A	7440-48-4	Cobalt	ug/g	81.9	<0.0100	11.6	n/a	n/a	n/a	n/a	0.994	n/a	
S10V001055	A	7440-47-3	Chromium	ug/g	79.1	<5.00E-03	21.3	n/a	n/a	n/a	n/a	0.497	n/a	
S10V001055	A	7440-50-8	Copper	ug/g	101	<5.00E-03	25.3	n/a	n/a	n/a	n/a	0.497	n/a	
S10V001055	A	7439-89-6	Iron	ug/g	83.5	0.0714	2.22E+04	n/a	n/a	n/a	n/a	0.497	n/a	
S10V001055	A	7440-09-7	Potassium	ug/g	95.5	<0.500	2.00E+03	n/a	n/a	n/a	n/a	49.7	n/a	
S10V001055	A	7439-91-0	Lanthanum	ug/g	94.2	3.19E-03	17.7	n/a	n/a	n/a	n/a	0.298	n/a	
S10V001055	A	7439-93-2	Lithium	ug/g	100	4.86E-03	16.9	n/a	n/a	n/a	n/a	0.298	n/a	
S10V001055	A	7439-95-4	Magnesium	ug/g	88.2	<0.0500	8.10E+03	n/a	n/a	n/a	n/a	4.97	n/a	
S10V001055	A	7439-96-5	Manganese	ug/g	80.0	4.41E-03	445	n/a	n/a	n/a	n/a	0.298	n/a	
S10V001055	A	7439-98-7	Molybdenum	ug/g	83.6	<0.0200	<1.99	n/a	n/a	n/a	n/a	1.99	n/a	UN
S10V001055	A	7440-23-5	Sodium	ug/g	105	<0.100	184	n/a	n/a	n/a	n/a	9.94	n/a	
S10V001055	A	7440-02-0	Nickel	ug/g	82.8	<0.0200	22.5	n/a	n/a	n/a	n/a	1.99	n/a	
S10V001055	A	7723-14-0	Phosphorus	ug/g	84.5	<0.0500	480	n/a	n/a	n/a	n/a	4.97	n/a	
S10V001055	A	7704-34-9	Sulfur	ug/g	86.3	<0.100	26.7	n/a	n/a	n/a	n/a	9.94	n/a	B
S10V001055	A	7440-21-3	Silicon	ug/g	80.8	<0.0300	27.8	n/a	n/a	n/a	n/a	2.98	n/a	BN
S10V001055	A	7440-19-9	Samarium	ug/g	100	<0.0200	<1.99	n/a	n/a	n/a	n/a	1.99	n/a	U
S10V001055	A	7440-24-6	Strontium	ug/g	91.9	4.01E-03	36.8	n/a	n/a	n/a	n/a	0.298	n/a	
S10V001055	A	7440-32-6	Titanium	ug/g	84.9	<5.00E-03	440	n/a	n/a	n/a	n/a	0.497	n/a	
S10V001055	A	7440-62-2	Vanadium	ug/g	84.8	<5.00E-03	32.2	n/a	n/a	n/a	n/a	0.497	n/a	
S10V001055	A	7440-65-5	Yttrium	ug/g	80.8	<2.00E-03	9.22	n/a	n/a	n/a	n/a	0.199	n/a	
S10V001055	A	7440-66-6	Zinc	ug/g	84.2	<5.00E-03	61.5	n/a	n/a	n/a	n/a	0.497	n/a	
S10V001055	A	7440-67-7	Zirconium	ug/g	82.6	<5.00E-03	10.0	n/a	n/a	n/a	n/a	0.497	n/a	
S10V001055	A	14269-63-7	Thorium-230	ug/g	n/a	<2.80E-06	<2.78E-05	n/a	n/a	n/a	n/a	2.78E-05	n/a	U
S10V001055	A	TH-232	Thorium-232	ug/g	102	<2.00E-04	7.53	n/a	n/a	n/a	n/a	1.99E-03	n/a	

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Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX4

Sample Depth: 144-146

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001055	A	13968-55-3	Uranium-233	ug/g	n/a	<4.00E-06	5.38E-04	n/a	n/a	n/a	n/a	3.98E-05	n/a	
S10V001055	A	13966-29-5	Uranium-234	ug/g	n/a	<2.00E-06	5.82E-05	n/a	n/a	n/a	n/a	1.99E-05	n/a	
S10V001055	A	15117-96-1	Uranium-235	ug/g	93.5	<4.00E-06	7.20E-03	n/a	n/a	n/a	n/a	3.98E-05	n/a	
S10V001055	A	13982-70-2	Uranium-236	ug/g	n/a	<1.60E-06	<1.59E-05	n/a	n/a	n/a	n/a	1.59E-05	n/a	U
S10V001055	A	13994-20-2	Neptunium-237	ug/g	107	<4.00E-05	<3.98E-04	n/a	n/a	n/a	n/a	3.98E-04	n/a	U
S10V001055	A	U-238	Uranium-238	ug/g	100	<2.00E-04	1.07	n/a	n/a	n/a	n/a	1.99E-03	n/a	
S10V001055	A	7440-22-4	Silver	ug/g	102	<1.60E-03	0.0921	n/a	n/a	n/a	n/a	0.0159	n/a	BN
S10V001055	A	7440-38-2	Arsenic	ug/g	96.2	<8.40E-03	4.89	n/a	n/a	n/a	n/a	0.0835	n/a	
S10V001055	A	7440-43-9	Cadmium	ug/g	103	<3.00E-03	0.175	n/a	n/a	n/a	n/a	0.0249	n/a	B
S10V001055	A	7439-92-1	Lead	ug/g	106	0.0111	13.7	n/a	n/a	n/a	n/a	0.0616	n/a	
S10V001055	A	7782-49-2	Selenium	ug/g	107	0.0154	0.537	n/a	n/a	n/a	n/a	0.121	n/a	CB
S10V001055	A	7440-28-0	Thallium	ug/g	99.3	1.12E-03	0.152	n/a	n/a	n/a	n/a	5.96E-03	n/a	
S10V001056	S	14798-03-9	Ammonium	ug/g	92.9	0.0397	2.10	1.95	2.02	7.71	96.9	0.477	n/a	CB
S10V001057	A	14133-76-7	Technetium-99	ug/g	106	<1.50E-05	<1.50E-04	n/a	n/a	n/a	n/a	1.50E-04	n/a	U
S10V001057	A	SN-117	Tin-117	ug/g	104	<5.00E-04	0.0102	n/a	n/a	n/a	n/a	4.98E-03	n/a	EN
S10V001057	A	15832-50-5	Tin-126	ug/g	n/a	<1.00E-05	1.10E-03	n/a	n/a	n/a	n/a	9.97E-05	n/a	EN
S10V001058	E	CM-243/244	Curium-243/244	uCi/g	n/a	<2.36E-07	<1.56E-07	n/a	n/a	n/a	n/a	1.56E-07	n/a	U
S10V001058	E	14596-10-2	Americium-241	uCi/g	105	<5.91E-07	<3.90E-07	n/a	n/a	n/a	n/a	3.90E-07	n/a	U
S10V001058	E	15510-73-3	Curium-242	uCi/g	n/a	<2.36E-07	<1.56E-07	n/a	n/a	n/a	n/a	1.56E-07	n/a	U
S10V001058	E	PU-239/240	Plutonium-239/240	uCi/g	105	<3.46E-07	<3.26E-07	n/a	n/a	n/a	n/a	3.26E-07	n/a	U
S10V001058	E	13981-16-3	Plutonium-238	uCi/g	n/a	<3.46E-07	<3.26E-07	n/a	n/a	n/a	n/a	3.26E-07	n/a	U
S10V001059	E	SR-89/90	Strontium-89/90	uCi/g	99.9	<2.45E-07	<8.91E-07	n/a	n/a	n/a	n/a	8.91E-07	n/a	U
S10V001060	E	13981-37-8	Nickel-63	uCi/g	90.8	<7.29E-06	4.57E-06	n/a	n/a	n/a	n/a	4.53E-06	80.786	
S10V001060	E	15758-45-9	Selenium-79	uCi/g	n/a	<2.24E-06	2.24E-06	n/a	n/a	n/a	n/a	1.75E-06	119.253	
S10V002109	A	7440-36-0	Antimony	ug/g	97.8	<4.40E-03	5.92E-03	n/a	n/a	n/a	n/a	4.36E-03	n/a	BN
S10V002110	W	14762-75-5	Carbon-14	uCi/g	96.5	<2.53E-07	<2.54E-06	n/a	n/a	n/a	n/a	2.54E-06	n/a	U
S10V002110	W	10028-17-8	Tritium	uCi/g	86.0	<4.83E-07	<4.14E-06	n/a	n/a	n/a	n/a	4.14E-06	n/a	U

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Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX4A

Sample Depth: 144-146

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001046		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.05	n/a	n/a	n/a	n/a	n/a	n/a	

NA = Not Analyzed, ND = Not Detected

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

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Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX4B

Sample Depth: 144-146

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001047		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.03	n/a	n/a	n/a	n/a	n/a	n/a	

NA = Not Analyzed, ND = Not Detected

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

Data Summary Report

Sample Group: 20100426

Core Number: C7746

Customer Sample ID: B24YX4C

Sample Depth: 144-146

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001048		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.06	n/a	n/a	n/a	n/a	n/a	n/a	

NA = Not Analyzed, ND = Not Detected

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

Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YW8

Sample Depth: 37-39

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001076		%WATERA	%WATER-APD	%	n/a	n/a	6.850	n/a	n/a	n/a	n/a	0.01000	n/a	
S10V001076		57-12-5	Cyanide	ug/g	96.3	<0.0370	<2.48	<2.43	n/a	n/a	109	2.48	n/a	U
S10V001076		WT%SOLID	Weight percent solids	%	n/a	n/a	93.2	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V001076		7439-97-6	Mercury	ug/g	99.9	<1.00E-04	<9.79E-03	n/a	n/a	n/a	n/a	9.79E-03	n/a	U
S10V001076		12597-04-5	Sulfide	ug/g	94.5	<0.180	25.2	21.5	23.4	16.0	115	7.11	n/a	B
S10V001077		13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.08E-05	1.23E-05	1.16E-05	13.1	n/a	5.51E-06	32.60	
S10V001077		10198-40-0	Cobalt-60	uCi/g	102	<2.16E-07	<2.27E-07	<2.25E-07	n/a	n/a	n/a	2.27E-07	n/a	U
S10V001077		14234-35-6	Antimony-125	uCi/g	n/a	<5.48E-07	<6.21E-07	<5.74E-07	n/a	n/a	n/a	6.21E-07	n/a	U
S10V001077		10045-97-3	Cesium-137	uCi/g	105	<2.51E-07	<2.77E-07	<2.63E-07	n/a	n/a	n/a	2.77E-07	n/a	U
S10V001077		14683-23-9	Europium-152	uCi/g	n/a	<1.06E-06	<1.20E-06	<1.11E-06	n/a	n/a	n/a	1.20E-06	n/a	U
S10V001077		15585-10-1	Europium-154	uCi/g	n/a	<6.87E-07	<7.74E-07	<7.08E-07	n/a	n/a	n/a	7.74E-07	n/a	U
S10V001077		14391-16-3	Europium-155	uCi/g	n/a	<4.17E-07	<4.79E-07	<4.47E-07	n/a	n/a	n/a	4.79E-07	n/a	U
S10V001077		15092-94-1	Lead-212	uCi/g	n/a	n/a	5.32E-07	4.63E-07	4.97E-07	13.9	n/a	4.21E-07	49.66	
S10V001077		14733-03-0	Bismuth-214	uCi/g	n/a	n/a	6.44E-07	n/a	n/a	n/a	n/a	5.53E-07	49.24	
S10V001077		15067-28-4	Lead-214	uCi/g	n/a	n/a	7.50E-07	7.00E-07	7.25E-07	6.80	n/a	5.36E-07	37.46	
S10V001077		14274-82-9	Thorium-228	uCi/g	n/a	<1.09E-05	<1.22E-05	<1.12E-05	n/a	n/a	n/a	1.22E-05	n/a	U
S10V001077		15065-10-8	Thorium-234	uCi/g	n/a	<8.40E-06	<1.05E-05	<9.95E-06	n/a	n/a	n/a	1.05E-05	n/a	U
S10V001077		15046-84-1	Iodine-129	uCi/g	107	3.46E-07	<1.71E-07	<1.92E-07	n/a	n/a	n/a	1.71E-07	n/a	U
S10V001079		CONDUCT	Conductivity	uMHO/cm	94.8	0.246	320	326	323	2.01	n/a	0.0100	n/a	
S10V001079		PH	pH	unitless	n/a	n/a	8.45	8.49	8.47	0.472	n/a	0.0100	n/a	
S10V001080	W	16984-48-8	Fluoride	ug/g	102	<1.61E-03	1.27	1.50	1.39	16.8	104	0.0161	n/a	
S10V001080	W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0937	<0.0935	n/a	n/a	102	0.0937	n/a	U
S10V001080	W	71-50-1	Acetate	ug/g	98.1	<6.04E-03	0.318	0.287	0.302	10.3	98.1	0.0604	n/a	B
S10V001080	W	FORMATE	Formate	ug/g	103	<4.67E-03	0.294	0.426	0.360	36.7	103	0.0467	n/a	B
S10V001080	W	16887-00-6	Chloride	ug/g	98.0	<9.98E-03	1.42	1.26	1.34	12.3	99.6	0.0998	n/a	
S10V001080	W	14797-65-0	Nitrite	ug/g	102	<0.0192	1.11	0.812	0.961	31.0	102	0.192	n/a	B
S10V001080	W	14808-79-8	Sulfate	ug/g	96.0	<0.0187	11.9	12.7	12.3	6.95	96.9	0.187	n/a	
S10V001080	W	338-70-5	Oxalate	ug/g	101	<0.0231	<0.231	0.309	n/a	n/a	101	0.231	n/a	U
S10V001080	W	24959-67-9	Bromide	ug/g	96.4	<0.0580	<0.580	<0.579	n/a	n/a	97.6	0.580	n/a	U

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B - Estimated

Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YW8

Sample Depth: 37-39

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001080	W	14797-55-8	Nitrate	ug/g	101	<0.0208	2.63	3.16	2.89	18.1	101	0.208	n/a	
S10V001080	W	14265-44-2	Phosphate	ug/g	99.8	<0.0167	0.569	0.795	0.682	33.2	96.1	0.167	n/a	B
S10V001081	A	7429-90-5	Aluminum	ug/g	87.2	0.0303	8.33E+03	8.61E+03	8.47E+03	3.35	3.14E+03	2.98	n/a	
S10V001081	A	7440-42-8	Boron	ug/g	86.2	<0.0300	3.17	3.09	3.13	2.81	75.3	2.98	n/a	B
S10V001081	A	7440-39-3	Barium	ug/g	88.7	<3.00E-03	78.1	80.8	79.5	3.40	89.7	0.298	n/a	
S10V001081	A	7440-41-7	Beryllium	ug/g	95.8	<1.00E-03	0.140	0.130	0.135	7.59	75.7	0.0994	n/a	B
S10V001081	A	7440-70-2	Calcium	ug/g	82.4	0.255	8.58E+03	8.71E+03	8.65E+03	1.51	895	4.97	n/a	
S10V001081	A	7440-45-1	Cerium	ug/g	91.2	<0.0300	23.5	20.6	22.0	13.0	110	2.98	n/a	B
S10V001081	A	7440-48-4	Cobalt	ug/g	86.3	<0.0100	8.45	9.15	8.80	7.93	81.8	0.994	n/a	B
S10V001081	A	7440-47-3	Chromium	ug/g	86.3	<5.00E-03	22.1	22.3	22.2	0.819	78.5	0.497	n/a	
S10V001081	A	7440-50-8	Copper	ug/g	92.2	<5.00E-03	10.3	10.7	10.5	3.23	80.6	0.497	n/a	
S10V001081	A	7439-89-6	Iron	ug/g	87.3	0.0397	2.17E+04	2.22E+04	2.19E+04	2.18	3.56E+03	0.497	n/a	
S10V001081	A	7440-09-7	Potassium	ug/g	77.2	<0.500	1.01E+03	1.04E+03	1.03E+03	2.85	338	49.7	n/a	
S10V001081	A	7439-91-0	Lanthanum	ug/g	89.5	<3.00E-03	9.89	10.0	9.94	1.10	76.5	0.298	n/a	
S10V001081	A	7439-93-2	Lithium	ug/g	88.0	<3.00E-03	5.87	6.24	6.05	6.22	79.6	0.298	n/a	
S10V001081	A	7439-95-4	Magnesium	ug/g	83.7	<0.0500	3.80E+03	3.91E+03	3.85E+03	3.05	669	4.97	n/a	
S10V001081	A	7439-96-5	Manganese	ug/g	85.3	<3.00E-03	315	321	318	1.84	109	0.298	n/a	
S10V001081	A	7439-98-7	Molybdenum	ug/g	85.6	<0.0200	2.31	<1.99	n/a	n/a	67.3	1.99	n/a	BN
S10V001081	A	7440-23-5	Sodium	ug/g	87.2	<0.100	665	708	686	6.22	716	9.94	n/a	
S10V001081	A	7440-02-0	Nickel	ug/g	85.4	<0.0200	14.0	13.8	13.9	1.61	77.4	1.99	n/a	B
S10V001081	A	7723-14-0	Phosphorus	ug/g	88.0	<0.0500	648	679	664	4.62	174	4.97	n/a	
S10V001081	A	7704-34-9	Sulfur	ug/g	86.4	<0.100	40.9	44.8	42.9	9.19	104	9.94	n/a	B
S10V001081	A	7440-21-3	Silicon	ug/g	49.2	<0.0300	53.1	53.8	53.4	1.45	-3.25	2.98	n/a	N
S10V001081	A	7440-24-6	Strontium	ug/g	89.5	<3.00E-03	33.4	34.5	34.0	3.13	89.5	0.298	n/a	
S10V001081	A	7440-32-6	Titanium	ug/g	84.9	<5.00E-03	1.59E+03	1.63E+03	1.61E+03	2.32	477	0.497	n/a	
S10V001081	A	7440-62-2	Vanadium	ug/g	88.5	<5.00E-03	64.2	65.7	65.0	2.29	83.8	0.497	n/a	
S10V001081	A	7440-65-5	Yttrium	ug/g	87.1	<2.00E-03	8.81	8.93	8.87	1.35	94.8	0.199	n/a	
S10V001081	A	7440-66-6	Zinc	ug/g	88.5	<5.00E-03	35.1	36.1	35.6	2.84	80.8	0.497	n/a	
S10V001081	A	7440-67-7	Zirconium	ug/g	83.4	<5.00E-03	13.9	14.4	14.1	3.02	61.8	0.497	n/a	N

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E - Estimated by Interference
B - Estimated

Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YW8

Sample Depth: 37-39

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001081	A	14269-63-7	Thorium-230	ug/g	n/a	<2.80E-06	<2.78E-05	<2.78E-05	n/a	n/a	n/a	2.78E-05	n/a	U
S10V001081	A	TH-232	Thorium-232	ug/g	102	<2.00E-04	2.49	2.97	2.73	17.4	125	1.99E-03	n/a	
S10V001081	A	13968-55-3	Uranium-233	ug/g	n/a	<4.00E-06	1.34E-04	1.78E-04	1.56E-04	28.3	n/a	3.98E-05	n/a	
S10V001081	A	13966-29-5	Uranium-234	ug/g	n/a	<2.00E-06	3.05E-05	3.82E-05	3.44E-05	22.3	n/a	1.99E-05	n/a	
S10V001081	A	15117-96-1	Uranium-235	ug/g	93.8	<4.00E-06	2.86E-03	3.51E-03	3.18E-03	20.3	96.4	3.98E-05	n/a	
S10V001081	A	13982-70-2	Uranium-236	ug/g	n/a	<1.60E-06	<1.59E-05	<1.59E-05	n/a	n/a	n/a	1.59E-05	n/a	U
S10V001081	A	13994-20-2	Neptunium-237	ug/g	114	<4.00E-05	<3.98E-04	<3.98E-04	n/a	n/a	102	3.98E-04	n/a	U
S10V001081	A	U-238	Uranium-238	ug/g	99.4	<2.00E-04	0.415	0.512	0.463	20.9	102	1.99E-03	n/a	
S10V001081	A	7440-22-4	Silver	ug/g	102	<1.60E-03	0.0289	0.0332	0.0310	13.8	79.2	0.0159	n/a	B
S10V001081	A	7440-38-2	Arsenic	ug/g	109	<8.40E-03	1.99	2.29	2.14	14.4	68.3	0.0835	n/a	N
S10V001081	A	7440-43-9	Cadmium	ug/g	102	<6.00E-04	0.0627	0.0695	0.0661	10.3	80.9	5.97E-03	n/a	
S10V001081	A	7439-92-1	Lead	ug/g	108	0.0443	3.26	3.58	3.42	9.31	85.7	0.0616	n/a	
S10V001081	A	7782-49-2	Selenium	ug/g	102	<0.0122	0.499	0.407	0.453	20.3	72.0	0.121	n/a	BN
S10V001081	A	7440-28-0	Thallium	ug/g	102	<8.00E-04	0.0729	0.0777	0.0753	6.41	99.6	7.95E-03	n/a	B
S10V001082	S	14798-03-9	Ammonium	ug/g	96.3	0.0448	1.60	2.04	1.82	24.3	92.2	0.469	n/a	CB
S10V001083	A	14133-76-7	Technetium-99	ug/g	108	<1.50E-05	<1.48E-04	<1.49E-04	n/a	n/a	86.0	1.48E-04	n/a	U
S10V001083	A	SN-117	Tin-117	ug/g	102	<5.00E-04	0.0174	0.0108	0.0141	46.9	22.9	4.95E-03	n/a	EN
S10V001083	A	15832-50-5	Tin-126	ug/g	n/a	<1.00E-05	2.33E-04	2.16E-04	2.25E-04	7.67	n/a	9.89E-05	n/a	EN
S10V001084	E	CM-243/244	Curium-243/244	uCi/g	n/a	<1.89E-07	<2.14E-07	<1.87E-07	n/a	n/a	n/a	2.14E-07	n/a	U
S10V001084	E	14596-10-2	Americium-241	uCi/g	102	<4.72E-07	<5.35E-07	<4.69E-07	n/a	n/a	97.9	5.35E-07	n/a	U
S10V001084	E	15510-73-3	Curium-242	uCi/g	n/a	<1.89E-07	<2.14E-07	<1.87E-07	n/a	n/a	n/a	2.14E-07	n/a	U
S10V001084	E	PU-239/240	Plutonium-239/240	uCi/g	101	<2.75E-07	<2.20E-07	<2.85E-07	n/a	n/a	91.6	2.20E-07	n/a	U
S10V001084	E	13981-16-3	Plutonium-238	uCi/g	n/a	<2.75E-07	<2.20E-07	<2.85E-07	n/a	n/a	n/a	2.20E-07	n/a	U
S10V001085	E	SR-89/90	Strontium-89/90	uCi/g	101	<2.31E-07	<6.79E-07	<6.88E-07	n/a	n/a	n/a	6.79E-07	n/a	U
S10V001086	E	13981-37-8	Nickel-63	uCi/g	100	<8.88E-06	<5.86E-06	<5.85E-06	n/a	n/a	101	5.86E-06	n/a	U
S10V001086	E	15758-45-9	Selenium-79	uCi/g	n/a	<1.64E-06	<1.54E-06	2.15E-06	n/a	n/a	n/a	1.54E-06	n/a	U
S10V002099	A	7440-36-0	Antimony	ug/g	97.8	<4.40E-03	<4.32E-03	n/a	n/a	n/a	n/a	4.32E-03	n/a	UN
S10V002100	W	14762-75-5	Carbon-14	uCi/g	96.5	<2.53E-07	<2.56E-06	n/a	n/a	n/a	n/a	2.56E-06	n/a	U
S10V002100	W	10028-17-8	Tritium	uCi/g	86.0	<4.83E-07	3.56E-06	n/a	n/a	n/a	n/a	2.70E-06	252.433	

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Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YW8A

Sample Depth: 37-39

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001072		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.39	n/a	n/a	n/a	n/a	n/a	n/a	

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U - Less Than Detection Limit
B - Estimated
C - Blank Contamination
B - Blank Contamination

Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YW8B

Sample Depth: 37-39

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001073		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.28	n/a	n/a	n/a	n/a	n/a	n/a	

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B - Estimated

Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YW8C

Sample Depth: 37-39

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001074		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.34	n/a	n/a	n/a	n/a	n/a	n/a	

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B - Blank Contamination
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B - Estimated

Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YW9

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001091		%WATERA	%WATER-APD	%	n/a	n/a	14.60	n/a	n/a	n/a	n/a	0.01000	n/a	
S10V001091		57-12-5	Cyanide	ug/g	96.3	<0.0370	<2.44	n/a	n/a	n/a	n/a	2.44	n/a	U
S10V001091		WT%SOLID	Weight percent solids	%	n/a	n/a	85.4	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V001091		7439-97-6	Mercury	ug/g	99.9	<1.00E-04	<9.77E-03	n/a	n/a	n/a	n/a	9.77E-03	n/a	U
S10V001091		12597-04-5	Sulfide	ug/g	94.5	<0.180	<7.18	n/a	n/a	n/a	n/a	7.18	n/a	U
S10V001092		13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.38E-05	n/a	n/a	n/a	n/a	4.92E-06	23.48	
S10V001092		10198-40-0	Cobalt-60	uCi/g	102	<2.16E-07	<2.04E-07	n/a	n/a	n/a	n/a	2.04E-07	n/a	U
S10V001092		14234-35-6	Antimony-125	uCi/g	n/a	<5.48E-07	<5.74E-07	n/a	n/a	n/a	n/a	5.74E-07	n/a	U
S10V001092		10045-97-3	Cesium-137	uCi/g	105	<2.51E-07	<2.48E-07	n/a	n/a	n/a	n/a	2.48E-07	n/a	U
S10V001092		14683-23-9	Europium-152	uCi/g	n/a	<1.06E-06	<1.08E-06	n/a	n/a	n/a	n/a	1.08E-06	n/a	U
S10V001092		15585-10-1	Europium-154	uCi/g	n/a	<6.87E-07	<6.96E-07	n/a	n/a	n/a	n/a	6.96E-07	n/a	U
S10V001092		14391-16-3	Europium-155	uCi/g	n/a	<4.17E-07	<4.22E-07	n/a	n/a	n/a	n/a	4.22E-07	n/a	U
S10V001092		15092-94-1	Lead-212	uCi/g	n/a	n/a	1.17E-06	n/a	n/a	n/a	n/a	3.99E-07	23.43	
S10V001092		15067-28-4	Lead-214	uCi/g	n/a	n/a	8.03E-07	n/a	n/a	n/a	n/a	5.10E-07	37.67	
S10V001092		14274-82-9	Thorium-228	uCi/g	n/a	<1.09E-05	<1.11E-05	n/a	n/a	n/a	n/a	1.11E-05	n/a	U
S10V001092		15065-10-8	Thorium-234	uCi/g	n/a	<8.40E-06	<9.46E-06	n/a	n/a	n/a	n/a	9.46E-06	n/a	U
S10V001092		15046-84-1	Iodine-129	uCi/g	107	3.46E-07	<1.79E-07	n/a	n/a	n/a	n/a	1.79E-07	n/a	U
S10V001094		CONDUCT	Conductivity	uMHO/cm	94.8	0.246	160	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V001094		PH	pH	unitless	n/a	n/a	8.29	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V001095	W	16984-48-8	Fluoride	ug/g	102	<1.61E-03	0.600	n/a	n/a	n/a	n/a	0.0160	n/a	
S10V001095	W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0931	n/a	n/a	n/a	n/a	0.0931	n/a	U
S10V001095	W	71-50-1	Acetate	ug/g	98.1	<6.04E-03	0.597	n/a	n/a	n/a	n/a	0.0600	n/a	B
S10V001095	W	FORMATE	Formate	ug/g	103	<4.67E-03	0.799	n/a	n/a	n/a	n/a	0.0464	n/a	B
S10V001095	W	16887-00-6	Chloride	ug/g	98.0	<9.98E-03	3.18	n/a	n/a	n/a	n/a	0.0991	n/a	
S10V001095	W	14797-65-0	Nitrite	ug/g	102	<0.0192	1.06	n/a	n/a	n/a	n/a	0.191	n/a	B
S10V001095	W	14808-79-8	Sulfate	ug/g	96.0	<0.0187	16.1	n/a	n/a	n/a	n/a	0.186	n/a	
S10V001095	W	338-70-5	Oxalate	ug/g	101	<0.0231	0.642	n/a	n/a	n/a	n/a	0.229	n/a	B
S10V001095	W	24959-67-9	Bromide	ug/g	96.4	<0.0580	<0.576	n/a	n/a	n/a	n/a	0.576	n/a	U
S10V001095	W	14797-55-8	Nitrate	ug/g	101	<0.0208	6.40	n/a	n/a	n/a	n/a	0.207	n/a	

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B - Estimated

Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YW9

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001095	W	14265-44-2	Phosphate	ug/g	99.8	<0.0167	0.462	n/a	n/a	n/a	n/a	0.166	n/a	B
S10V001096	A	7429-90-5	Aluminum	ug/g	87.2	0.0303	1.25E+04	n/a	n/a	n/a	n/a	2.97	n/a	
S10V001096	A	7440-42-8	Boron	ug/g	86.2	<0.0300	<2.97	n/a	n/a	n/a	n/a	2.97	n/a	U
S10V001096	A	7440-39-3	Barium	ug/g	88.7	<3.00E-03	91.7	n/a	n/a	n/a	n/a	0.297	n/a	
S10V001096	A	7440-41-7	Beryllium	ug/g	95.8	<1.00E-03	0.356	n/a	n/a	n/a	n/a	0.0990	n/a	B
S10V001096	A	7440-70-2	Calcium	ug/g	82.4	0.255	1.14E+04	n/a	n/a	n/a	n/a	4.95	n/a	
S10V001096	A	7440-45-1	Cerium	ug/g	91.2	<0.0300	31.2	n/a	n/a	n/a	n/a	2.97	n/a	
S10V001096	A	7440-48-4	Cobalt	ug/g	86.3	<0.0100	8.22	n/a	n/a	n/a	n/a	0.990	n/a	B
S10V001096	A	7440-47-3	Chromium	ug/g	86.3	<5.00E-03	22.0	n/a	n/a	n/a	n/a	0.495	n/a	
S10V001096	A	7440-50-8	Copper	ug/g	92.2	<5.00E-03	16.8	n/a	n/a	n/a	n/a	0.495	n/a	
S10V001096	A	7439-89-6	Iron	ug/g	87.3	0.0397	1.79E+04	n/a	n/a	n/a	n/a	0.495	n/a	
S10V001096	A	7440-09-7	Potassium	ug/g	77.2	<0.500	1.74E+03	n/a	n/a	n/a	n/a	49.5	n/a	
S10V001096	A	7439-91-0	Lanthanum	ug/g	89.5	<3.00E-03	14.9	n/a	n/a	n/a	n/a	0.297	n/a	
S10V001096	A	7439-93-2	Lithium	ug/g	88.0	<3.00E-03	13.5	n/a	n/a	n/a	n/a	0.297	n/a	
S10V001096	A	7439-95-4	Magnesium	ug/g	83.7	<0.0500	5.89E+03	n/a	n/a	n/a	n/a	4.95	n/a	
S10V001096	A	7439-96-5	Manganese	ug/g	85.3	<3.00E-03	315	n/a	n/a	n/a	n/a	0.297	n/a	
S10V001096	A	7439-98-7	Molybdenum	ug/g	85.6	<0.0200	<1.98	n/a	n/a	n/a	n/a	1.98	n/a	UN
S10V001096	A	7440-23-5	Sodium	ug/g	87.2	<0.100	252	n/a	n/a	n/a	n/a	9.90	n/a	
S10V001096	A	7440-02-0	Nickel	ug/g	85.4	<0.0200	17.8	n/a	n/a	n/a	n/a	1.98	n/a	B
S10V001096	A	7723-14-0	Phosphorus	ug/g	88.0	<0.0500	521	n/a	n/a	n/a	n/a	4.95	n/a	
S10V001096	A	7704-34-9	Sulfur	ug/g	86.4	<0.100	23.9	n/a	n/a	n/a	n/a	9.90	n/a	B
S10V001096	A	7440-21-3	Silicon	ug/g	49.2	<0.0300	42.2	n/a	n/a	n/a	n/a	2.97	n/a	N
S10V001096	A	7440-24-6	Strontium	ug/g	89.5	<3.00E-03	37.5	n/a	n/a	n/a	n/a	0.297	n/a	
S10V001096	A	7440-32-6	Titanium	ug/g	84.9	<5.00E-03	703	n/a	n/a	n/a	n/a	0.495	n/a	
S10V001096	A	7440-62-2	Vanadium	ug/g	88.5	<5.00E-03	33.5	n/a	n/a	n/a	n/a	0.495	n/a	
S10V001096	A	7440-65-5	Yttrium	ug/g	87.1	<2.00E-03	7.31	n/a	n/a	n/a	n/a	0.198	n/a	
S10V001096	A	7440-66-6	Zinc	ug/g	88.5	<5.00E-03	54.6	n/a	n/a	n/a	n/a	0.495	n/a	
S10V001096	A	7440-67-7	Zirconium	ug/g	83.4	<5.00E-03	7.37	n/a	n/a	n/a	n/a	0.495	n/a	N
S10V001096	A	14269-63-7	Thorium-230	ug/g	n/a	<2.80E-06	<2.77E-05	n/a	n/a	n/a	n/a	2.77E-05	n/a	U

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B - Estimated

Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YW9

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001096	A	TH-232	Thorium-232	ug/g	102	<2.00E-04	5.88	n/a	n/a	n/a	n/a	1.98E-03	n/a	
S10V001096	A	13968-55-3	Uranium-233	ug/g	n/a	<4.00E-06	2.24E-04	n/a	n/a	n/a	n/a	3.96E-05	n/a	
S10V001096	A	13966-29-5	Uranium-234	ug/g	n/a	<2.00E-06	4.25E-05	n/a	n/a	n/a	n/a	1.98E-05	n/a	
S10V001096	A	15117-96-1	Uranium-235	ug/g	93.8	<4.00E-06	6.01E-03	n/a	n/a	n/a	n/a	3.96E-05	n/a	
S10V001096	A	13982-70-2	Uranium-236	ug/g	n/a	<1.60E-06	<1.58E-05	n/a	n/a	n/a	n/a	1.58E-05	n/a	U
S10V001096	A	13994-20-2	Neptunium-237	ug/g	114	<4.00E-05	<3.96E-04	n/a	n/a	n/a	n/a	3.96E-04	n/a	U
S10V001096	A	U-238	Uranium-238	ug/g	99.4	<2.00E-04	0.911	n/a	n/a	n/a	n/a	1.98E-03	n/a	
S10V001096	A	7440-22-4	Silver	ug/g	102	<1.60E-03	0.0686	n/a	n/a	n/a	n/a	0.0158	n/a	B
S10V001096	A	7440-38-2	Arsenic	ug/g	109	<8.40E-03	3.49	n/a	n/a	n/a	n/a	0.0831	n/a	N
S10V001096	A	7440-43-9	Cadmium	ug/g	102	<6.00E-04	0.137	n/a	n/a	n/a	n/a	5.94E-03	n/a	
S10V001096	A	7439-92-1	Lead	ug/g	108	0.0443	8.79	n/a	n/a	n/a	n/a	0.0614	n/a	
S10V001096	A	7782-49-2	Selenium	ug/g	102	<0.0122	0.340	n/a	n/a	n/a	n/a	0.121	n/a	BN
S10V001096	A	7440-28-0	Thallium	ug/g	102	<8.00E-04	0.143	n/a	n/a	n/a	n/a	7.92E-03	n/a	
S10V001097	S	14798-03-9	Ammonium	ug/g	96.3	0.0448	0.862	n/a	n/a	n/a	n/a	0.468	n/a	CB
S10V001098	A	14133-76-7	Technetium-99	ug/g	108	<1.50E-05	<1.50E-04	n/a	n/a	n/a	n/a	1.50E-04	n/a	U
S10V001098	A	SN-117	Tin-117	ug/g	102	<5.00E-04	0.0164	n/a	n/a	n/a	n/a	5.01E-03	n/a	EN
S10V001098	A	15832-50-5	Tin-126	ug/g	n/a	<1.00E-05	5.77E-04	n/a	n/a	n/a	n/a	1.00E-04	n/a	EN
S10V001099	E	CM-243/244	Curium-243/244	uCi/g	n/a	<1.89E-07	<1.73E-07	n/a	n/a	n/a	n/a	1.73E-07	n/a	U
S10V001099	E	14596-10-2	Americium-241	uCi/g	102	<4.72E-07	<4.33E-07	n/a	n/a	n/a	n/a	4.33E-07	n/a	U
S10V001099	E	15510-73-3	Curium-242	uCi/g	n/a	<1.89E-07	<1.73E-07	n/a	n/a	n/a	n/a	1.73E-07	n/a	U
S10V001099	E	PU-239/240	Plutonium-239/240	uCi/g	101	<2.75E-07	<2.64E-07	n/a	n/a	n/a	n/a	2.64E-07	n/a	U
S10V001099	E	13981-16-3	Plutonium-238	uCi/g	n/a	<2.75E-07	<2.64E-07	n/a	n/a	n/a	n/a	2.64E-07	n/a	U
S10V001100	E	SR-89/90	Strontium-89/90	uCi/g	101	<2.31E-07	<7.24E-07	n/a	n/a	n/a	n/a	7.24E-07	n/a	U
S10V001101	E	13981-37-8	Nickel-63	uCi/g	100	<8.88E-06	<4.98E-06	n/a	n/a	n/a	n/a	4.98E-06	n/a	U
S10V001101	E	15758-45-9	Selenium-79	uCi/g	n/a	<1.64E-06	<2.32E-06	n/a	n/a	n/a	n/a	2.32E-06	n/a	U
S10V002101	A	7440-36-0	Antimony	ug/g	97.8	<4.40E-03	<4.34E-03	n/a	n/a	n/a	n/a	4.34E-03	n/a	UN
S10V002102	W	14762-75-5	Carbon-14	uCi/g	96.5	<2.53E-07	<2.63E-06	n/a	n/a	n/a	n/a	2.63E-06	n/a	U
S10V002102	W	10028-17-8	Tritium	uCi/g	86.0	<4.83E-07	3.23E-06	n/a	n/a	n/a	n/a	2.70E-06	240.503	

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Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YW9A

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001087		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.16	n/a	n/a	n/a	n/a	n/a	n/a	

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Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YW9C

Sample Depth: 96-98

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001089		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.15	n/a	n/a	n/a	n/a	n/a	n/a	

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B - Estimated

Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YX0

Sample Depth: 127-129

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001106		%WATERA	%WATER-APD	%	n/a	n/a	12.36	n/a	n/a	n/a	n/a	0.01000	n/a	
S10V001106		57-12-5	Cyanide	ug/g	96.3	<0.0370	<2.64	n/a	n/a	n/a	n/a	2.64	n/a	U
S10V001106		WT%SOLID	Weight percent solids	%	n/a	n/a	87.6	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V001106		7439-97-6	Mercury	ug/g	99.9	<1.00E-04	9.51E-03	n/a	n/a	n/a	n/a	9.51E-03	n/a	
S10V001106		12597-04-5	Sulfide	ug/g	94.5	<0.180	<6.96	n/a	n/a	n/a	n/a	6.96	n/a	U
S10V001107		13966-00-2	Potassium-40	uCi/g	n/a	n/a	1.51E-05	n/a	n/a	n/a	n/a	5.19E-06	22.80	
S10V001107		10198-40-0	Cobalt-60	uCi/g	102	<2.16E-07	<2.33E-07	n/a	n/a	n/a	n/a	2.33E-07	n/a	U
S10V001107		14234-35-6	Antimony-125	uCi/g	n/a	<5.48E-07	<6.04E-07	n/a	n/a	n/a	n/a	6.04E-07	n/a	U
S10V001107		10045-97-3	Cesium-137	uCi/g	105	<2.51E-07	<2.66E-07	n/a	n/a	n/a	n/a	2.66E-07	n/a	U
S10V001107		14683-23-9	Europium-152	uCi/g	n/a	<1.06E-06	<1.14E-06	n/a	n/a	n/a	n/a	1.14E-06	n/a	U
S10V001107		15585-10-1	Europium-154	uCi/g	n/a	<6.87E-07	<7.33E-07	n/a	n/a	n/a	n/a	7.33E-07	n/a	U
S10V001107		14391-16-3	Europium-155	uCi/g	n/a	<4.17E-07	<4.59E-07	n/a	n/a	n/a	n/a	4.59E-07	n/a	U
S10V001107		15092-94-1	Lead-212	uCi/g	n/a	n/a	1.58E-06	n/a	n/a	n/a	n/a	4.31E-07	19.68	
S10V001107		14733-03-0	Bismuth-214	uCi/g	n/a	n/a	1.06E-06	n/a	n/a	n/a	n/a	6.13E-07	34.66	
S10V001107		15067-28-4	Lead-214	uCi/g	n/a	n/a	1.10E-06	n/a	n/a	n/a	n/a	6.08E-07	29.24	
S10V001107		14274-82-9	Thorium-228	uCi/g	n/a	<1.09E-05	<1.20E-05	n/a	n/a	n/a	n/a	1.20E-05	n/a	U
S10V001107		15065-10-8	Thorium-234	uCi/g	n/a	<8.40E-06	<1.03E-05	n/a	n/a	n/a	n/a	1.03E-05	n/a	U
S10V001107		15046-84-1	Iodine-129	uCi/g	107	3.46E-07	<7.12E-07	n/a	n/a	n/a	n/a	7.12E-07	n/a	U
S10V001109		CONDUCT	Conductivity	uMHO/cm	94.8	0.246	142	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V001109		PH	pH	unitless	n/a	n/a	8.26	n/a	n/a	n/a	n/a	0.0100	n/a	
S10V001110	W	16984-48-8	Fluoride	ug/g	102	<1.61E-03	0.857	n/a	n/a	n/a	n/a	0.0161	n/a	
S10V001110	W	GLYCOLAT	Glycolate	ug/g	101	<9.37E-03	<0.0937	n/a	n/a	n/a	n/a	0.0937	n/a	U
S10V001110	W	71-50-1	Acetate	ug/g	98.1	<6.04E-03	0.490	n/a	n/a	n/a	n/a	0.0604	n/a	B
S10V001110	W	FORMATE	Formate	ug/g	103	<4.67E-03	0.789	n/a	n/a	n/a	n/a	0.0467	n/a	B
S10V001110	W	16887-00-6	Chloride	ug/g	98.0	<9.98E-03	3.73	n/a	n/a	n/a	n/a	0.0998	n/a	
S10V001110	W	14797-65-0	Nitrite	ug/g	102	<0.0192	0.905	n/a	n/a	n/a	n/a	0.192	n/a	B
S10V001110	W	14808-79-8	Sulfate	ug/g	96.0	<0.0187	17.7	n/a	n/a	n/a	n/a	0.187	n/a	
S10V001110	W	338-70-5	Oxalate	ug/g	101	<0.0231	0.626	n/a	n/a	n/a	n/a	0.231	n/a	B
S10V001110	W	24959-67-9	Bromide	ug/g	96.4	<0.0580	<0.580	n/a	n/a	n/a	n/a	0.580	n/a	U

NA = Not Analyzed, ND = Not Detected

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

Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YX0

Sample Depth: 127-129

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001110	W	14797-55-8	Nitrate	ug/g	101	<0.0208	4.96	n/a	n/a	n/a	n/a	0.208	n/a	
S10V001110	W	14265-44-2	Phosphate	ug/g	99.8	<0.0167	0.534	n/a	n/a	n/a	n/a	0.167	n/a	B
S10V001111	A	7429-90-5	Aluminum	ug/g	87.2	0.0303	1.02E+04	n/a	n/a	n/a	n/a	2.98	n/a	
S10V001111	A	7440-42-8	Boron	ug/g	86.2	<0.0300	<2.98	n/a	n/a	n/a	n/a	2.98	n/a	U
S10V001111	A	7440-39-3	Barium	ug/g	88.7	<3.00E-03	82.0	n/a	n/a	n/a	n/a	0.298	n/a	
S10V001111	A	7440-41-7	Beryllium	ug/g	95.8	<1.00E-03	0.253	n/a	n/a	n/a	n/a	0.0994	n/a	B
S10V001111	A	7440-70-2	Calcium	ug/g	82.4	0.255	8.69E+03	n/a	n/a	n/a	n/a	4.97	n/a	
S10V001111	A	7440-45-1	Cerium	ug/g	91.2	<0.0300	29.7	n/a	n/a	n/a	n/a	2.98	n/a	B
S10V001111	A	7440-48-4	Cobalt	ug/g	86.3	<0.0100	8.44	n/a	n/a	n/a	n/a	0.994	n/a	B
S10V001111	A	7440-47-3	Chromium	ug/g	86.3	<5.00E-03	27.4	n/a	n/a	n/a	n/a	0.497	n/a	
S10V001111	A	7440-50-8	Copper	ug/g	92.2	<5.00E-03	13.5	n/a	n/a	n/a	n/a	0.497	n/a	
S10V001111	A	7439-89-6	Iron	ug/g	87.3	0.0397	1.68E+04	n/a	n/a	n/a	n/a	0.497	n/a	
S10V001111	A	7440-09-7	Potassium	ug/g	77.2	<0.500	1.65E+03	n/a	n/a	n/a	n/a	49.7	n/a	
S10V001111	A	7439-91-0	Lanthanum	ug/g	89.5	<3.00E-03	13.0	n/a	n/a	n/a	n/a	0.298	n/a	
S10V001111	A	7439-93-2	Lithium	ug/g	88.0	<3.00E-03	11.2	n/a	n/a	n/a	n/a	0.298	n/a	
S10V001111	A	7439-95-4	Magnesium	ug/g	83.7	<0.0500	5.26E+03	n/a	n/a	n/a	n/a	4.97	n/a	
S10V001111	A	7439-96-5	Manganese	ug/g	85.3	<3.00E-03	298	n/a	n/a	n/a	n/a	0.298	n/a	
S10V001111	A	7439-98-7	Molybdenum	ug/g	85.6	<0.0200	<1.99	n/a	n/a	n/a	n/a	1.99	n/a	UN
S10V001111	A	7440-23-5	Sodium	ug/g	87.2	<0.100	268	n/a	n/a	n/a	n/a	9.94	n/a	
S10V001111	A	7440-02-0	Nickel	ug/g	85.4	<0.0200	19.5	n/a	n/a	n/a	n/a	1.99	n/a	B
S10V001111	A	7723-14-0	Phosphorus	ug/g	88.0	<0.0500	543	n/a	n/a	n/a	n/a	4.97	n/a	
S10V001111	A	7704-34-9	Sulfur	ug/g	86.4	<0.100	28.5	n/a	n/a	n/a	n/a	9.94	n/a	B
S10V001111	A	7440-21-3	Silicon	ug/g	49.2	<0.0300	52.9	n/a	n/a	n/a	n/a	2.98	n/a	N
S10V001111	A	7440-24-6	Strontium	ug/g	89.5	<3.00E-03	38.1	n/a	n/a	n/a	n/a	0.298	n/a	
S10V001111	A	7440-32-6	Titanium	ug/g	84.9	<5.00E-03	740	n/a	n/a	n/a	n/a	0.497	n/a	
S10V001111	A	7440-62-2	Vanadium	ug/g	88.5	<5.00E-03	36.2	n/a	n/a	n/a	n/a	0.497	n/a	
S10V001111	A	7440-65-5	Yttrium	ug/g	87.1	<2.00E-03	6.10	n/a	n/a	n/a	n/a	0.199	n/a	
S10V001111	A	7440-66-6	Zinc	ug/g	88.5	<5.00E-03	43.1	n/a	n/a	n/a	n/a	0.497	n/a	
S10V001111	A	7440-67-7	Zirconium	ug/g	83.4	<5.00E-03	5.58	n/a	n/a	n/a	n/a	0.497	n/a	N

NA = Not Analyzed, ND = Not Detected

N - MS/MSD Outside Range
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C - Blank Contamination
B - Blank Contamination
E - Estimated by Interference
B - Estimated

Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YX0

Sample Depth: 127-129

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001111	A	14269-63-7	Thorium-230	ug/g	n/a	<2.80E-06	<2.78E-05	n/a	n/a	n/a	n/a	2.78E-05	n/a	U
S10V001111	A	TH-232	Thorium-232	ug/g	102	<2.00E-04	4.96	n/a	n/a	n/a	n/a	1.99E-03	n/a	
S10V001111	A	13968-55-3	Uranium-233	ug/g	n/a	<4.00E-06	2.74E-04	n/a	n/a	n/a	n/a	3.98E-05	n/a	
S10V001111	A	13966-29-5	Uranium-234	ug/g	n/a	<2.00E-06	4.29E-05	n/a	n/a	n/a	n/a	1.99E-05	n/a	
S10V001111	A	15117-96-1	Uranium-235	ug/g	93.8	<4.00E-06	4.87E-03	n/a	n/a	n/a	n/a	3.98E-05	n/a	
S10V001111	A	13982-70-2	Uranium-236	ug/g	n/a	<1.60E-06	<1.59E-05	n/a	n/a	n/a	n/a	1.59E-05	n/a	U
S10V001111	A	13994-20-2	Neptunium-237	ug/g	114	<4.00E-05	<3.98E-04	n/a	n/a	n/a	n/a	3.98E-04	n/a	U
S10V001111	A	U-238	Uranium-238	ug/g	99.4	<2.00E-04	0.709	n/a	n/a	n/a	n/a	1.99E-03	n/a	
S10V001111	A	7440-22-4	Silver	ug/g	102	<1.60E-03	0.0566	n/a	n/a	n/a	n/a	0.0159	n/a	B
S10V001111	A	7440-38-2	Arsenic	ug/g	109	<8.40E-03	6.22	n/a	n/a	n/a	n/a	0.0835	n/a	N
S10V001111	A	7440-43-9	Cadmium	ug/g	102	<6.00E-04	0.0850	n/a	n/a	n/a	n/a	5.96E-03	n/a	
S10V001111	A	7439-92-1	Lead	ug/g	108	0.0443	5.32	n/a	n/a	n/a	n/a	0.0616	n/a	
S10V001111	A	7782-49-2	Selenium	ug/g	102	<0.0122	0.161	n/a	n/a	n/a	n/a	0.121	n/a	BN
S10V001111	A	7440-28-0	Thallium	ug/g	102	<8.00E-04	0.118	n/a	n/a	n/a	n/a	7.95E-03	n/a	
S10V001112	S	14798-03-9	Ammonium	ug/g	96.3	0.0448	2.60	n/a	n/a	n/a	n/a	0.467	n/a	CB
S10V001113	A	14133-76-7	Technetium-99	ug/g	108	<1.50E-05	<1.50E-04	n/a	n/a	n/a	n/a	1.50E-04	n/a	U
S10V001113	A	SN-117	Tin-117	ug/g	102	<5.00E-04	0.0166	n/a	n/a	n/a	n/a	4.99E-03	n/a	EN
S10V001113	A	15832-50-5	Tin-126	ug/g	n/a	<1.00E-05	7.50E-04	n/a	n/a	n/a	n/a	9.98E-05	n/a	EN
S10V001114	E	CM-243/244	Curium-243/244	uCi/g	n/a	<1.89E-07	<1.81E-07	n/a	n/a	n/a	n/a	1.81E-07	n/a	U
S10V001114	E	14596-10-2	Americium-241	uCi/g	102	<4.72E-07	<4.51E-07	n/a	n/a	n/a	n/a	4.51E-07	n/a	U
S10V001114	E	15510-73-3	Curium-242	uCi/g	n/a	<1.89E-07	<1.81E-07	n/a	n/a	n/a	n/a	1.81E-07	n/a	U
S10V001114	E	PU-239/240	Plutonium-239/240	uCi/g	101	<2.75E-07	<2.41E-07	n/a	n/a	n/a	n/a	2.41E-07	n/a	U
S10V001114	E	13981-16-3	Plutonium-238	uCi/g	n/a	<2.75E-07	<2.41E-07	n/a	n/a	n/a	n/a	2.41E-07	n/a	U
S10V001115	E	SR-89/90	Strontium-89/90	uCi/g	101	<2.31E-07	2.33E-07	n/a	n/a	n/a	n/a	2.09E-07	138.44	
S10V001116	E	13981-37-8	Nickel-63	uCi/g	100	<8.88E-06	<5.50E-06	n/a	n/a	n/a	n/a	5.50E-06	n/a	U
S10V001116	E	15758-45-9	Selenium-79	uCi/g	n/a	<1.64E-06	<2.13E-06	n/a	n/a	n/a	n/a	2.13E-06	n/a	U
S10V002103	A	7440-36-0	Antimony	ug/g	97.8	<4.40E-03	5.15E-03	n/a	n/a	n/a	n/a	4.41E-03	n/a	BN
S10V002104	W	14762-75-5	Carbon-14	uCi/g	96.5	<2.53E-07	<2.57E-06	n/a	n/a	n/a	n/a	2.57E-06	n/a	U
S10V002104	W	10028-17-8	Tritium	uCi/g	86.0	<4.83E-07	4.45E-06	n/a	n/a	n/a	n/a	2.69E-06	118.424	

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N - MS/MSD Outside Range
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C - Blank Contamination
B - Blank Contamination
E - Estimated by Interference
B - Estimated

Data Summary Report

Sample Group: 20100454

Core Number: C7744

Customer Sample ID: B24YX0B

Sample Depth: 127-129

Sample# R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S10V001103		BULKDENSI	Bulk Density	g/mL	n/a	n/a	2.11	n/a	n/a	n/a	n/a	n/a	n/a	

NA = Not Analyzed, ND = Not Detected

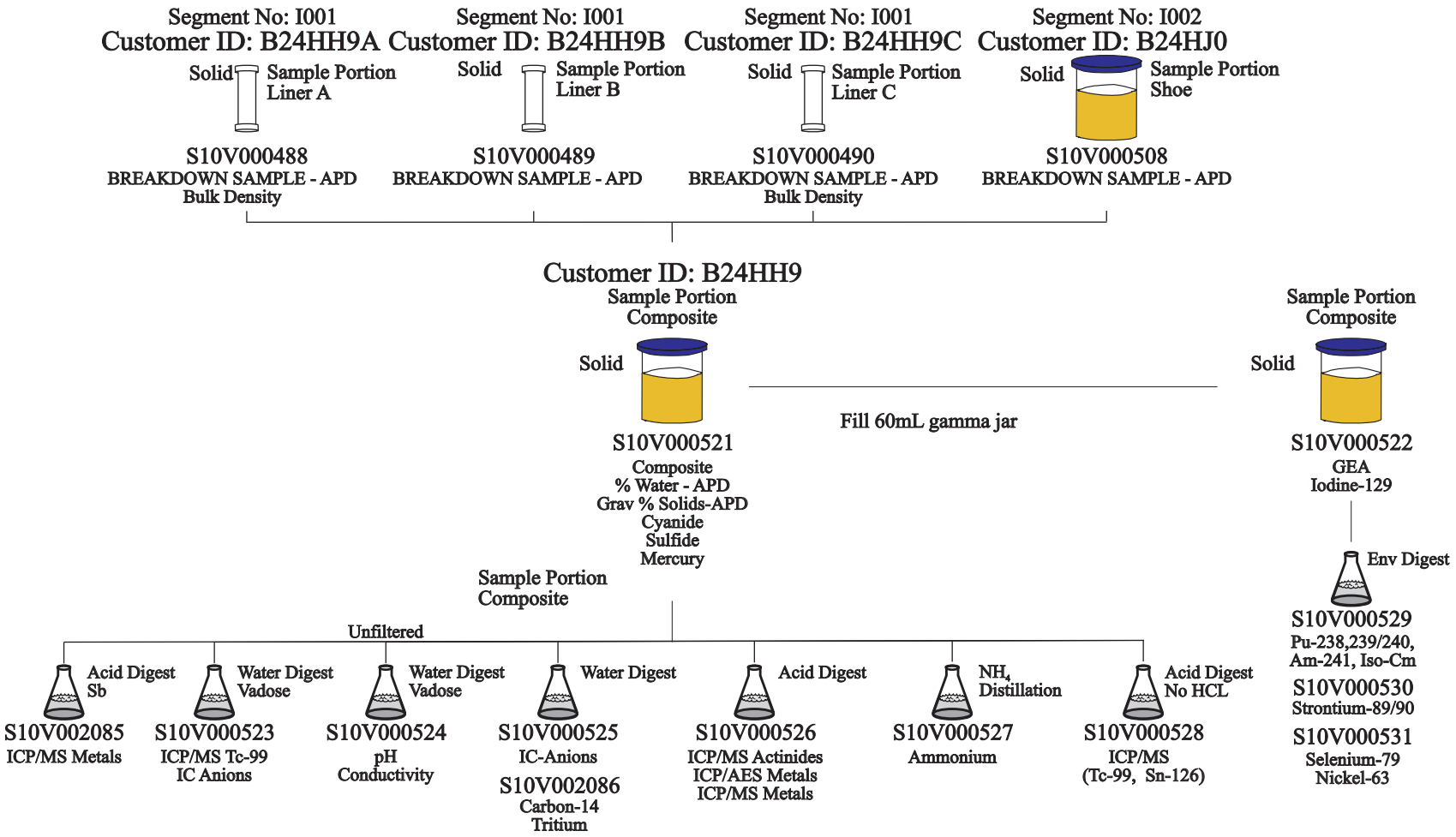
N - MS/MSD Outside Range
U - Less Than Detection Limit
C - Blank Contamination
B - Blank Contamination
E - Estimated by Interference
B - Estimated

Attachment 2

SAMPLE BREAKDOWN DIAGRAM

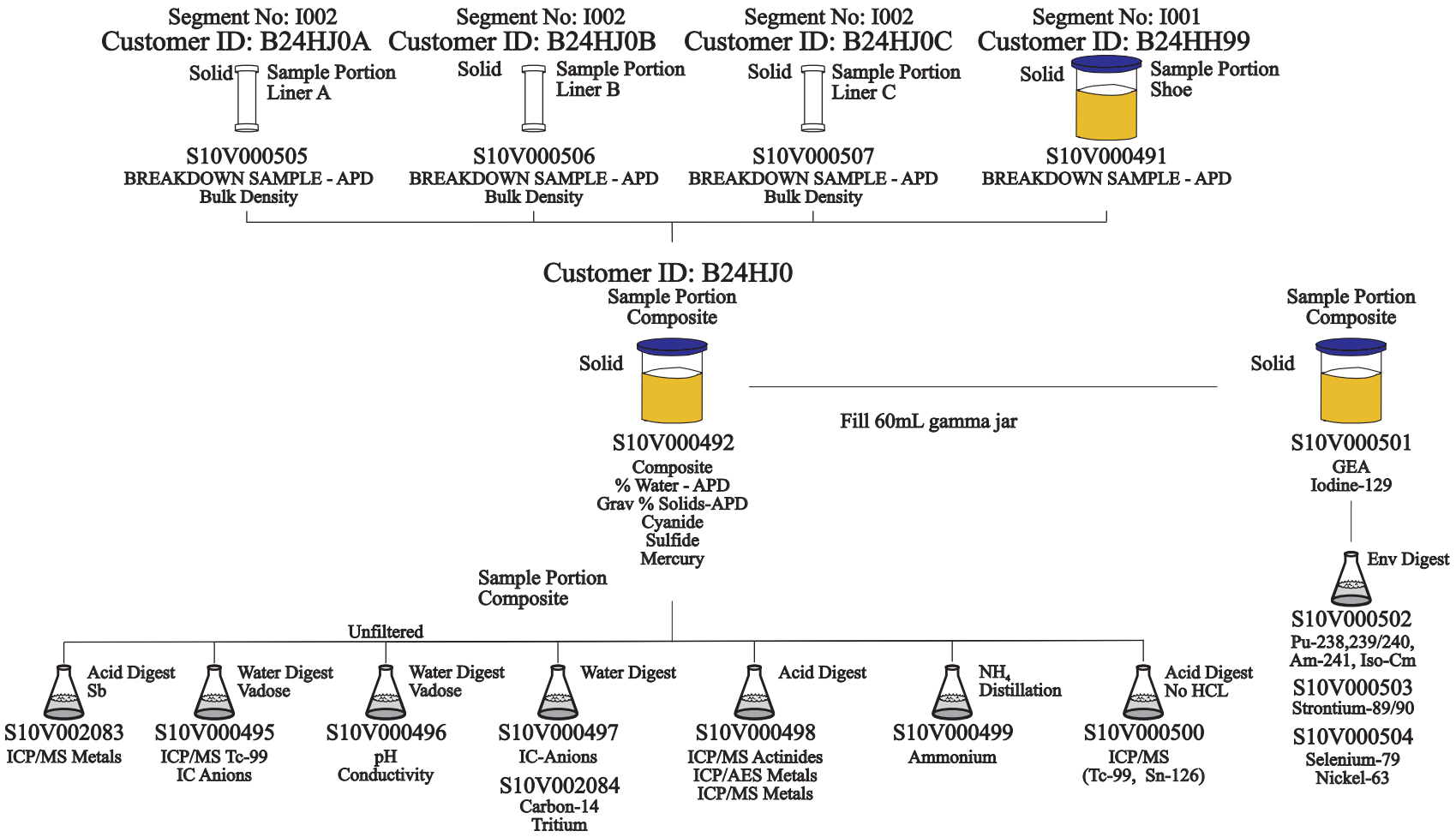
Vadose Zone: S-SX Barrier
Core No.: C7738
Group 20100311 (Solid)

Sample Depth: 45-47 ft
Segment No: I001



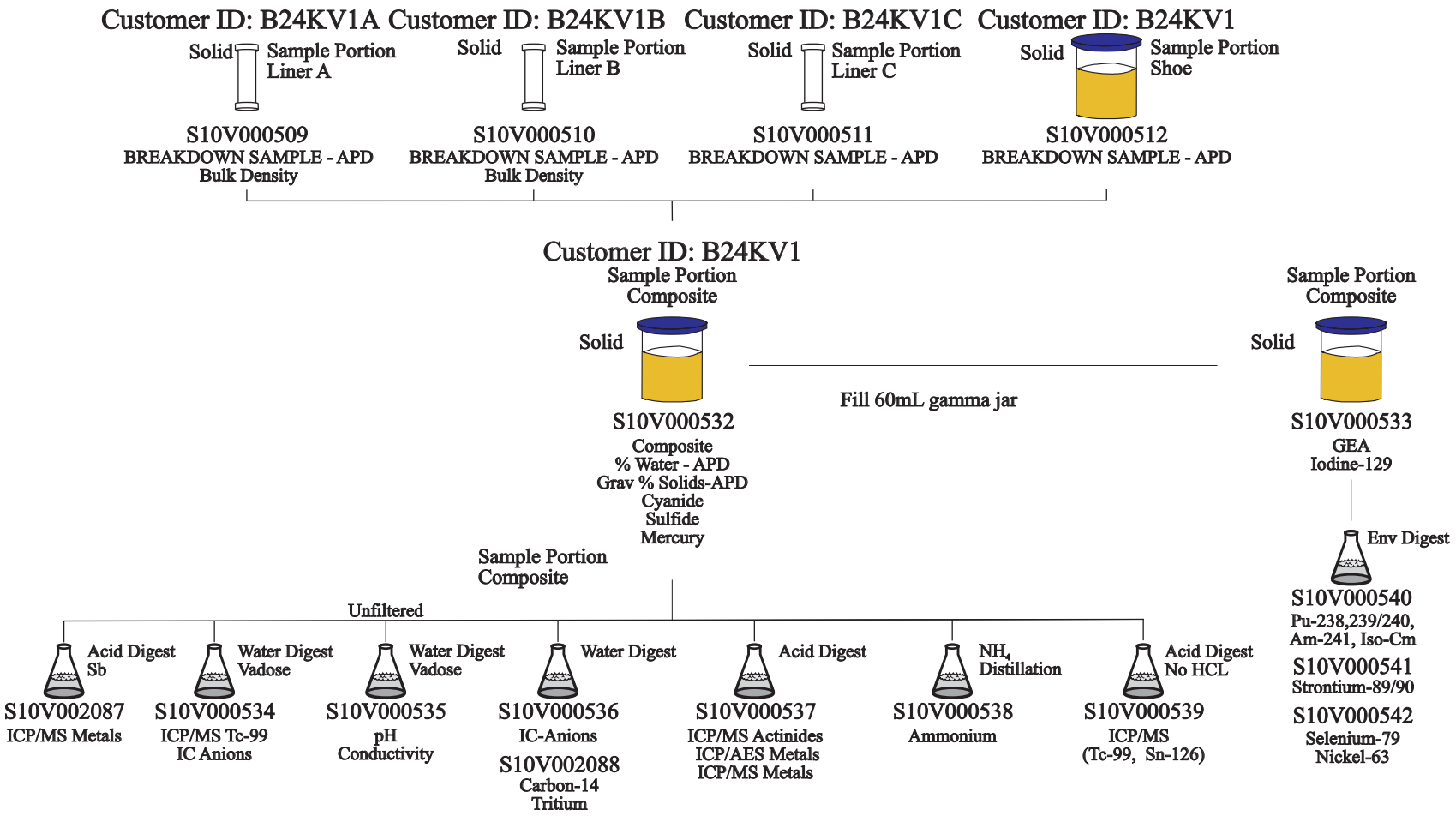
Vadose Zone: S-SX Barrier
Core No.: C7738
Group 20100311 (Solid)

Sample Depth: 62-64 ft
Segment No: I002



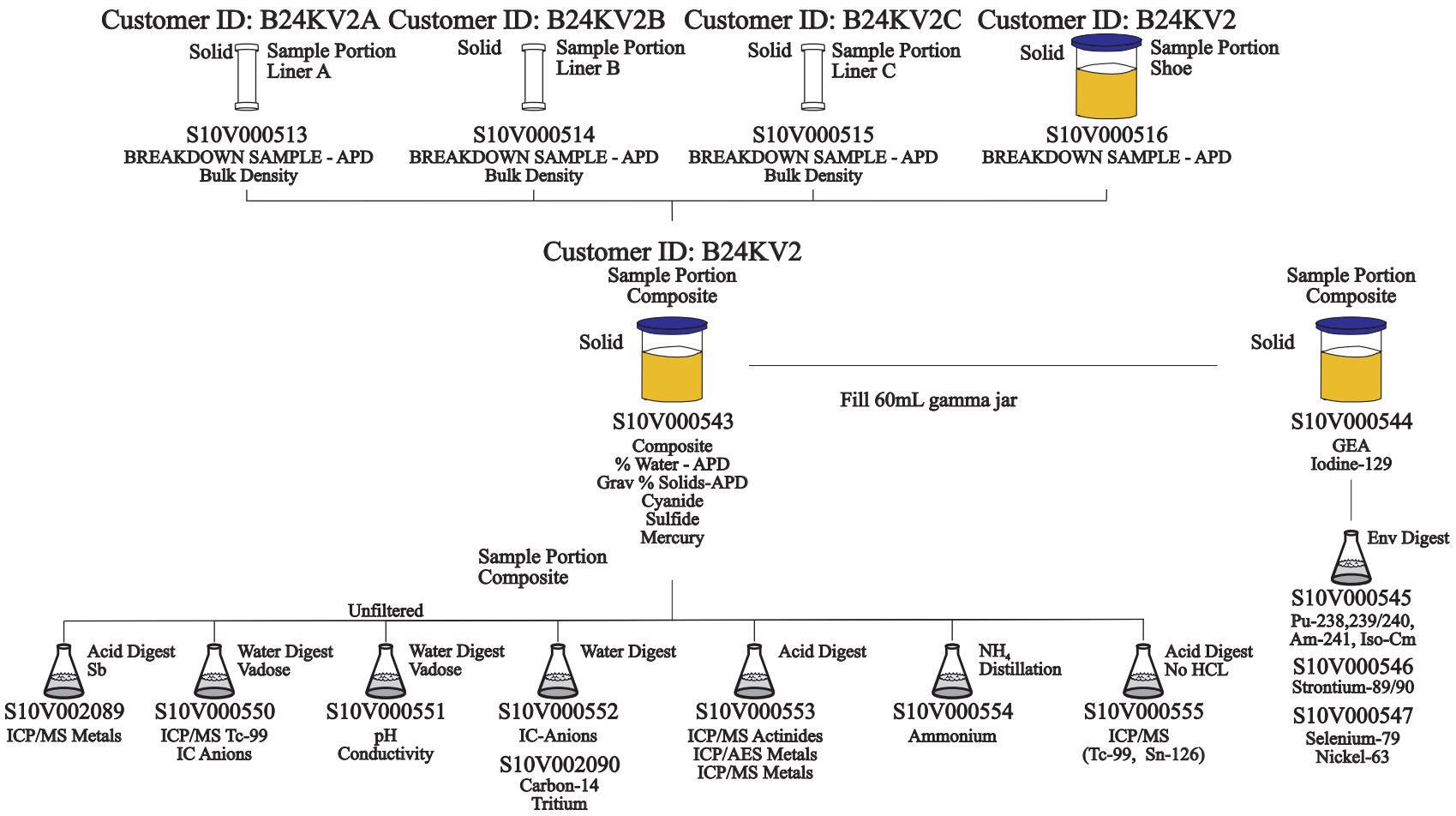
Vadose Zone: S-SX Barrier
Core No.: C7738
Group 20100311 (Solid)

Sample Depth: 96-98 ft
Segment No: I003



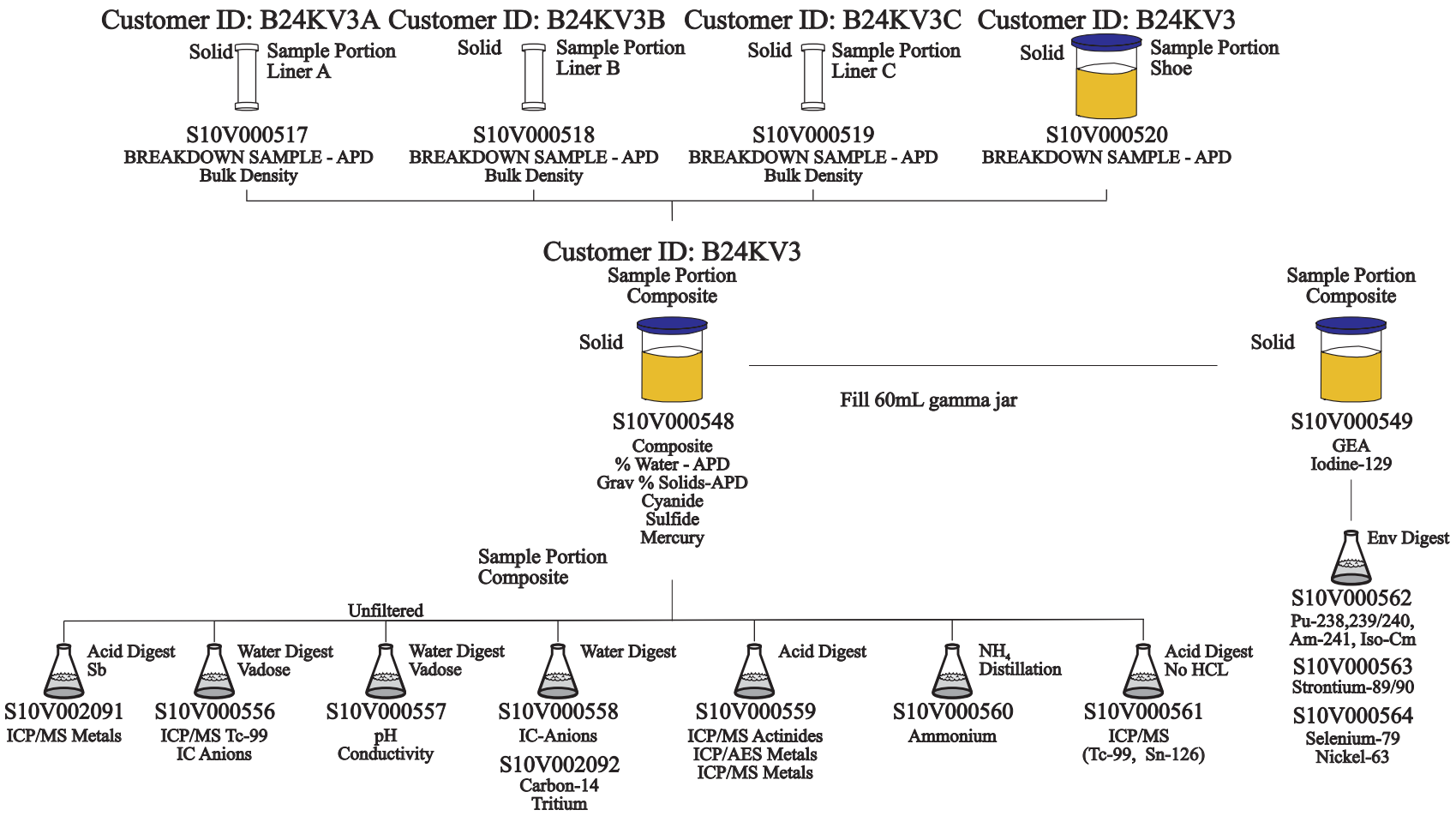
Vadose Zone: S-SX Barrier
Core No.: C7738
Group 20100311 (Solid)

Sample Depth: 127-129 ft
Segment No: I004



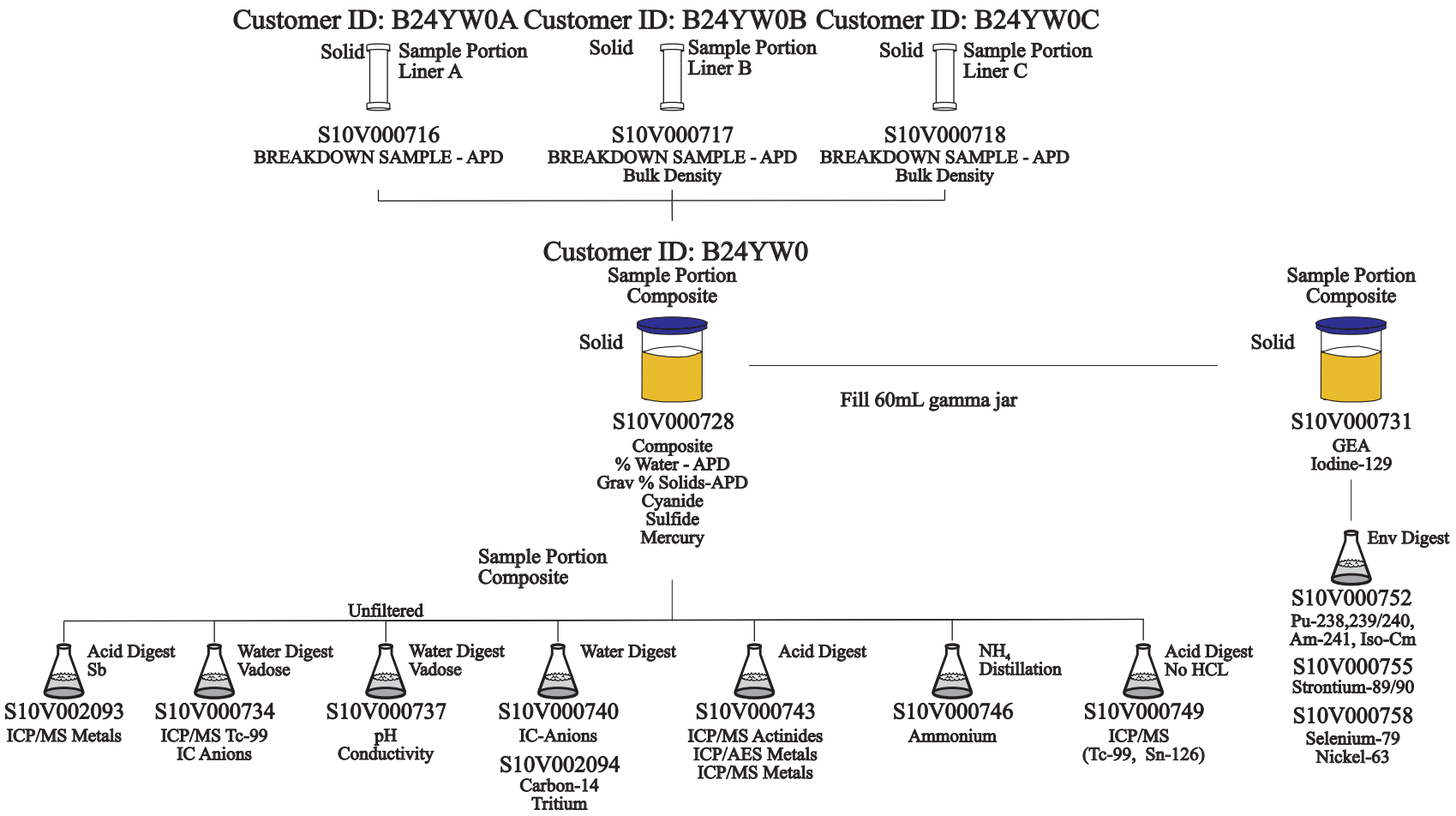
Vadose Zone: S-SX Barrier
Core No.: C7738
Group 20100311 (Solid)

Sample Depth: 159-161 ft
Segment No: I005



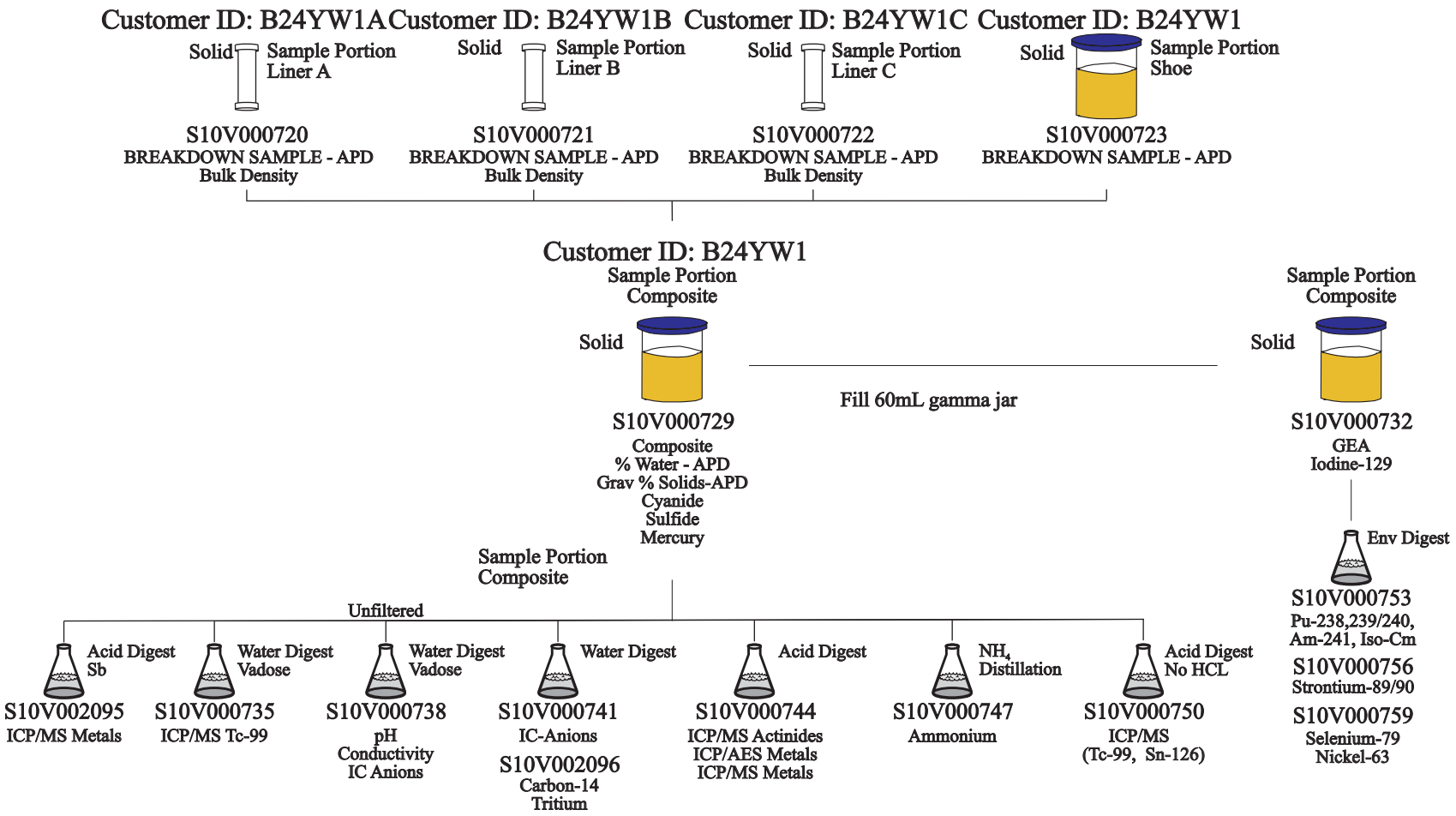
Vadose Zone: S-SX Farm
Core No.: C7742
Group 2010347 (Solid)

Sample Depth: 40-42 ft
Segment No: I001



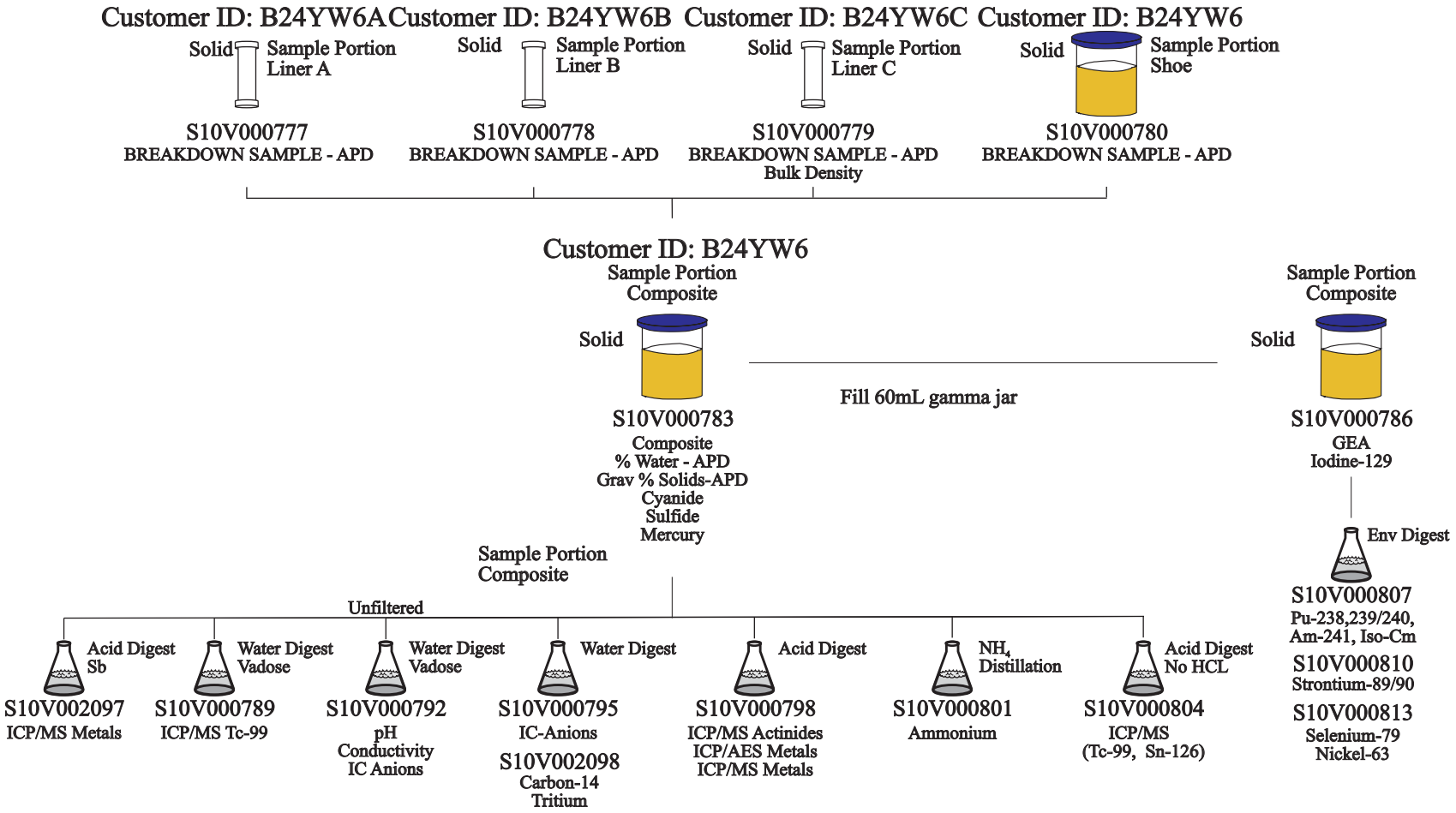
Vadose Zone: S-SX Farm
Core No.: C7742
Group 2010347 (Solid)

Sample Depth: 96-98 ft
Segment No: I002



Vadose Zone: S-SX Farm
Core No.: C7742
Group 2010347 (Solid)

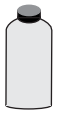
Sample Depth: 135-137 ft
Segment No: I003



Vadose Zone: S-SX Farm
Core No.: C7740
Group 2010349 (Liquid)

Segment No. Equipment Blank
Customer ID B25LB6

One 500mL, G/P
Cool to <6°C

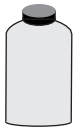


S10V000761
IC - Anions/Org Acids
pH

Store on shelf 2
500 mL G/P
HNO3 pH<2

S10V000766
MS Fission
ICP/MS Actinides
ICP-Metals
Mercury

Store on shelf 2
One 1L



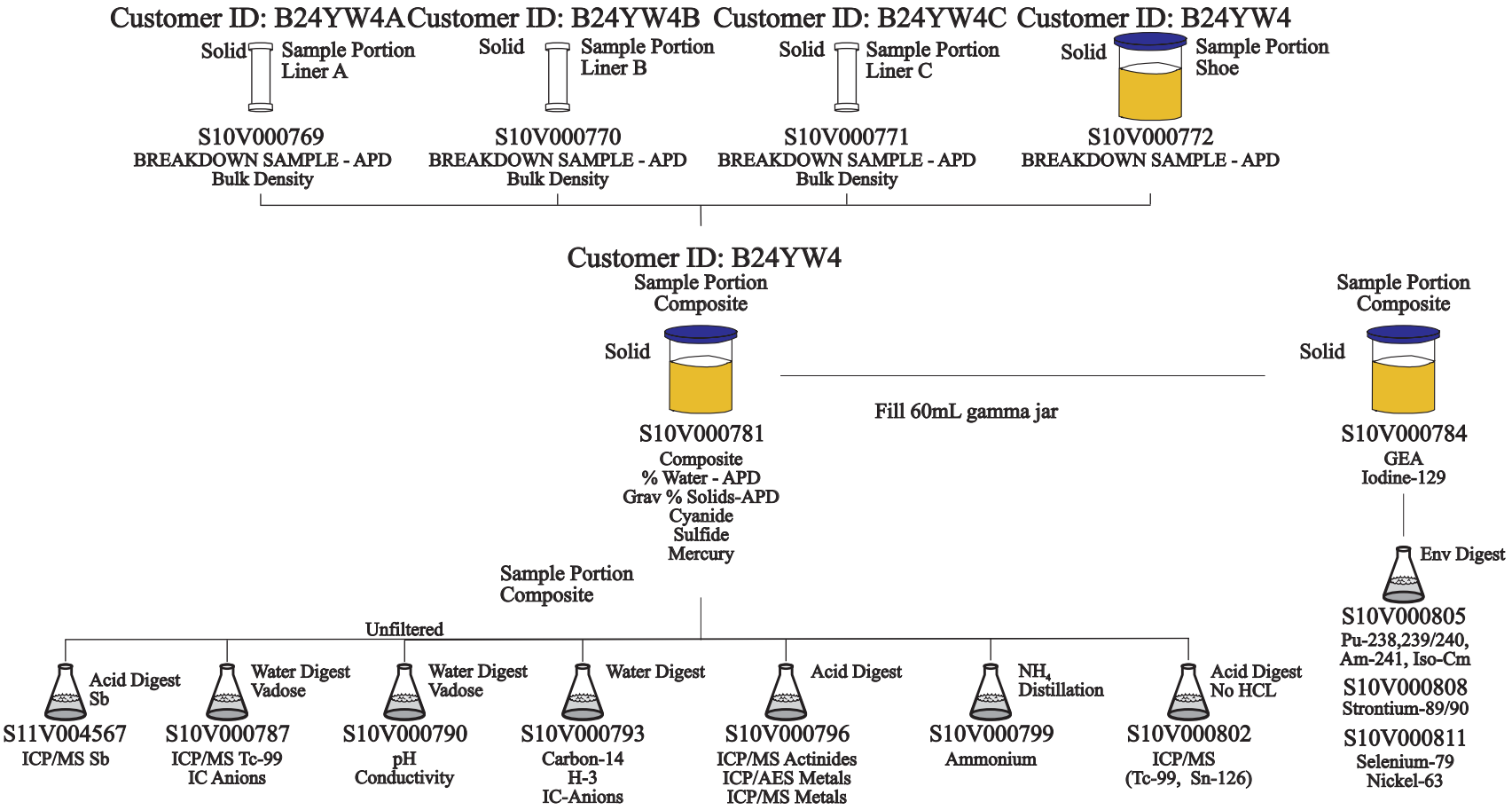
S10V000767
Iodine-129
Tritium
Carbon-14

Store on shelf 2
Two 1L G/P
HNO3 pH<2

S10V000768
GEA
Am-241, Iso-Cm/Curium
Strontium-89/90
Pu-238,239/240
Nickel-63
Selenium-79

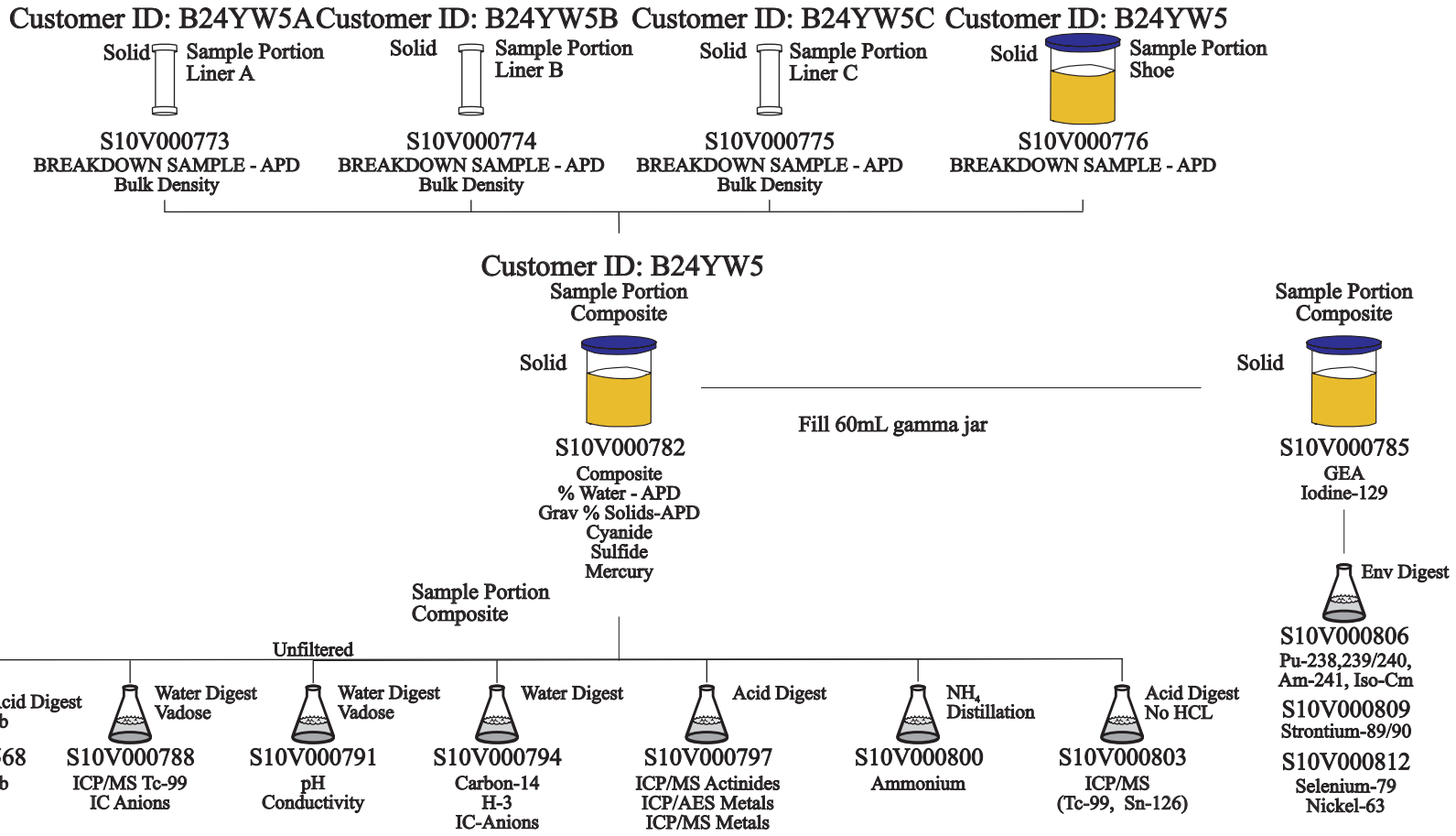
Vadose Zone: S-SX Farm
Core No.: C7740
Group 20100350 (Solid)

Sample Depth: 40-42 ft
Segment No: I001



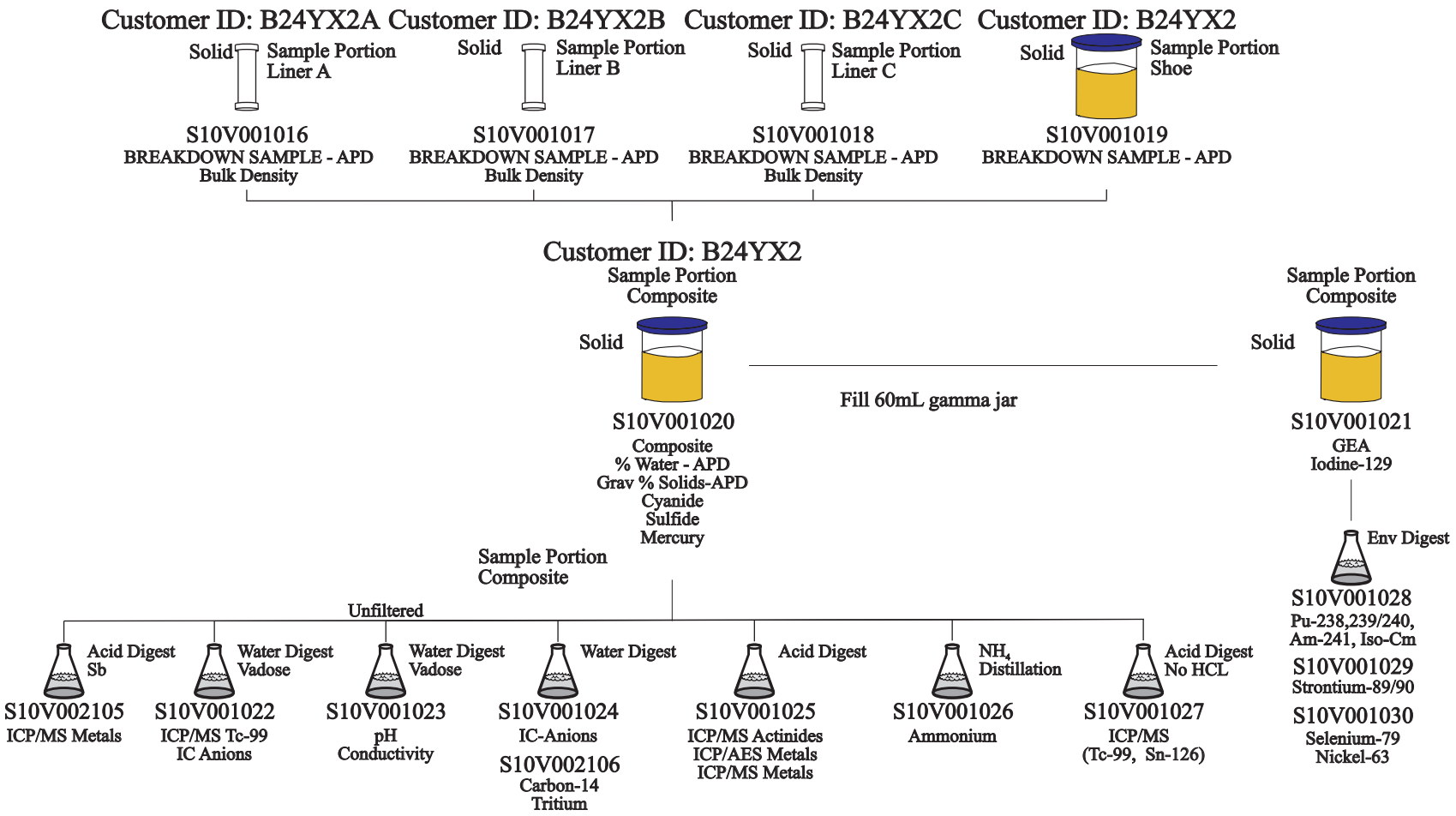
Vadose Zone: S-SX Farm
Core No.: C7740
Group 20100350 (Solid)

Sample Depth: 96-98 ft
Segment No: I002



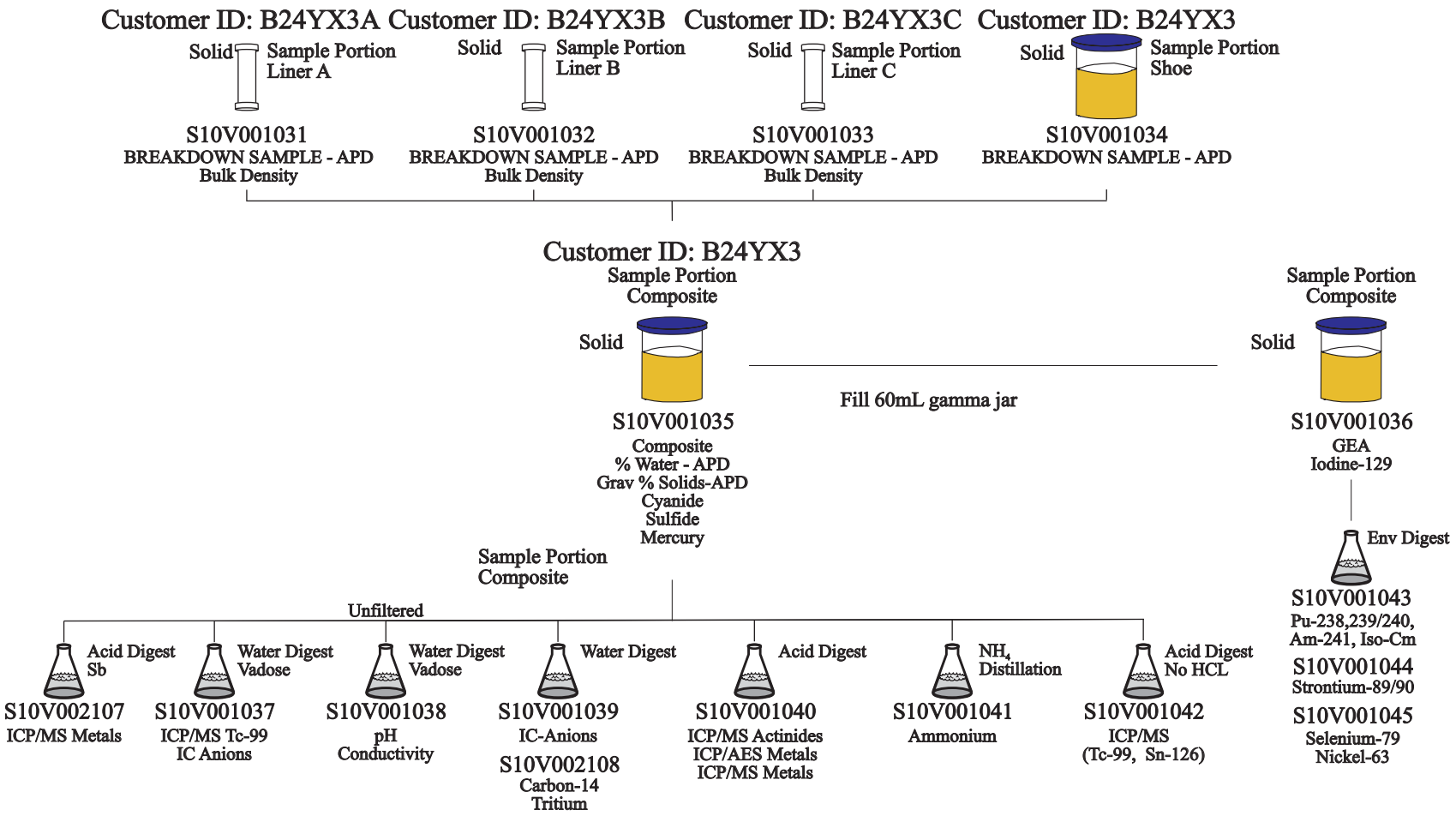
Vadose Zone: S-SX Farm
Core No.: C7746
Group 20100426 (Solid)

Sample Depth:44-46 Ft
Segment No: I001



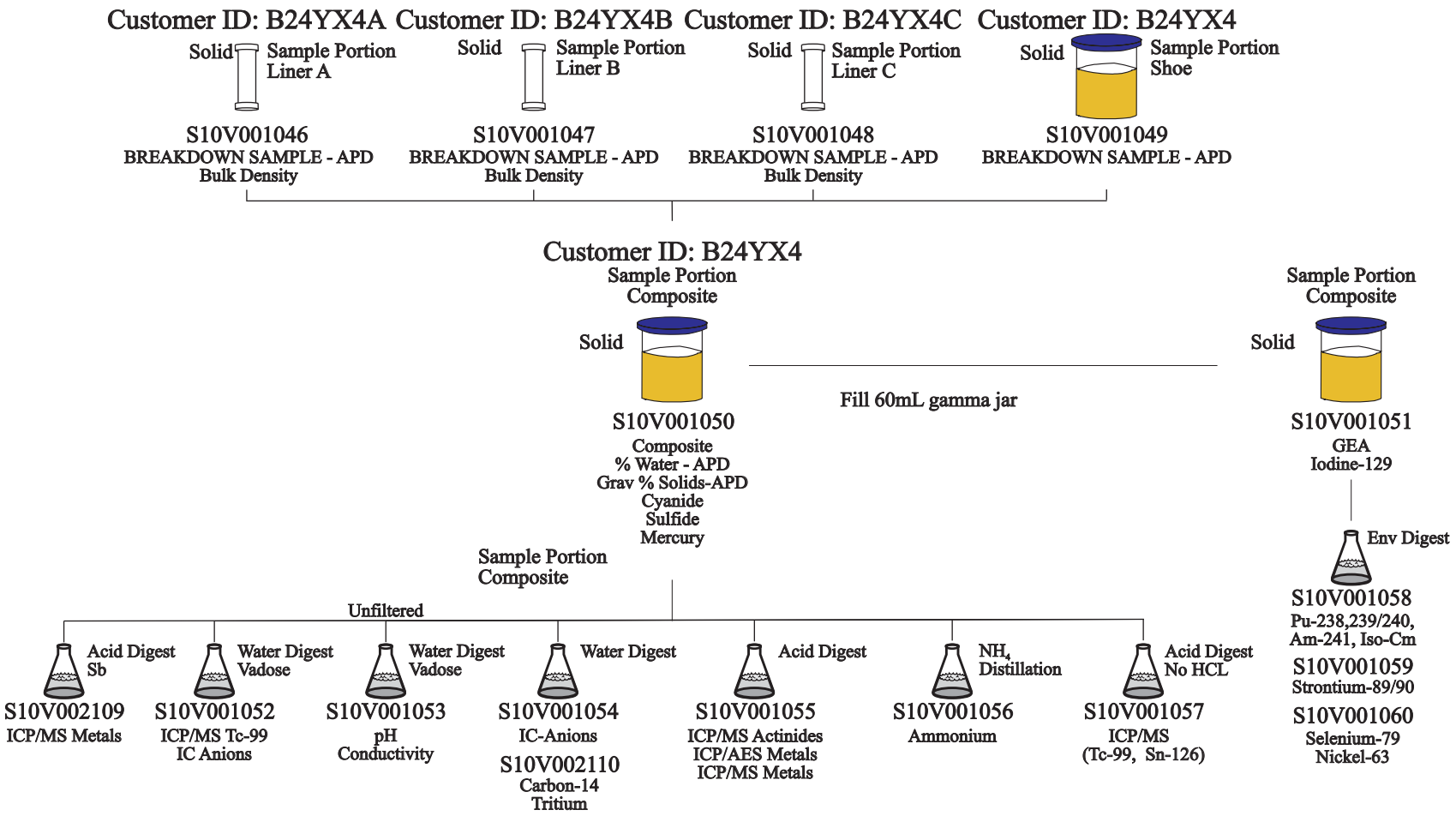
Vadose Zone: S-SX Farm
Core No.: C7746
Group 20100426 (Solid)

Sample Depth:94-96 ft
Segment No: I002



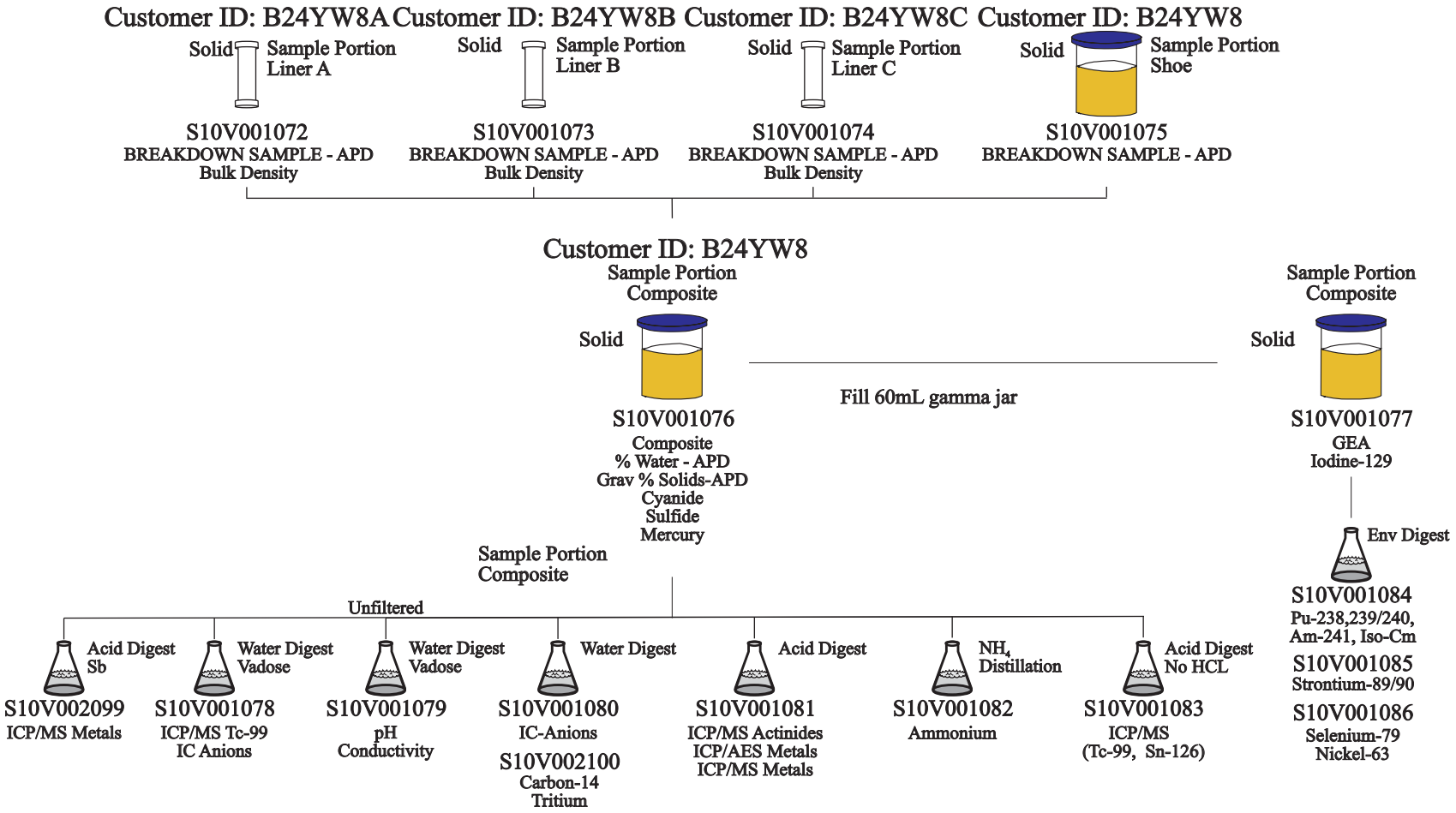
Vadose Zone: S-SX Farm
Core No.: C7746
Group 20100426 (Solid)

Sample Depth:144-146 ft
Segment No: I003



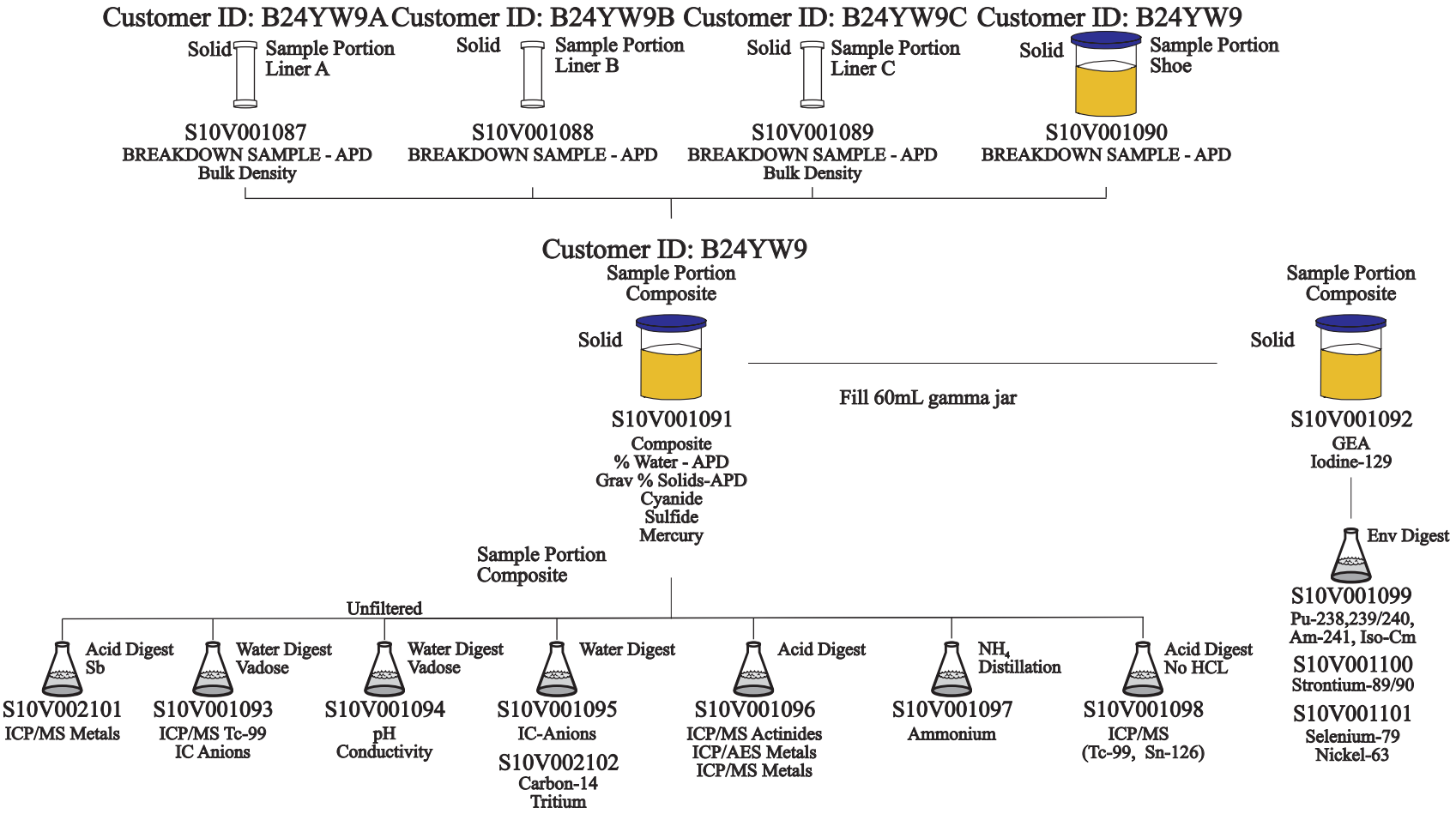
Vadose Zone: S-SX Farm
Core No.: C7744
Group 20100454 (Solid)

Sample Depth: 37-39 ft
Segment No: I001



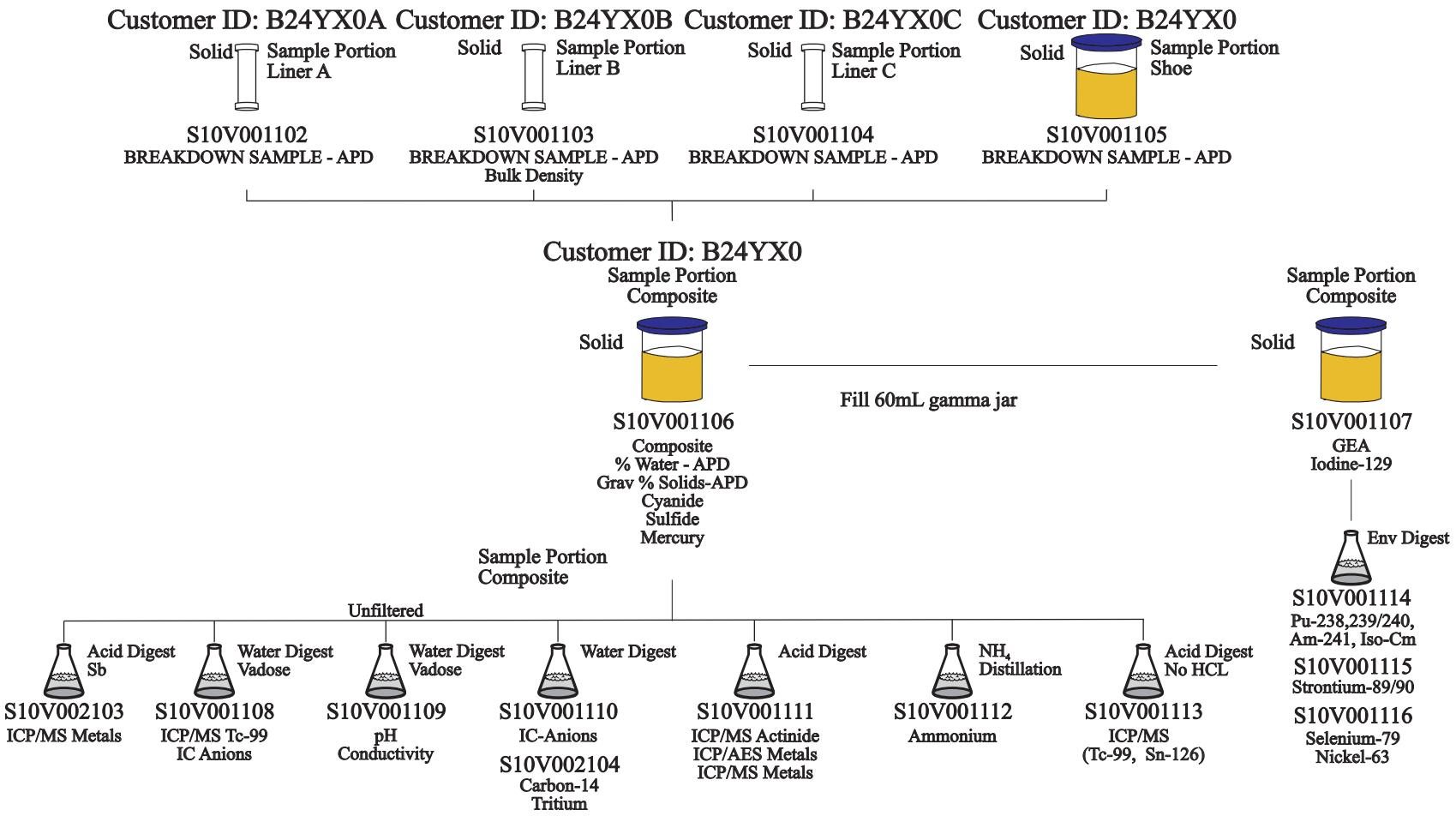
Vadose Zone: S-SX Farm
Core No.: C7744
Group 20100454 (Solid)

Sample Depth: 96-98 ft
Segment No: I002



Vadose Zone: S-SX Farm
Core No.: C7744
Group 20100454 (Solid)

Sample Depth: 127-129 ft
Segment No: I003



Attachment 3

HOLDING TIME REPORT

Hold Time Report: Cyanide

Sample Group	Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Analysis Date	Missed Holding Time
20100311	S10V000492	SOLID	SW846-9014	SW846-9010C	03/23/10 10:30	03/23/10 15:05	04/01/10 15:15	N
20100311	S10V000521	SOLID	SW846-9014	SW846-9010C	03/23/10 14:15	03/23/10 15:05	04/01/10 15:15	N
20100311	S10V000532	SOLID	SW846-9014	SW846-9010C	03/30/10 13:50	03/30/10 15:10	04/11/10 16:15	N
20100311	S10V000543	SOLID	SW846-9014	SW846-9010C	04/01/10 08:40	04/01/10 10:00	04/11/10 16:15	N
20100311	S10V000548	SOLID	SW846-9014	SW846-9010C	04/07/10 10:38	04/07/10 11:30	04/11/10 16:15	N
20100347	S10V000728	SOLID	SW846-9014	SW846-9010C	04/19/10 12:15	04/20/10 12:55	04/23/10 15:32	N
20100347	S10V000729	SOLID	SW846-9014	SW846-9010C	04/23/10 11:00	04/23/10 11:50	04/29/10 15:45	N
20100347	S10V000783	SOLID	SW846-9014	SW846-9010C	05/04/10 11:35	05/04/10 12:15	05/13/10 15:40	N
20100350	S10V000781	SOLID	SW846-9014	SW846-9010C	05/07/10 10:15	05/07/10 11:00	05/13/10 15:40	N
20100350	S10V000782	SOLID	SW846-9014	SW846-9010C	05/12/10 09:45	05/12/10 10:30	05/24/10 15:25	N
20100426	S10V001020	SOLID	SW846-9014	SW846-9010C	05/25/10 09:55	05/25/10 10:35	06/03/10 14:30	N
20100426	S10V001035	SOLID	SW846-9014	SW846-9010C	06/01/10 12:00	06/01/10 12:50	06/09/10 22:00	N
20100426	S10V001050	SOLID	SW846-9014	SW846-9010C	06/03/10 14:15	06/03/10 14:45	06/09/10 22:00	N
20100454	S10V001076	SOLID	SW846-9014	SW846-9010C	06/07/10 10:15	06/07/10 11:00	06/10/10 18:00	N
20100454	S10V001091	SOLID	SW846-9014	SW846-9010C	06/08/10 09:55	06/08/10 10:30	06/10/10 18:00	N
20100454	S10V001106	SOLID	SW846-9014	SW846-9010C	06/09/10 10:00	06/09/10 10:45	06/10/10 18:00	N

Hold Time Report: Sulfide

Sample Group	Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Analysis Date	Missed Holding Time
20100311	S10V000492	SOLID	SW-846 9215	SW-846 9030B	03/23/10 10:30	03/23/10 15:05	03/30/10 16:50	N
20100311	S10V000521	SOLID	SW-846 9215	SW-846 9030B	03/23/10 14:15	03/23/10 15:05	03/30/10 16:50	N
20100311	S10V000532	SOLID	SW-846 9215	SW-846 9030B	03/30/10 13:50	03/30/10 15:10	04/02/10 15:55	N
20100311	S10V000543	SOLID	SW-846 9215	SW-846 9030B	04/01/10 08:40	04/01/10 10:00	04/02/10 15:55	N
20100311	S10V000548	SOLID	SW-846 9215	SW-846 9030B	04/07/10 10:38	04/07/10 11:30	04/12/10 17:15	N
20100347	S10V000728	SOLID	SW-846 9215	SW-846 9030B	04/19/10 12:15	04/20/10 12:55	04/22/10 14:30	N
20100347	S10V000729	SOLID	SW-846 9215	SW-846 9030B	04/23/10 11:00	04/23/10 11:50	04/27/10 15:25	N
20100347	S10V000783	SOLID	SW-846 9215	SW-846 9030B	05/04/10 11:35	05/04/10 12:15	05/06/10 15:15	N
20100350	S10V000781	SOLID	SW-846 9215	SW-846 9030B	05/07/10 10:15	05/07/10 11:00	05/12/10 14:45	N
20100350	S10V000782	SOLID	SW-846 9215	SW-846 9030B	05/12/10 09:45	05/12/10 10:30	05/18/10 11:03	N
20100426	S10V001020	SOLID	SW-846 9215	SW-846 9030B	05/25/10 09:55	05/25/10 10:35	05/27/10 14:25	N
20100426	S10V001035	SOLID	SW-846 9215	SW-846 9030B	06/01/10 12:00	06/01/10 12:50	06/04/10 14:25	N
20100426	S10V001050	SOLID	SW-846 9215	SW-846 9030B	06/03/10 14:15	06/03/10 14:45	06/08/10 21:45	N
20100454	S10V001076	SOLID	SW-846 9215	SW-846 9030B	06/07/10 10:15	06/07/10 11:00	06/11/10 16:50	N
20100454	S10V001091	SOLID	SW-846 9215	SW-846 9030B	06/08/10 09:55	06/08/10 10:30	06/11/10 16:50	N
20100454	S10V001106	SOLID	SW-846 9215	SW-846 9030B	06/09/10 10:00	06/09/10 10:45	06/11/10 16:50	N

Hold Time Report: Conductivity

Sample Group	Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Analysis Date	Missed Holding Time
20100311	S10V000496	SOLID	SW-846 9050A	Water Digest	03/23/10 10:30	03/23/10 15:05	03/29/10 11:01	N
20100311	S10V000524	SOLID	SW-846 9050A	Water Digest	03/23/10 14:15	03/23/10 15:05	03/29/10 11:01	N
20100311	S10V000535	SOLID	SW-846 9050A	Water Digest	03/30/10 13:50	03/30/10 15:10	04/14/10 10:20	N
20100311	S10V000551	SOLID	SW-846 9050A	Water Digest	04/01/10 08:40	04/01/10 10:00	04/14/10 10:20	N
20100311	S10V000557	SOLID	SW-846 9050A	Water Digest	04/07/10 10:38	04/07/10 11:30	04/14/10 10:20	N
20100347	S10V000737	SOLID	SW-846 9050A	Water Digest	04/19/10 12:15	04/20/10 12:55	04/22/10 15:03	N
20100347	S10V000738	SOLID	SW-846 9050A	Water Digest	04/23/10 11:00	04/23/10 11:50	05/07/10 11:05	N
20100347	S10V000792	SOLID	SW-846 9050A	Water Digest	05/04/10 11:35	05/04/10 12:15	05/07/10 11:05	N
20100350	S10V000790	SOLID	SW-846 9050A	Water Digest	05/07/10 10:15	05/07/10 11:00	05/17/10 08:25	N
20100350	S10V000791	SOLID	SW-846 9050A	Water Digest	05/12/10 09:45	05/12/10 10:30	05/20/10 01:23	N
20100426	S10V001023	SOLID	SW-846 9050A	Water Digest	05/25/10 09:55	05/25/10 10:35	06/01/10 15:30	N
20100426	S10V001038	SOLID	SW-846 9050A	Water Digest	06/01/10 12:00	06/01/10 12:50	06/04/10 14:38	N
20100426	S10V001053	SOLID	SW-846 9050A	Water Digest	06/03/10 14:15	06/03/10 14:45	06/08/10 14:44	N
20100454	S10V001079	SOLID	SW-846 9050A	Water Digest	06/07/10 10:15	06/07/10 11:00	06/10/10 17:08	N
20100454	S10V001094	SOLID	SW-846 9050A	Water Digest	06/08/10 09:55	06/08/10 10:30	06/10/10 17:08	N
20100454	S10V001109	SOLID	SW-846 9050A	Water Digest	06/09/10 10:00	06/09/10 10:45	06/10/10 17:08	N

Hold Time Report: pH

Sample Group	Sample	Matrix	Method	Sample Date	Received Date	Analysis Date	Days Lapsed
20100311	S10V000496	SOLID	SW-846 9045D	03/23/10 10:30	03/23/10 15:05	03/29/10 21:50	6.5
20100311	S10V000524	SOLID	SW-846 9045D	03/23/10 14:15	03/23/10 15:05	03/29/10 21:50	6.3
20100311	S10V000535	SOLID	SW-846 9045D	03/30/10 13:50	03/30/10 15:10	04/13/10 14:30	14.0
20100311	S10V000551	SOLID	SW-846 9045D	04/01/10 08:40	04/01/10 10:00	04/13/10 14:30	12.2
20100311	S10V000557	SOLID	SW-846 9045D	04/07/10 10:38	04/07/10 11:30	04/13/10 14:30	6.2
20100347	S10V000737	SOLID	SW-846 9045D	04/19/10 12:15	04/20/10 12:55	04/22/10 14:55	3.1
20100347	S10V000738	SOLID	SW-846 9045D	04/23/10 11:00	04/23/10 11:50	05/07/10 10:15	14.0
20100347	S10V000792	SOLID	SW-846 9045D	05/04/10 11:35	05/04/10 12:15	05/07/10 10:15	2.9
20100350	S10V000790	SOLID	SW-846 9045D	05/07/10 10:15	05/07/10 11:00	05/17/10 23:50	10.6
20100350	S10V000791	SOLID	SW-846 9045D	05/12/10 09:45	05/12/10 10:30	05/24/10 18:50	12.4
20100426	S10V001023	SOLID	SW-846 9045D	05/25/10 09:55	05/25/10 10:35	06/01/10 15:00	7.2
20100426	S10V001038	SOLID	SW-846 9045D	06/01/10 12:00	06/01/10 12:50	06/04/10 14:35	3.1
20100426	S10V001053	SOLID	SW-846 9045D	06/03/10 14:15	06/03/10 14:45	06/08/10 13:18	5.0
20100454	S10V001079	SOLID	SW-846 9045D	06/07/10 10:15	06/07/10 11:00	06/10/10 15:05	3.2
20100454	S10V001094	SOLID	SW-846 9045D	06/08/10 09:55	06/08/10 10:30	06/10/10 15:05	2.2
20100454	S10V001109	SOLID	SW-846 9045D	06/09/10 10:00	06/09/10 10:45	06/10/10 15:05	1.2
20100454	S10V001109	SOLID	SW-846 9045D	06/09/10 10:00	06/09/10 10:45	06/10/10 15:05	1.2
20100349	S10V000761	LIQUID	SW-846 9040C	05/12/10 13:20	05/12/10 14:30	05/13/10 20:07	31

Hold Time Report: Mercury

Sample Group	Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Analysis Date	Missed Holding Time
20100311	S10V000492	SOLID	SW-846 7471A	SW-846 7471A	03/23/10 10:30	03/23/10 15:05	04/16/10 09:07	N
20100311	S10V000521	SOLID	SW-846 7471A	SW-846 7471A	03/23/10 14:15	03/23/10 15:05	04/16/10 09:07	N
20100311	S10V000532	SOLID	SW-846 7471A	SW-846 7471A	03/30/10 13:50	03/30/10 15:10	04/16/10 21:07	N
20100311	S10V000543	SOLID	SW-846 7471A	SW-846 7471A	04/01/10 08:40	04/01/10 10:00	04/16/10 21:07	N
20100311	S10V000548	SOLID	SW-846 7471A	SW-846 7471A	04/07/10 10:38	04/07/10 11:30	04/16/10 21:07	N
20100347	S10V000728	SOLID	SW-846 7471A	SW-846 7471A	04/19/10 12:15	04/20/10 12:55	05/17/10 16:46	N
20100347	S10V000729	SOLID	SW-846 7471A	SW-846 7471A	04/23/10 11:00	04/23/10 11:50	05/17/10 16:46	N
20100347	S10V000783	SOLID	SW-846 7471A	SW-846 7471A	05/04/10 11:35	05/04/10 12:15	05/17/10 16:46	N
20100350	S10V000781	SOLID	SW-846 7471A	SW-846 7471A	05/07/10 10:15	05/07/10 11:00	05/17/10 16:46	N
20100350	S10V000782	SOLID	SW-846 7471A	SW-846 7471A	05/12/10 09:45	05/12/10 10:30	05/17/10 16:46	N
20100349	S10V000766	LIQUID	SW-846 7470A	SW-846 7470A	05/12/10 13:20	05/12/10 14:30	05/20/10 13:28	N
20100426	S10V001020	SOLID	SW-846 7471A	SW-846 7471A	05/25/10 09:55	05/25/10 10:35	06/01/10 15:25	N
20100426	S10V001035	SOLID	SW-846 7471A	SW-846 7471A	06/01/10 12:00	06/01/10 12:50	06/18/10 15:20	N
20100426	S10V001050	SOLID	SW-846 7471A	SW-846 7471A	06/03/10 14:15	06/03/10 14:45	06/18/10 15:20	N
20100454	S10V001076	SOLID	SW-846 7471A	SW-846 7471A	06/07/10 10:15	06/07/10 11:00	06/18/10 15:20	N
20100454	S10V001091	SOLID	SW-846 7471A	SW-846 7471A	06/08/10 09:55	06/08/10 10:30	06/18/10 15:20	N
20100454	S10V001106	SOLID	SW-846 7471A	SW-846 7471A	06/09/10 10:00	06/09/10 10:45	06/18/10 15:20	N

Hold Time Report: IC Ammonium

Sample Group	Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Prep Date	Analysis Date	Missed Holding Time
20100311	S10V000499	SOLID	EPA-300.7	Distillation	03/23/10 10:30	03/23/10 15:05	03/29/10 16:59	03/30/10 00:13	N
20100311	S10V000527	SOLID	EPA-300.7	Distillation	03/23/10 14:15	03/23/10 15:05	03/29/10 16:59	03/30/10 01:21	N
20100311	S10V000538	SOLID	EPA-300.7	Distillation	03/30/10 13:50	03/30/10 15:10	04/05/10 11:15	04/05/10 18:10	N
20100311	S10V000554	SOLID	EPA-300.7	Distillation	04/01/10 08:40	04/01/10 10:00	04/05/10 11:15	04/05/10 19:18	N
20100311	S10V000560	SOLID	EPA-300.7	Distillation	04/07/10 10:38	04/07/10 11:30	04/12/10 14:00	04/12/10 18:30	N
20100347	S10V000746	SOLID	EPA-300.7	Distillation	04/19/10 12:15	04/20/10 12:55	04/22/10 15:52	04/22/10 21:23	N
20100347	S10V000747	SOLID	EPA-300.7	Distillation	04/23/10 11:00	04/23/10 11:50	04/27/10 11:02	04/27/10 18:24	N
20100347	S10V000801	SOLID	EPA-300.7	Distillation	05/04/10 11:35	05/04/10 12:15	05/06/10 14:38	05/07/10 03:13	N
20100350	S10V000799	SOLID	EPA-300.7	Distillation	05/07/10 10:15	05/07/10 11:00	05/12/10 20:00	05/12/10 20:55	N
20100350	S10V000800	SOLID	EPA-300.7	Distillation	05/12/10 09:45	05/12/10 10:30	05/18/10 15:00	05/18/10 15:43	N
20100426	S10V001026	SOLID	EPA-300.7	Distillation	05/25/10 09:55	05/25/10 10:35	05/27/10 11:30	05/27/10 13:52	N
20100426	S10V001041	SOLID	EPA-300.7	Distillation	06/01/10 12:00	06/01/10 12:50	06/04/10 09:30	06/04/10 18:09	N
20100426	S10V001056	SOLID	EPA-300.7	Distillation	06/03/10 14:15	06/03/10 14:45	06/08/10 11:44	06/09/10 12:11	N
20100454	S10V001082	SOLID	EPA-300.7	Distillation	06/07/10 10:15	06/07/10 11:00	06/10/10 11:02	06/10/10 17:59	N
20100454	S10V001097	SOLID	EPA-300.7	Distillation	06/08/10 09:55	06/08/10 10:30	06/10/10 11:02	06/10/10 19:07	N
20100454	S10V001112	SOLID	EPA-300.7	Distillation	06/09/10 10:00	06/09/10 10:45	06/10/10 11:02	06/10/10 19:24	N

Hold Time Report: IC Anions

Sample Group	Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Prep Date	Analysis Date	Missed Holding Time
20100311	S10V000536	SOLID	SW-846 9056A	Water Digest	03/30/10 13:50	03/30/10 15:10	04/13/10 15:53	04/14/10 09:44	N
20100311	S10V000552	SOLID	SW-846 9056A	Water Digest	04/01/10 08:40	04/01/10 10:00	04/13/10 15:53	04/14/10 10:16	N
20100311	S10V000558	SOLID	SW-846 9056A	Water Digest	04/07/10 10:38	04/07/10 11:30	04/13/10 15:53	04/14/10 10:48	N
20100311	S10V000497	SOLID	SW-846 9056A	Water Digest	03/23/10 10:30	03/23/10 15:05	04/13/10 15:53	04/14/10 07:37	N
20100311	S10V000525	SOLID	SW-846 9056A	Water Digest	03/23/10 14:15	03/23/10 15:05	04/13/10 15:53	04/14/10 09:12	N
20100347	S10V000740	SOLID	SW-846 9056A	Water Digest	04/19/10 12:15	04/20/10 12:55	04/22/10 10:00	04/23/10 02:14	N
20100347	S10V000741	SOLID	SW-846 9056A	Water Digest	04/23/10 11:00	04/23/10 11:50	05/06/10 17:00	05/07/10 06:26	N
20100347	S10V000795	SOLID	SW-846 9056A	Water Digest	05/04/10 11:35	05/04/10 12:15	05/06/10 17:00	05/07/10 07:30	N
20100350	S10V000793	SOLID	SW-846 9056A	Water Digest	05/07/10 10:15	05/07/10 11:00	05/17/10 15:00	05/17/10 23:54	N
20100350	S10V000794	SOLID	SW-846 9056A	Water Digest	05/12/10 09:45	05/12/10 10:30	05/17/10 15:00	05/18/10 01:30	N
20100426	S10V001024	SOLID	SW-846 9056A	Water Digest	05/25/10 09:55	05/25/10 10:35	06/01/10 11:00	06/01/10 20:49	N
20100426	S10V001024	SOLID	SW-846 9056A	Water Digest	05/25/10 09:55	05/25/10 10:35	07/13/10 16:00	07/13/10 20:14	N
20100426	S10V001039	SOLID	SW-846 9056A	Water Digest	06/01/10 12:00	06/01/10 12:50	07/20/10 16:41	07/20/10 22:57	N
20100426	S10V001054	SOLID	SW-846 9056A	Water Digest	06/03/10 14:15	06/03/10 14:45	07/20/10 16:41	07/20/10 23:29	N
20100454	S10V001080	SOLID	SW-846 9056A	Water Digest	06/07/10 10:15	06/07/10 11:00	07/20/10 16:41	07/20/10 19:45	N
20100454	S10V001095	SOLID	SW-846 9056A	Water Digest	06/08/10 09:55	06/08/10 10:30	07/20/10 16:41	07/20/10 21:21	N
20100454	S10V001110	SOLID	SW-846 9056A	Water Digest	06/09/10 10:00	06/09/10 10:45	07/20/10 16:41	07/20/10 21:53	N
20100311	S10V000495	SOLID	SW-846 9056A	Water Digest-Vadose	03/23/10 10:30	03/23/10 15:05	03/30/10 01:00	03/31/10 15:56	N
20100311	S10V000523	SOLID	SW-846 9056A	Water Digest-Vadose	03/23/10 14:15	03/23/10 15:05	03/30/10 01:00	03/31/10 16:38	N
20100311	S10V000556	SOLID	SW-846 9056A	Water Digest-Vadose	04/07/10 10:38	04/07/10 11:30	04/12/10 13:00	04/14/10 05:29	N
20100311	S10V000534	SOLID	SW-846 9056A	Water Digest-Vadose	03/30/10 13:50	03/30/10 15:10	04/12/10 13:00	04/14/10 03:21	N
20100311	S10V000550	SOLID	SW-846 9056A	Water Digest-Vadose	04/01/10 08:40	04/01/10 10:00	04/12/10 13:00	04/14/10 04:57	N
20100347	S10V000734	SOLID	SW-846 9056A	Water Digest-Vadose	04/19/10 12:15	04/20/10 12:55	04/22/10 01:00	04/22/10 21:59	N
20100347	S10V000738	SOLID	SW-846 9056A	Water Digest-Vadose	04/23/10 11:00	04/23/10 11:50	05/06/10 01:00	05/07/10 00:35	N
20100347	S10V000792	SOLID	SW-846 9056A	Water Digest-Vadose	05/04/10 11:35	05/04/10 12:15	05/06/10 01:00	05/07/10 00:03	N
20100347	S10V000792	SOLID	SW-846 9056A	Water Digest-Vadose	05/04/10 11:35	05/04/10 12:15	05/06/10 01:00	05/07/10 02:11	N
20100350	S10V000787	SOLID	SW-846 9056A	Water Digest-Vadose	05/07/10 10:15	05/07/10 11:00	05/17/10 14:05	05/18/10 02:34	N
20100350	S10V000788	SOLID	SW-846 9056A	Water Digest-Vadose	05/12/10 09:45	05/12/10 10:30	05/20/10 09:38	05/21/10 17:42	N

Hold Time Report: IC Anions

Sample Group	Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Prep Date	Analysis Date	Missed Holding Time
20100350	S10V000788	SOLID	SW-846 9056A	Water Digest-Vadose	05/12/10 09:45	05/12/10 10:30	05/20/10 09:38	05/21/10 19:18	N
20100426	S10V001037	SOLID	SW-846 9056A	Water Digest-Vadose	06/01/10 12:00	06/01/10 12:50	06/04/10 15:00	06/04/10 16:23	N
20100426	S10V001052	SOLID	SW-846 9056A	Water Digest-Vadose	06/03/10 14:15	06/03/10 14:45	06/08/10 14:26	06/08/10 19:36	N
20100426	S10V001052	SOLID	SW-846 9056A	Water Digest-Vadose	06/03/10 14:15	06/03/10 14:45	06/08/10 14:26	06/09/10 20:25	N
20100454	S10V001078	SOLID	SW-846 9056A	Water Digest-Vadose	06/07/10 10:15	06/07/10 11:00	06/10/10 15:01	06/10/10 20:19	N
20100454	S10V001078	SOLID	SW-846 9056A	Water Digest-Vadose	06/07/10 10:15	06/07/10 11:00	06/10/10 15:01	06/11/10 16:48	N
20100454	S10V001093	SOLID	SW-846 9056A	Water Digest-Vadose	06/08/10 09:55	06/08/10 10:30	06/10/10 15:01	06/10/10 21:54	N
20100454	S10V001093	SOLID	SW-846 9056A	Water Digest-Vadose	06/08/10 09:55	06/08/10 10:30	06/10/10 15:01	06/11/10 18:24	N
20100454	S10V001108	SOLID	SW-846 9056A	Water Digest-Vadose	06/09/10 10:00	06/09/10 10:45	06/10/10 15:01	06/10/10 22:26	N
20100454	S10V001108	SOLID	SW-846 9056A	Water Digest-Vadose	06/09/10 10:00	06/09/10 10:45	06/10/10 15:01	06/11/10 18:56	N
20100349	S10V000761	LIQUID	SW-846 9056A	N/A	05/12/10 13:20	05/12/10 14:30	N/A	05/13/10 14:05	N

Hold Time Report: Metals by ICP/AES & ICP/MS

Sample Group	Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Prep Date	Analysis Date	Missed Holding Time
20100311	S10V000498	SOLID	SW-846 6010C	SW-846 3050B	03/23/10 10:30	03/23/10 15:05	04/30/10 21:36	05/24/10 13:44	N
20100311	S10V000526	SOLID	SW-846 6010C	SW-846 3050B	03/23/10 14:15	03/23/10 15:05	04/30/10 21:36	05/24/10 14:34	N
20100311	S10V000537	SOLID	SW-846 6010C	SW-846 3050B	03/30/10 13:50	03/30/10 15:10	04/30/10 21:36	05/24/10 14:37	N
20100311	S10V000553	SOLID	SW-846 6010C	SW-846 3050B	04/01/10 08:40	04/01/10 10:00	04/30/10 21:36	05/24/10 14:50	N
20100311	S10V000559	SOLID	SW-846 6010C	SW-846 3050B	04/07/10 10:38	04/07/10 11:30	04/30/10 21:36	05/24/10 14:53	N
20100347	S10V000743	SOLID	SW-846 6010C	SW-846 3050B	04/19/10 12:15	04/20/10 12:55	04/30/10 21:36	05/24/10 14:56	N
20100347	S10V000744	SOLID	SW-846 6010C	SW-846 3050B	04/23/10 11:00	04/23/10 11:50	04/30/10 21:36	05/24/10 14:59	N
20100347	S10V000798	SOLID	SW-846 6010C	SW-846 3050B	05/04/10 11:35	05/04/10 12:15	05/24/10 22:10	07/08/10 13:54	N
20100349	S10V000766	LIQUID	SW-846 6010C		05/12/10 13:20	05/12/10 14:30	N/A	06/15/10 14:02	N
20100350	S10V000796	SOLID	SW-846 6010C	SW-846 3050B	05/07/10 10:15	05/07/10 11:00	05/24/10 22:10	07/08/10 11:17	N
20100350	S10V000797	SOLID	SW-846 6010C	SW-846 3050B	05/12/10 09:45	05/12/10 10:30	05/24/10 22:10	07/08/10 13:50	N
20100426	S10V001025	SOLID	SW-846 6010C	SW-846 3050B	05/25/10 09:55	05/25/10 10:35	07/21/10 16:39	07/28/10 11:06	N
20100426	S10V001040	SOLID	SW-846 6010C	SW-846 3050B	06/01/10 12:00	06/01/10 12:50	07/21/10 16:39	07/28/10 14:00	N
20100426	S10V001055	SOLID	SW-846 6010C	SW-846 3050B	06/03/10 14:15	06/03/10 14:45	07/21/10 16:39	07/28/10 14:04	N
20100454	S10V001081	SOLID	SW-846 6010C	SW-846 3050B	06/07/10 10:15	06/07/10 11:00	07/26/10 16:50	08/02/10 11:22	N
20100454	S10V001096	SOLID	SW-846 6010C	SW-846 3050B	06/08/10 09:55	06/08/10 10:30	07/26/10 16:50	08/02/10 13:38	N
20100454	S10V001111	SOLID	SW-846 6010C	SW-846 3050B	06/09/10 10:00	06/09/10 10:45	07/26/10 16:50	08/02/10 13:41	N
20100311	S10V000498	SOLID	SW-846 6020A	SW-846 3050B	03/23/10 10:30	03/23/10 15:05	04/30/10 21:36	06/09/10 19:24	N
20100311	S10V000498	SOLID	SW-846 6020A	SW-846 3050B	03/23/10 10:30	03/23/10 15:05	04/01/11 17:00	04/06/11 11:42	**Y**
20100311	S10V000526	SOLID	SW-846 6020A	SW-846 3050B	03/23/10 14:15	03/23/10 15:05	04/30/10 21:36	06/09/10 19:38	N
20100311	S10V000526	SOLID	SW-846 6020A	SW-846 3050B	03/23/10 14:15	03/23/10 15:05	04/01/11 17:00	04/06/11 11:53	**Y**
20100311	S10V000537	SOLID	SW-846 6020A	SW-846 3050B	03/30/10 13:50	03/30/10 15:10	04/30/10 21:36	06/09/10 19:44	N
20100311	S10V000537	SOLID	SW-846 6020A	SW-846 3050B	03/30/10 13:50	03/30/10 15:10	04/01/11 17:00	04/06/11 11:58	**Y**
20100311	S10V000553	SOLID	SW-846 6020A	SW-846 3050B	04/01/10 08:40	04/01/10 10:00	04/30/10 21:36	06/09/10 19:51	N
20100311	S10V000553	SOLID	SW-846 6020A	SW-846 3050B	04/01/10 08:40	04/01/10 10:00	04/01/11 17:00	04/06/11 12:03	**Y**
20100311	S10V000559	SOLID	SW-846 6020A	SW-846 3050B	04/07/10 10:38	04/07/10 11:30	04/30/10 21:36	06/09/10 19:58	N
20100311	S10V000559	SOLID	SW-846 6020A	SW-846 3050B	04/07/10 10:38	04/07/10 11:30	04/01/11 17:00	04/06/11 12:08	**Y**
20100311	S10V002085	SOLID	SW-846 6020A	SW-846 3050B	03/23/10 14:15	03/23/10 15:05	08/25/10 18:00	08/30/10 19:59	N
20100311	S10V002087	SOLID	SW-846 6020A	SW-846 3050B	03/30/10 13:50	03/30/10 15:10	08/25/10 18:00	08/30/10 20:07	N
20100311	S10V002089	SOLID	SW-846 6020A	SW-846 3050B	04/01/10 08:40	04/01/10 10:00	08/25/10 18:00	08/30/10 20:14	N

Hold Time Report: Metals by ICP/AES & ICP/MS

Sample Group	Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Prep Date	Analysis Date	Missed Holding Time
20100311	S10V002091	SOLID	SW-846 6020A	SW-846 3050B	04/07/10 10:38	04/07/10 11:30	08/25/10 18:00	08/30/10 20:22	N
20100347	S10V000743	SOLID	SW-846 6020A	SW-846 3050B	04/19/10 12:15	04/20/10 12:55	04/30/10 21:36	06/09/10 20:58	N
20100347	S10V000743	SOLID	SW-846 6020A	SW-846 3050B	04/19/10 12:15	04/20/10 12:55	04/01/11 17:00	04/06/11 12:13	Y
20100347	S10V000744	SOLID	SW-846 6020A	SW-846 3050B	04/23/10 11:00	04/23/10 11:50	04/30/10 21:36	06/09/10 21:05	N
20100347	S10V000744	SOLID	SW-846 6020A	SW-846 3050B	04/23/10 11:00	04/23/10 11:50	04/01/11 17:00	04/06/11 12:41	Y
20100347	S10V000798	SOLID	SW-846 6020A	SW-846 3050B	05/04/10 11:35	05/04/10 12:15	05/24/10 22:10	08/04/10 21:04	N
20100347	S10V002093	SOLID	SW-846 6020A	SW-846 3050B	04/19/10 12:15	04/20/10 12:55	08/25/10 18:00	08/30/10 20:29	N
20100347	S10V002095	SOLID	SW-846 6020A	SW-846 3050B	04/23/10 11:00	04/23/10 11:50	08/25/10 18:00	08/30/10 21:05	N
20100347	S10V002097	SOLID	SW-846 6020A	SW-846 3050B	05/04/10 11:35	05/04/10 12:15	08/25/10 18:00	08/30/10 21:13	N
20100350	S10V000796	SOLID	SW-846 6020A	SW-846 3050B	05/07/10 10:15	05/07/10 11:00	05/24/10 22:10	08/04/10 20:43	N
20100350	S10V000797	SOLID	SW-846 6020A	SW-846 3050B	05/12/10 09:45	05/12/10 10:30	05/24/10 22:10	08/04/10 20:57	N
20100426	S10V001025	SOLID	SW-846 6020A	SW-846 3050B	05/25/10 09:55	05/25/10 10:35	07/21/10 16:39	11/05/10 18:58	N
20100426	S10V001025	SOLID	SW-846 6020A	SW-846 3050B	05/25/10 09:55	05/25/10 10:35	04/01/11 17:00	04/06/11 12:46	Y
20100426	S10V001040	SOLID	SW-846 6020A	SW-846 3050B	06/01/10 12:00	06/01/10 12:50	07/21/10 16:39	11/05/10 19:06	N
20100426	S10V001040	SOLID	SW-846 6020A	SW-846 3050B	06/01/10 12:00	06/01/10 12:50	04/01/11 17:00	04/06/11 12:51	Y
20100426	S10V001055	SOLID	SW-846 6020A	SW-846 3050B	06/03/10 14:15	06/03/10 14:45	07/21/10 16:39	11/05/10 19:10	N
20100426	S10V001055	SOLID	SW-846 6020A	SW-846 3050B	06/03/10 14:15	06/03/10 14:45	04/01/11 17:00	04/06/11 12:56	Y
20100426	S10V002105	SOLID	SW-846 6020A	SW-846 3050B	05/25/10 09:55	05/25/10 10:35	07/21/10 19:30	08/17/10 19:26	N
20100426	S10V002107	SOLID	SW-846 6020A	SW-846 3050B	06/01/10 12:00	06/01/10 12:50	07/21/10 19:30	08/17/10 19:39	N
20100426	S10V002109	SOLID	SW-846 6020A	SW-846 3050B	06/03/10 14:15	06/03/10 14:45	07/21/10 19:30	08/17/10 19:46	N
20100454	S10V001081	SOLID	SW-846 6020A	SW-846 3050B	06/07/10 10:15	06/07/10 11:00	07/26/10 16:50	11/13/10 09:41	N
20100454	S10V001096	SOLID	SW-846 6020A	SW-846 3050B	06/08/10 09:55	06/08/10 10:30	07/26/10 16:50	11/13/10 09:49	N
20100454	S10V001111	SOLID	SW-846 6020A	SW-846 3050B	06/09/10 10:00	06/09/10 10:45	07/26/10 16:50	11/13/10 09:54	N
20100454	S10V002099	SOLID	SW-846 6020A	SW-846 3050B	06/07/10 10:15	06/07/10 11:00	07/21/10 19:30	08/17/10 19:53	N
20100454	S10V002101	SOLID	SW-846 6020A	SW-846 3050B	06/08/10 09:55	06/08/10 10:30	07/21/10 19:30	08/17/10 19:59	N
20100454	S10V002103	SOLID	SW-846 6020A	SW-846 3050B	06/09/10 10:00	06/09/10 10:45	07/21/10 19:30	08/17/10 20:06	N

Hold Time Report: ICP/MS Isotopic Analysis

Sample Group	Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Analysis Date	Missed Holding Time
20100311	S10V000498	SOLID	Actinides	SW-846 3050B	03/23/10 10:30	03/23/10 15:05	05/26/10 20:10	N
20100311	S10V000526	SOLID	Actinides	SW-846 3050B	03/23/10 14:15	03/23/10 15:05	05/26/10 20:24	N
20100311	S10V000537	SOLID	Actinides	SW-846 3050B	03/30/10 13:50	03/30/10 15:10	06/09/10 13:23	N
20100311	S10V000553	SOLID	Actinides	SW-846 3050B	04/01/10 08:40	04/01/10 10:00	05/26/10 20:38	N
20100311	S10V000559	SOLID	Actinides	SW-846 3050B	04/07/10 10:38	04/07/10 11:30	05/26/10 20:45	N
20100347	S10V000743	SOLID	Actinides	SW-846 3050B	04/19/10 12:15	04/20/10 12:55	05/26/10 20:52	N
20100347	S10V000744	SOLID	Actinides	SW-846 3050B	04/23/10 11:00	04/23/10 11:50	05/26/10 21:31	N
20100349	S10V000766	LIQUID	Actinides	NA	05/12/10 13:20	05/12/10 14:30	05/27/10 19:55	N
20100350	S10V000796	SOLID	Actinides	SW-846 3050B	05/07/10 10:15	05/07/10 11:00	06/01/10 12:30	N
20100350	S10V000797	SOLID	Actinides	SW-846 3050B	05/12/10 09:45	05/12/10 10:30	06/01/10 12:44	N
20100347	S10V000798	SOLID	Actinides	SW-846 3050B	05/04/10 11:35	05/04/10 12:15	06/01/10 12:51	N
20100426	S10V001025	SOLID	Actinides	SW-846 3050B	05/25/10 09:55	05/25/10 10:35	08/01/10 11:28	N
20100426	S10V001040	SOLID	Actinides	SW-846 3050B	06/01/10 12:00	06/01/10 12:50	08/01/10 11:41	N
20100426	S10V001055	SOLID	Actinides	SW-846 3050B	06/03/10 14:15	06/03/10 14:45	08/01/10 11:48	N
20100454	S10V001081	SOLID	Actinides	SW-846 3050B	06/07/10 10:15	06/07/10 11:00	08/01/10 14:25	N
20100454	S10V001096	SOLID	Actinides	SW-846 3050B	06/08/10 09:55	06/08/10 10:30	08/01/10 14:38	N
20100454	S10V001111	SOLID	Actinides	SW-846 3050B	06/09/10 10:00	06/09/10 10:45	08/01/10 14:45	N
20100311	S10V000500	SOLID	Tc-99, Sb-126	SW-846 3050B	03/23/10 10:30	03/23/10 15:05	05/28/10 13:29	N
20100311	S10V000528	SOLID	Tc-99, Sb-126	SW-846 3050B	03/23/10 14:15	03/23/10 15:05	05/28/10 14:22	N
20100311	S10V000539	SOLID	Tc-99, Sb-126	SW-846 3050B	03/30/10 13:50	03/30/10 15:10	05/28/10 14:29	N
20100311	S10V000555	SOLID	Tc-99, Sb-126	SW-846 3050B	04/01/10 08:40	04/01/10 10:00	05/28/10 14:37	N
20100311	S10V000561	SOLID	Tc-99, Sb-126	SW-846 3050B	04/07/10 10:38	04/07/10 11:30	05/28/10 15:08	N
20100347	S10V000749	SOLID	Tc-99, Sb-126	SW-846 3050B	04/19/10 12:15	04/20/10 12:55	05/28/10 15:15	N
20100347	S10V000750	SOLID	Tc-99, Sb-126	SW-846 3050B	04/23/10 11:00	04/23/10 11:50	05/28/10 15:23	N
20100349	S10V000766	LIQUID	Tc-99, Sb-126	NA	05/12/10 13:20	05/12/10 14:30	06/01/10 21:56	N
20100350	S10V000802	SOLID	Tc-99, Sb-126	SW-846 3050B	05/07/10 10:15	05/07/10 11:00	06/08/10 13:22	N
20100350	S10V000803	SOLID	Tc-99, Sb-126	SW-846 3050B	05/12/10 09:45	05/12/10 10:30	06/08/10 13:39	N
20100347	S10V000804	SOLID	Tc-99, Sb-126	SW-846 3050B	05/04/10 11:35	05/04/10 12:15	06/08/10 14:10	N
20100426	S10V001027	SOLID	Tc-99, Sb-126	SW-846 3050B	05/25/10 09:55	05/25/10 10:35	08/18/10 21:40	N
20100426	S10V001042	SOLID	Tc-99, Sb-126	SW-846 3050B	06/01/10 12:00	06/01/10 12:50	08/18/10 21:54	N

Hold Time Report: ICP/MS Isotopic Analysis

Sample Group	Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Analysis Date	Missed Holding Time
20100426	S10V001057	SOLID	Tc-99, Sb-126	SW-846 3050B	06/03/10 14:15	06/03/10 14:45	08/18/10 22:01	N
20100454	S10V001083	SOLID	Tc-99, Sb-126	SW-846 3050B	06/07/10 10:15	06/07/10 11:00	08/18/10 19:05	N
20100454	S10V001098	SOLID	Tc-99, Sb-126	SW-846 3050B	06/08/10 09:55	06/08/10 10:30	08/18/10 19:18	N
20100454	S10V001113	SOLID	Tc-99, Sb-126	SW-846 3050B	06/09/10 10:00	06/09/10 10:45	08/18/10 19:51	N
20100311	S10V000500	SOLID	Tc-99, Sb-126	SW-846 3050B	03/23/10 10:30	03/23/10 15:05	08/17/10 11:39	N
20100311	S10V000528	SOLID	Tc-99, Sb-126	SW-846 3050B	03/23/10 14:15	03/23/10 15:05	08/17/10 11:52	N
20100311	S10V000539	SOLID	Tc-99, Sb-126	SW-846 3050B	03/30/10 13:50	03/30/10 15:10	08/17/10 11:59	N
20100311	S10V000555	SOLID	Tc-99, Sb-126	SW-846 3050B	04/01/10 08:40	04/01/10 10:00	08/17/10 12:05	N
20100311	S10V000561	SOLID	Tc-99, Sb-126	SW-846 3050B	04/07/10 10:38	04/07/10 11:30	08/17/10 12:12	N
20100347	S10V000749	SOLID	Tc-99, Sb-126	SW-846 3050B	04/19/10 12:15	04/20/10 12:55	08/17/10 12:19	N
20100347	S10V000750	SOLID	Tc-99, Sb-126	SW-846 3050B	04/23/10 11:00	04/23/10 11:50	08/17/10 12:51	N
20100311	S10V000495	SOLID	Tc-99	Water Digest Vadose	03/23/10 10:30	03/23/10 15:05	04/06/10 20:54	N
20100311	S10V000523	SOLID	Tc-99	Water Digest Vadose	03/23/10 14:15	03/23/10 15:05	04/06/10 21:08	N
20100311	S10V000550	SOLID	Tc-99	Water Digest Vadose	04/01/10 08:40	04/01/10 10:00	04/13/10 18:38	N
20100311	S10V000534	SOLID	Tc-99	Water Digest Vadose	03/30/10 13:50	03/30/10 15:10	04/13/10 18:26	N
20100311	S10V000556	SOLID	Tc-99	Water Digest Vadose	04/07/10 10:38	04/07/10 11:30	04/13/10 18:43	N
20100347	S10V000734	SOLID	Tc-99	Water Digest Vadose	04/19/10 12:15	04/20/10 12:55	05/11/10 14:11	N
20100347	S10V000735	SOLID	Tc-99	Water Digest Vadose	04/23/10 11:00	04/23/10 11:50	05/11/10 13:51	N
20100347	S10V000789	SOLID	Tc-99	Water Digest Vadose	05/04/10 11:35	05/04/10 12:15	05/11/10 14:04	N
20100350	S10V000787	SOLID	Tc-99	Water Digest Vadose	05/07/10 10:15	05/07/10 11:00	05/21/10 12:18	N
20100350	S10V000788	SOLID	Tc-99	Water Digest Vadose	05/12/10 09:45	05/12/10 10:30	05/21/10 13:17	N
20100426	S10V001022	SOLID	Tc-99	Water Digest Vadose	05/25/10 09:55	05/25/10 10:35	06/04/10 12:15	N
20100426	S10V001037	SOLID	Tc-99	Water Digest Vadose	06/01/10 12:00	06/01/10 12:50	06/09/10 11:02	N
20100426	S10V001052	SOLID	Tc-99	Water Digest Vadose	06/03/10 14:15	06/03/10 14:45	06/09/10 11:50	N
20100454	S10V001078	SOLID	Tc-99	Water Digest Vadose	06/07/10 10:15	06/07/10 11:00	06/10/10 19:23	N
20100454	S10V001093	SOLID	Tc-99	Water Digest Vadose	06/08/10 09:55	06/08/10 10:30	06/10/10 19:35	N
20100454	S10V001108	SOLID	Tc-99	Water Digest Vadose	06/09/10 10:00	06/09/10 10:45	06/10/10 19:41	N

Holding Time Report: Radiochemistry

Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Analysis Date	Missed Holding Time
S10V001028	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	05/25/2010 09:55	05/25/2010 10:35	09/02/2010 15:00	N
S10V001043	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	06/01/2010 12:00	06/01/2010 12:50	09/02/2010 15:00	N
S10V001058	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	06/03/2010 14:15	06/03/2010 14:45	09/02/2010 15:00	N
S10V000805	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	05/07/2010 10:15	05/07/2010 11:00	08/02/2010 11:00	N
S10V000806	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	05/12/2010 09:45	05/12/2010 10:30	08/02/2010 11:00	N
S10V001084	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	06/07/2010 10:15	06/07/2010 11:00	08/25/2010 14:10	N
S10V000502	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	03/23/2010 10:30	03/23/2010 15:05	06/10/2010 14:20	N
S10V000529	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	03/23/2010 14:15	03/23/2010 15:05	06/10/2010 14:20	N
S10V001099	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	06/08/2010 09:55	06/08/2010 10:30	08/25/2010 14:10	N
S10V000752	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	04/19/2010 12:15	04/20/2010 12:55	07/06/2010 10:20	N
S10V001114	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	06/09/2010 10:00	06/09/2010 10:45	08/25/2010 14:10	N
S10V000753	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	04/23/2010 11:00	04/23/2010 11:50	07/06/2010 10:20	N
S10V000540	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	03/30/2010 13:50	03/30/2010 15:10	06/10/2010 14:20	N
S10V000545	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	04/01/2010 08:40	04/01/2010 10:00	06/10/2010 14:20	N
S10V000562	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	04/07/2010 10:38	04/07/2010 11:30	06/10/2010 14:20	N
S10V000807	SOLID	Am-241, Iso Cm/AEA	Acid Digest/Separation	05/04/2010 11:35	05/04/2010 12:15	07/06/2010 10:20	N
S10V000768	LIQUID	Am-241, Iso Cm/AEA	Separation	05/12/2010 13:20	05/12/2010 14:20	06/03/2010 14:05	N
S10V002084	SOLID	Carbon-14/LSC	Water Digest/Separation	03/23/2010 10:30	03/23/2010 15:05	09/15/2010 14:45	N
S10V002086	SOLID	Carbon-14/LSC	Water Digest/Separation	03/23/2010 14:15	03/23/2010 15:05	09/15/2010 14:45	N
S10V002088	SOLID	Carbon-14/LSC	Water Digest/Separation	03/30/2010 13:50	03/30/2010 15:10	09/15/2010 14:45	N
S10V002090	SOLID	Carbon-14/LSC	Water Digest/Separation	04/01/2010 08:40	04/01/2010 10:00	09/15/2010 14:45	N
S10V002092	SOLID	Carbon-14/LSC	Water Digest/Separation	04/07/2010 10:38	04/07/2010 11:30	09/15/2010 14:45	N
S10V002094	SOLID	Carbon-14/LSC	Water Digest/Separation	04/19/2010 12:15	04/20/2010 12:55	09/15/2010 14:45	N
S10V002096	SOLID	Carbon-14/LSC	Water Digest/Separation	04/23/2010 11:00	04/23/2010 11:50	09/15/2010 14:45	N
S10V002098	SOLID	Carbon-14/LSC	Water Digest/Separation	05/04/2010 11:35	05/04/2010 12:15	09/15/2010 14:45	N
S10V002106	SOLID	Carbon-14/LSC	Water Digest/Separation	05/25/2010 09:55	05/25/2010 10:35	09/15/2010 14:45	N
S10V002108	SOLID	Carbon-14/LSC	Water Digest/Separation	06/01/2010 12:00	06/01/2010 12:50	09/15/2010 14:45	N
S10V002110	SOLID	Carbon-14/LSC	Water Digest/Separation	06/03/2010 14:15	06/03/2010 14:45	09/15/2010 14:45	N
S10V002100	SOLID	Carbon-14/LSC	Water Digest/Separation	06/07/2010 10:15	06/07/2010 11:00	09/15/2010 14:45	N
S10V002102	SOLID	Carbon-14/LSC	Water Digest/Separation	06/08/2010 09:55	06/08/2010 10:30	09/15/2010 14:45	N

Holding Time Report: Radiochemistry

Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Analysis Date	Missed Holding Time
S10V002104	SOLID	Carbon-14/LSC	Water Digest/Separation	06/09/2010 10:00	06/09/2010 10:45	09/15/2010 14:45	N
S10V000793	SOLID	Carbon-14/LSC	Water Digest/Separation	05/07/2010 10:15	05/07/2010 11:00	06/10/2010 14:00	N
S10V000794	SOLID	Carbon-14/LSC	Water Digest/Separation	05/12/2010 09:45	05/12/2010 10:30	06/10/2010 14:00	N
S10V000767	LIQUID	Carbon-14/LSC	Separation	05/12/2010 13:20	05/12/2010 14:30	06/07/2010 14:10	N
S10V000731	SOLID	GEA	N/A	04/19/2010 12:15	04/20/2010 12:55	06/02/2010 06:22	N
S10V000732	SOLID	GEA	N/A	04/23/2010 11:00	04/23/2010 11:50	06/02/2010 12:06	N
S10V000522	SOLID	GEA	N/A	03/23/2010 14:15	03/23/2010 15:05	04/29/2010 16:13	N
S10V000501	SOLID	GEA	N/A	03/23/2010 10:30	03/23/2010 15:05	04/29/2010 09:38	N
S10V000533	SOLID	GEA	N/A	03/30/2010 13:50	03/30/2010 15:10	04/29/2010 19:46	N
S10V000786	SOLID	GEA	N/A	05/04/2010 11:35	05/04/2010 12:15	06/02/2010 15:23	N
S10V000544	SOLID	GEA	N/A	04/01/2010 08:40	04/01/2010 10:00	04/29/2010 22:28	N
S10V000785	SOLID	GEA	N/A	05/04/2010 11:35	05/04/2010 12:15	06/01/2010 22:05	N
S10V000784	SOLID	GEA	N/A	05/04/2010 11:35	05/04/2010 12:15	06/01/2010 15:56	N
S10V000549	SOLID	GEA	N/A	04/07/2010 10:38	04/07/2010 11:30	04/30/2010 04:33	N
S10V001021	SOLID	GEA	N/A	05/25/2010 09:55	05/25/2010 10:35	06/16/2010 22:27	N
S10V000768	LIQUID	GEA	N/A	05/12/2010 13:20	05/12/2010 14:20	06/02/2010 06:30	N
S10V001036	SOLID	GEA	N/A	06/01/2010 12:00	06/01/2010 12:50	06/17/2010 04:08	N
S10V001051	SOLID	GEA	N/A	06/03/2010 14:15	06/03/2010 14:45	06/17/2010 08:19	N
S10V001077	SOLID	GEA	N/A	06/07/2010 10:15	06/07/2010 11:00	06/16/2010 22:29	N
S10V001092	SOLID	GEA	N/A	06/08/2010 09:55	06/08/2010 10:30	06/17/2010 04:09	N
S10V001107	SOLID	GEA	N/A	06/09/2010 10:00	06/09/2010 10:45	06/17/2010 08:21	N
S10V000784	SOLID	Iodine-129/GEA	Fusion Digest/Separation	05/04/2010 11:35	05/04/2010 12:15	07/12/2010 22:30	N
S10V000785	SOLID	Iodine-129/GEA	Fusion Digest/Separation	05/04/2010 11:35	05/04/2010 12:15	07/12/2010 22:30	N
S10V001021	SOLID	Iodine-129/GEA	Fusion Digest/Separation	05/25/2010 09:55	05/25/2010 10:35	08/02/2010 14:30	N
S10V001036	SOLID	Iodine-129/GEA	Fusion Digest/Separation	06/01/2010 12:00	06/01/2010 12:50	08/02/2010 14:30	N
S10V001051	SOLID	Iodine-129/GEA	Fusion Digest/Separation	06/03/2010 14:15	06/03/2010 14:45	08/02/2010 14:30	N
S10V000501	SOLID	Iodine-129/GEA	Fusion Digest/Separation	03/23/2010 10:30	03/23/2010 15:05	05/21/2010 22:00	N
S10V000522	SOLID	Iodine-129/GEA	Fusion Digest/Separation	03/23/2010 14:15	03/23/2010 15:05	05/21/2010 22:00	N
S10V000731	SOLID	Iodine-129/GEA	Fusion Digest/Separation	04/19/2010 12:15	04/20/2010 12:55	06/17/2010 15:30	N
S10V001077	SOLID	Iodine-129/GEA	Fusion Digest/Separation	06/07/2010 10:15	06/07/2010 11:00	08/02/2010 14:30	N

Holding Time Report: Radiochemistry

Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Analysis Date	Missed Holding Time
S10V001092	SOLID	Iodine-129/GEA	Fusion Digest/Separation	06/08/2010 09:55	06/08/2010 10:30	08/02/2010 14:30	N
S10V000732	SOLID	Iodine-129/GEA	Fusion Digest/Separation	04/23/2010 11:00	04/23/2010 11:50	06/17/2010 15:30	N
S10V001107	SOLID	Iodine-129/GEA	Fusion Digest/Separation	06/09/2010 10:00	06/09/2010 10:45	08/02/2010 14:30	N
S10V000533	SOLID	Iodine-129/GEA	Fusion Digest/Separation	03/30/2010 13:50	03/30/2010 15:10	05/21/2010 22:00	N
S10V000544	SOLID	Iodine-129/GEA	Fusion Digest/Separation	04/01/2010 08:40	04/01/2010 10:00	05/21/2010 22:00	N
S10V000549	SOLID	Iodine-129/GEA	Fusion Digest/Separation	04/07/2010 10:38	04/07/2010 11:30	05/21/2010 22:00	N
S10V000786	SOLID	Iodine-129/GEA	Fusion Digest/Separation	05/04/2010 11:35	05/04/2010 12:15	06/17/2010 15:30	N
S10V000767	LIQUID	Iodine-129/GEA	Separation	05/12/2010 13:20	05/12/2010 14:30	06/17/2010 15:30	N
S10V001028	SOLID	Iso-Pu/AEA	Acid Digest/Separation	05/25/2010 09:55	05/25/2010 10:35	10/25/2010 19:30	N
S10V001043	SOLID	Iso-Pu/AEA	Acid Digest/Separation	06/01/2010 12:00	06/01/2010 12:50	10/25/2010 19:30	N
S10V001058	SOLID	Iso-Pu/AEA	Acid Digest/Separation	06/03/2010 14:15	06/03/2010 14:45	10/25/2010 19:30	N
S10V000805	SOLID	Iso-Pu/AEA	Acid Digest/Separation	05/07/2010 10:15	05/07/2010 11:00	08/02/2010 11:00	N
S10V000806	SOLID	Iso-Pu/AEA	Acid Digest/Separation	05/12/2010 09:45	05/12/2010 10:30	08/02/2010 11:00	N
S10V001084	SOLID	Iso-Pu/AEA	Acid Digest/Separation	06/07/2010 10:15	06/07/2010 11:00	08/25/2010 13:45	N
S10V001099	SOLID	Iso-Pu/AEA	Acid Digest/Separation	06/08/2010 09:55	06/08/2010 10:30	08/25/2010 13:45	N
S10V000502	SOLID	Iso-Pu/AEA	Acid Digest/Separation	03/23/2010 10:30	03/23/2010 15:05	06/08/2010 14:30	N
S10V001114	SOLID	Iso-Pu/AEA	Acid Digest/Separation	06/09/2010 10:00	06/09/2010 10:45	08/25/2010 13:45	N
S10V000529	SOLID	Iso-Pu/AEA	Acid Digest/Separation	03/23/2010 14:15	03/23/2010 15:05	06/08/2010 14:30	N
S10V000752	SOLID	Iso-Pu/AEA	Acid Digest/Separation	04/19/2010 12:15	04/20/2010 12:55	07/02/2010 14:40	N
S10V000753	SOLID	Iso-Pu/AEA	Acid Digest/Separation	04/23/2010 11:00	04/23/2010 11:50	07/02/2010 14:40	N
S10V000540	SOLID	Iso-Pu/AEA	Acid Digest/Separation	03/30/2010 13:50	03/30/2010 15:10	06/08/2010 14:30	N
S10V000545	SOLID	Iso-Pu/AEA	Acid Digest/Separation	04/01/2010 08:40	04/01/2010 10:00	06/08/2010 14:30	N
S10V000562	SOLID	Iso-Pu/AEA	Acid Digest/Separation	04/07/2010 10:38	04/07/2010 11:30	06/08/2010 14:30	N
S10V000807	SOLID	Iso-Pu/AEA	Acid Digest/Separation	05/04/2010 11:35	05/04/2010 12:15	07/02/2010 14:40	N
S10V000768	LIQUID	Iso-Pu/AEA	Separation	05/12/2010 13:20	05/12/2010 14:20	06/03/2010 14:05	N
S10V000811	SOLID	Nickel-63/LSC	Acid Digest/Separation	05/07/2010 10:15	05/07/2010 11:00	11/18/2010 09:35	Y
S10V001030	SOLID	Nickel-63/LSC	Acid Digest/Separation	05/25/2010 09:55	05/25/2010 10:35	11/18/2010 09:35	N
S10V001045	SOLID	Nickel-63/LSC	Acid Digest/Separation	06/01/2010 12:00	06/01/2010 12:50	11/18/2010 09:35	N
S10V001060	SOLID	Nickel-63/LSC	Acid Digest/Separation	06/03/2010 14:15	06/03/2010 14:45	11/18/2010 09:35	N
S10V000768	LIQUID	Nickel-63/LSC	Separation	05/12/2010 13:20	05/12/2010 14:20	09/21/2010 13:30	N

Holding Time Report: Radiochemistry

Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Analysis Date	Missed Holding Time
S10V000812	SOLID	Nickel-63/LSC	Acid Digest/Separation	05/12/2010 09:45	05/12/2010 10:30	09/16/2010 15:15	N
S10V000758	SOLID	Nickel-63/LSC	Acid Digest/Separation	04/19/2010 12:15	04/20/2010 12:55	07/16/2010 13:55	N
S10V000504	SOLID	Nickel-63/LSC	Acid Digest/Separation	03/23/2010 10:30	03/23/2010 15:05	06/17/2010 13:50	N
S10V001086	SOLID	Nickel-63/LSC	Acid Digest/Separation	06/07/2010 10:15	06/07/2010 11:00	09/01/2010 10:00	N
S10V000531	SOLID	Nickel-63/LSC	Acid Digest/Separation	03/23/2010 14:15	03/23/2010 15:05	06/17/2010 13:50	N
S10V001101	SOLID	Nickel-63/LSC	Acid Digest/Separation	06/08/2010 09:55	06/08/2010 10:30	09/01/2010 10:00	N
S10V000759	SOLID	Nickel-63/LSC	Acid Digest/Separation	04/23/2010 11:00	04/23/2010 11:50	07/16/2010 13:55	N
S10V001116	SOLID	Nickel-63/LSC	Acid Digest/Separation	06/09/2010 10:00	06/09/2010 10:45	09/01/2010 10:00	N
S10V000542	SOLID	Nickel-63/LSC	Acid Digest/Separation	03/30/2010 13:50	03/30/2010 15:10	06/17/2010 13:50	N
S10V000547	SOLID	Nickel-63/LSC	Acid Digest/Separation	04/01/2010 08:40	04/01/2010 10:00	06/17/2010 13:50	N
S10V000813	SOLID	Nickel-63/LSC	Acid Digest/Separation	05/04/2010 11:35	05/04/2010 12:15	07/16/2010 13:55	N
S10V000564	SOLID	Nickel-63/LSC	Acid Digest/Separation	04/07/2010 10:38	04/07/2010 11:30	06/17/2010 13:50	N
S10V000811	SOLID	Selenium-79/LSC	Acid Digest/Separation	05/07/2010 10:15	05/07/2010 11:00	08/20/2010 15:50	N
S10V000812	SOLID	Selenium-79/LSC	Acid Digest/Separation	05/12/2010 09:45	05/12/2010 10:30	08/20/2010 15:50	N
S10V001030	SOLID	Selenium-79/LSC	Acid Digest/Separation	05/25/2010 09:55	05/25/2010 10:35	08/27/2010 13:30	N
S10V000504	SOLID	Selenium-79/LSC	Acid Digest/Separation	03/23/2010 10:30	03/23/2010 15:05	06/22/2010 15:40	N
S10V000531	SOLID	Selenium-79/LSC	Acid Digest/Separation	03/23/2010 14:15	03/23/2010 15:05	06/22/2010 15:40	N
S10V001045	SOLID	Selenium-79/LSC	Acid Digest/Separation	06/01/2010 12:00	06/01/2010 12:50	08/27/2010 13:30	N
S10V001060	SOLID	Selenium-79/LSC	Acid Digest/Separation	06/03/2010 14:15	06/03/2010 14:45	08/27/2010 13:30	N
S10V000542	SOLID	Selenium-79/LSC	Acid Digest/Separation	03/30/2010 13:50	03/30/2010 15:10	06/22/2010 15:40	N
S10V000758	SOLID	Selenium-79/LSC	Acid Digest/Separation	04/19/2010 12:15	04/20/2010 12:55	07/12/2010 11:50	N
S10V000547	SOLID	Selenium-79/LSC	Acid Digest/Separation	04/01/2010 08:40	04/01/2010 10:00	06/22/2010 15:40	N
S10V001086	SOLID	Selenium-79/LSC	Acid Digest/Separation	06/07/2010 10:15	06/07/2010 11:00	08/27/2010 13:30	N
S10V001101	SOLID	Selenium-79/LSC	Acid Digest/Separation	06/08/2010 09:55	06/08/2010 10:30	08/27/2010 13:30	N
S10V000759	SOLID	Selenium-79/LSC	Acid Digest/Separation	04/23/2010 11:00	04/23/2010 11:50	07/12/2010 11:50	N
S10V001116	SOLID	Selenium-79/LSC	Acid Digest/Separation	06/09/2010 10:00	06/09/2010 10:45	08/27/2010 13:30	N
S10V000564	SOLID	Selenium-79/LSC	Acid Digest/Separation	04/07/2010 10:38	04/07/2010 11:30	06/22/2010 15:40	N
S10V000813	SOLID	Selenium-79/LSC	Acid Digest/Separation	05/04/2010 11:35	05/04/2010 12:15	07/12/2010 11:50	N
S10V000768	LIQUID	Selenium-79/LSC	Separation	05/12/2010 13:20	05/12/2010 14:20	06/22/2010 15:40	N
S10V000503	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	03/23/2010 10:30	03/23/2010 15:05	10/07/2010 14:15	Y

Holding Time Report: Radiochemistry

Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Analysis Date	Missed Holding Time
S10V000530	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	03/23/2010 14:15	03/23/2010 15:05	10/07/2010 14:15	Y
S10V000541	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	03/30/2010 13:50	03/30/2010 15:10	10/07/2010 14:15	Y
S10V000546	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	04/01/2010 08:40	04/01/2010 10:00	10/07/2010 14:15	Y
S10V000563	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	04/07/2010 10:38	04/07/2010 11:30	10/07/2010 14:15	Y
S10V001085	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	06/07/2010 10:15	06/07/2010 11:00	10/20/2010 13:45	N
S10V001100	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	06/08/2010 09:55	06/08/2010 10:30	10/20/2010 13:45	N
S10V001115	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	06/09/2010 10:00	06/09/2010 10:45	10/20/2010 13:45	N
S10V001059	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	06/03/2010 14:15	06/03/2010 14:45	09/21/2010 15:15	N
S10V001029	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	05/25/2010 09:55	05/25/2010 10:35	09/08/2010 16:00	N
S10V001044	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	06/01/2010 12:00	06/01/2010 12:50	09/08/2010 16:00	N
S10V001059	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	06/03/2010 14:15	06/03/2010 14:45	09/08/2010 16:00	N
S10V000808	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	05/07/2010 10:15	05/07/2010 11:00	07/30/2010 11:30	N
S10V000755	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	04/19/2010 12:15	04/20/2010 12:55	07/07/2010 15:50	N
S10V000809	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	05/12/2010 09:45	05/12/2010 10:30	07/30/2010 11:30	N
S10V000756	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	04/23/2010 11:00	04/23/2010 11:50	07/07/2010 15:50	N
S10V000810	SOLID	Strontium-89/90/GPS	Acid Digest/Separation	05/04/2010 11:35	05/04/2010 12:15	07/07/2010 15:50	N
S10V000768	LIQUID	Strontium-89/90/GPS	Separation	05/12/2010 13:20	05/12/2010 14:20	06/02/2010 13:30	N
S10V002084	SOLID	Tritium/LSC	Water Digest	03/23/2010 10:30	03/23/2010 15:05	09/29/2010 09:45	Y
S10V002086	SOLID	Tritium/LSC	Water Digest	03/23/2010 14:15	03/23/2010 15:05	09/29/2010 09:45	Y
S10V002088	SOLID	Tritium/LSC	Water Digest	03/30/2010 13:50	03/30/2010 15:10	09/29/2010 09:45	Y
S10V002090	SOLID	Tritium/LSC	Water Digest	04/01/2010 08:40	04/01/2010 10:00	09/29/2010 09:45	Y
S10V002092	SOLID	Tritium/LSC	Water Digest	04/07/2010 10:38	04/07/2010 11:30	09/29/2010 09:45	N
S10V002094	SOLID	Tritium/LSC	Water Digest	04/19/2010 12:15	04/20/2010 12:55	09/29/2010 09:45	N
S10V002096	SOLID	Tritium/LSC	Water Digest	04/23/2010 11:00	04/23/2010 11:50	09/29/2010 09:45	N
S10V002098	SOLID	Tritium/LSC	Water Digest	05/04/2010 11:35	05/04/2010 12:15	09/29/2010 09:45	N
S10V002106	SOLID	Tritium/LSC	Water Digest	05/25/2010 09:55	05/25/2010 10:35	09/29/2010 09:45	N
S10V002108	SOLID	Tritium/LSC	Water Digest	06/01/2010 12:00	06/01/2010 12:50	09/29/2010 09:45	N
S10V002110	SOLID	Tritium/LSC	Water Digest	06/03/2010 14:15	06/03/2010 14:45	09/29/2010 09:45	N
S10V002100	SOLID	Tritium/LSC	Water Digest	06/07/2010 10:15	06/07/2010 11:00	09/29/2010 09:45	N
S10V002102	SOLID	Tritium/LSC	Water Digest	06/08/2010 09:55	06/08/2010 10:30	09/29/2010 09:45	N

Holding Time Report: Radiochemistry

Sample	Matrix	Method	Prep Method	Sample Date	Received Date	Analysis Date	Missed Holding Time
S10V002104	SOLID	Tritium/LSC	Water Digest	06/09/2010 10:00	06/09/2010 10:45	09/29/2010 09:45	N
S10V000793	SOLID	Tritium/LSC	Water Digest	05/07/2010 10:15	05/07/2010 11:00	07/19/2010 13:55	N
S10V000794	SOLID	Tritium/LSC	Water Digest	05/12/2010 09:45	05/12/2010 10:30	07/19/2010 13:55	N
S10V000767	LIQUID	Tritium/LSC	N/A	05/12/2010 13:20	05/12/2010 14:30	07/13/2010 10:25	N

Attachment 4

VADOSE WATER DIGEST RESULTS

Technetium-99 and Nitrate Result From the Vadose Water Digest

Core Number	Customer Sample ID	Sample Depth	Lab Sample ID	CAS #	ANALYTE	Units	LCS % Recovery	BLANK	Result	Duplicate	Duplicate RPD	MS % Recovery	MDL	Q-Flag
C7738	B24HH9	45-47'	S10V000523	14797-55-8	Nitrate	ug/g	94.6	0.0184	4.75	n/a	n/a	n/a	0.0182	
C7738	B24HJ0	62-64'	S10V000495	14797-55-8	Nitrate	ug/g	94.6	0.0184	9.34	9.32	0.187	115	0.0196	
C7738	B24KV1	96-98'	S10V000534	14797-55-8	Nitrate	ug/g	100	<0.0208	18.5	18.3	0.779	98.2	0.0241	
C7738	B24KV2	127-129'	S10V000550	14797-55-8	Nitrate	ug/g	100	<0.0208	14.9	n/a	n/a	n/a	0.0238	
C7738	B24KV3	159-161'	S10V000556	14797-55-8	Nitrate	ug/g	100	<0.0208	1.72	n/a	n/a	n/a	0.0207	
C7742	B24YW0	40-42'	S10V000734	14797-55-8	Nitrate	ug/g	98.0	<0.0208	4.83	4.05	17.4	88.0	0.0230	
C7742	B24YW1	96-98'	S10V000738	14797-55-8	Nitrate	ug/g	99.6	<0.0208	6.50	6.31	2.98	95.5	0.0263	
C7740	B24YW4	40-42'	S10V000787	14797-55-8	Nitrate	ug/g	99.3	<0.0208	5.34	4.75	11.5	n/a	0.0224	
C7740	B24YW5	94-96'	S10V000788	14797-55-8	Nitrate	ug/g	100	0.0252	15.8	15.2	4.07	n/a	0.0256	
C7742	B24YW6	135-137'	S10V000792	14797-55-8	Nitrate	ug/g	99.6	<0.0208	12.2	n/a	n/a	n/a	0.0268	
C7746	B24YX2	44-46'	S10V001022	14797-55-8	Nitrate	ug/g	100	<0.0208	5.42	5.16	4.92	98.8	0.0239	
C7746	B24YX3	94-96'	S10V001037	14797-55-8	Nitrate	ug/g	103	0.0514	3.01	3.06	1.56	98.7	0.0211	
C7746	B24YX4	144-146'	S10V001052	14797-55-8	Nitrate	ug/g	102	0.0369	20.6	20.6	0.150	90.9	0.0293	
C7744	B24YW8	37-39'	S10V001078	14797-55-8	Nitrate	ug/g	101	<0.0208	3.78	2.61	36.6	97.0	0.0219	M
C7744	B24YW9	96-98'	S10V001093	14797-55-8	Nitrate	ug/g	101	<0.0208	7.92	n/a	n/a	n/a	0.0256	
C7744	B24YX0	127-129'	S10V001108	14797-55-8	Nitrate	ug/g	101	<0.0208	4.84	n/a	n/a	n/a	0.0245	
C7738	B24HH9	45-47'	S10V000495	14133-76-7	Technetium-99	pCi/g	97.2	<0.051	<0.0619	n/a	n/a	95.9	0.0619	U
C7738	B24HJ0	62-64'	S10V000523	14133-76-7	Technetium-99	pCi/g	97.2	<0.051	<0.0573	n/a	n/a	n/a	0.0573	U
C7738	B24KV1	96-98'	S10V000534	14133-76-7	Technetium-99	pCi/g	104	<0.068	<0.0787	n/a	n/a	103	0.0787	U
C7738	B24KV2	127-129'	S10V000550	14133-76-7	Technetium-99	pCi/g	104	<0.068	<0.0780	n/a	n/a	n/a	0.0780	U
C7738	B24KV3	159-161'	S10V000556	14133-76-7	Technetium-99	pCi/g	104	<0.068	<0.0678	n/a	n/a	n/a	0.0678	U
C7742	B24YW0	40-42'	S10V000734	14133-76-7	Technetium-99	pCi/g	103	<0.051	<0.0564	n/a	n/a	n/a	0.0564	U
C7742	B24YW1	96-98'	S10V000735	14133-76-7	Technetium-99	pCi/g	103	<0.051	<0.0627	n/a	n/a	101	0.0627	U
C7740	B24YW4	40-42'	S10V000787	14133-76-7	Technetium-99	pCi/g	102	<0.051	<0.0551	n/a	n/a	102	0.0551	U
C7740	B24YW5	94-96'	S10V000788	14133-76-7	Technetium-99	pCi/g	101	<0.051	<0.0627	n/a	n/a	102	0.0627	U
C7742	B24YW6	135-137'	S10V000789	14133-76-7	Technetium-99	pCi/g	103	<0.051	<0.0656	n/a	n/a	n/a	0.0656	U
C7746	B24YX2	44-46'	S10V001022	14133-76-7	Technetium-99	pCi/g	111	<0.068	<0.0241	n/a	n/a	101	0.0241	U
C7746	B24YX3	94-96'	S10V001037	14133-76-7	Technetium-99	pCi/g	102	<0.068	<0.0692	n/a	n/a	96.4	0.0692	U
C7746	B24YX4	144-146'	S10V001052	14133-76-7	Technetium-99	pCi/g	104	<0.068	<0.0959	n/a	n/a	97.4	0.0959	U
C7744	B24YW8	37-39'	S10V001078	14133-76-7	Technetium-99	pCi/g	88.9	<0.068	<0.0716	n/a	n/a	98.4	0.0716	U
C7744	B24YW9	96-98'	S10V001093	14133-76-7	Technetium-99	pCi/g	88.9	<0.068	<0.0836	n/a	n/a	n/a	0.0836	U
C7744	B24YX0	127-129'	S10V001108	14133-76-7	Technetium-99	pCi/g	88.9	<0.068	<0.0802	n/a	n/a	n/a	0.0802	U

M - RPD Outside Range

NA = Not Applicable

U - Less Than Detection Limit

Attachment 5

ADDITIONAL MECURY ANALYSES QC RESULTS

3/24/11 13:38

HG Analysis Matrix Spike/Matrix Spike Duplicate Summary for S-SX Barrier

Batch	Sample Id	Analyte	MS Recovery %	MSD Recovery %	Lower Limit	Upper Limit	RPD %	RPD Limit
18900	S10V000521	Mercury	103	103	75	125	0.116	30
19427	S10V000728	Mercury	101	102	75	125	1.65	30
19802	S10V001020	Mercury	99.8	103	75	125	3.07	30
20121	S10V001035	Mercury	106	105	75	125	0.549	30
19541	S10V000766	Mercury	75.3	75.6	75	125	0.477	30

SpikeRpd.rpt v 2.7.26 1

spikeReport 2.7.27 Omni_222s

Attachment 6

ANALYTICAL BATCH AND LABORATORY SAMPLE ID INDEX

Batch to Sample Index

Project: **S-SX Barrier**

METHOD	BATCH	SAMPLE	MATRIX	SDG
%WATER-APD	00026994	S10V000492	SOLID	20100311
%WATER-APD	00026994	S10V000521	SOLID	20100311
%WATER-APD	00026994	S10V000532	SOLID	20100311
%WATER-APD	00026994	S10V000543	SOLID	20100311
%WATER-APD	00026994	S10V000548	SOLID	20100311
%WATER-APD	00026994	S10V000728	SOLID	20100347
%WATER-APD	00026994	S10V000729	SOLID	20100347
%WATER-APD	00026994	S10V000781	SOLID	20100350
%WATER-APD	00026994	S10V000782	SOLID	20100350
%WATER-APD	00026994	S10V000783	SOLID	20100347
%WATER-APD	00026994	S10V001020	SOLID	20100426
%WATER-APD	00026994	S10V001035	SOLID	20100426
%WATER-APD	00026994	S10V001050	SOLID	20100426
%WATER-APD	00026994	S10V001076	SOLID	20100454
%WATER-APD	00026994	S10V001091	SOLID	20100454
%WATER-APD	00026994	S10V001106	SOLID	20100454
AMERICIUM	00019756	S10V000502	SOLID	20100311
AMERICIUM	00019756	S10V000529	SOLID	20100311
AMERICIUM	00019756	S10V000540	SOLID	20100311
AMERICIUM	00019756	S10V000545	SOLID	20100311
AMERICIUM	00019756	S10V000562	SOLID	20100311
AMERICIUM	00019788	S10V000768	LIQUID	20100349
AMERICIUM	00020375	S10V000752	SOLID	20100347
AMERICIUM	00020375	S10V000753	SOLID	20100347
AMERICIUM	00020375	S10V000807	SOLID	20100347
AMERICIUM	00021031	S10V000805	SOLID	20100350
AMERICIUM	00021031	S10V000806	SOLID	20100350
AMERICIUM	00021453	S10V001084	SOLID	20100454
AMERICIUM	00021453	S10V001099	SOLID	20100454
AMERICIUM	00021453	S10V001114	SOLID	20100454
AMERICIUM	00021717	S10V001028	SOLID	20100426
AMERICIUM	00021717	S10V001043	SOLID	20100426
AMERICIUM	00021717	S10V001058	SOLID	20100426
BULK DENSITY, VADOSE	00026828	S10V000488	SOLID	20100311
BULK DENSITY, VADOSE	00026828	S10V000490	SOLID	20100311
BULK DENSITY, VADOSE	00026828	S10V000505	SOLID	20100311
BULK DENSITY, VADOSE	00026828	S10V000506	SOLID	20100311
BULK DENSITY, VADOSE	00026828	S10V000507	SOLID	20100311
BULK DENSITY, VADOSE	00026828	S10V000509	SOLID	20100311
BULK DENSITY, VADOSE	00026828	S10V000510	SOLID	20100311
BULK DENSITY, VADOSE	00026828	S10V000513	SOLID	20100311
BULK DENSITY, VADOSE	00026828	S10V000514	SOLID	20100311
BULK DENSITY, VADOSE	00026828	S10V000515	SOLID	20100311
BULK DENSITY, VADOSE	00026828	S10V000517	SOLID	20100311
BULK DENSITY, VADOSE	00026828	S10V000518	SOLID	20100311
BULK DENSITY, VADOSE	00026828	S10V000519	SOLID	20100311
BULK DENSITY, VADOSE	00026828	S10V000717	SOLID	20100347
BULK DENSITY, VADOSE	00026828	S10V000718	SOLID	20100347
BULK DENSITY, VADOSE	00026828	S10V000720	SOLID	20100347
BULK DENSITY, VADOSE	00026828	S10V000721	SOLID	20100347
BULK DENSITY, VADOSE	00026828	S10V000722	SOLID	20100347
BULK DENSITY, VADOSE	00026828	S10V000769	SOLID	20100350
BULK DENSITY, VADOSE	00026828	S10V000770	SOLID	20100350
BULK DENSITY, VADOSE	00026828	S10V000771	SOLID	20100350
BULK DENSITY, VADOSE	00026828	S10V000773	SOLID	20100350
BULK DENSITY, VADOSE	00026828	S10V000774	SOLID	20100350

METHOD	BATCH	SAMPLE	MATRIX	SDG
BULK DENSITY, VADOSE	00026828	S10V000775	SOLID	20100350
BULK DENSITY, VADOSE	00026828	S10V000779	SOLID	20100347
BULK DENSITY, VADOSE	00026828	S10V001016	SOLID	20100426
BULK DENSITY, VADOSE	00026828	S10V001017	SOLID	20100426
BULK DENSITY, VADOSE	00026828	S10V001018	SOLID	20100426
BULK DENSITY, VADOSE	00026828	S10V001031	SOLID	20100426
BULK DENSITY, VADOSE	00026828	S10V001032	SOLID	20100426
BULK DENSITY, VADOSE	00026828	S10V001033	SOLID	20100426
BULK DENSITY, VADOSE	00026828	S10V001046	SOLID	20100426
BULK DENSITY, VADOSE	00026828	S10V001047	SOLID	20100426
BULK DENSITY, VADOSE	00026828	S10V001048	SOLID	20100426
BULK DENSITY, VADOSE	00026828	S10V001072	SOLID	20100454
BULK DENSITY, VADOSE	00026828	S10V001073	SOLID	20100454
BULK DENSITY, VADOSE	00026828	S10V001074	SOLID	20100454
BULK DENSITY, VADOSE	00026828	S10V001087	SOLID	20100454
BULK DENSITY, VADOSE	00026828	S10V001089	SOLID	20100454
BULK DENSITY, VADOSE	00026828	S10V001103	SOLID	20100454
CARBON-14	00019841	S10V000767	LIQUID	20100349
CARBON-14	00019842	S10V000793	SOLID	20100350
CARBON-14	00019842	S10V000794	SOLID	20100350
CARBON-14	00022030	S10V002084	SOLID	20100311
CARBON-14	00022030	S10V002086	SOLID	20100311
CARBON-14	00022030	S10V002088	SOLID	20100311
CARBON-14	00022030	S10V002090	SOLID	20100311
CARBON-14	00022030	S10V002092	SOLID	20100311
CARBON-14	00022030	S10V002094	SOLID	20100347
CARBON-14	00022030	S10V002096	SOLID	20100347
CARBON-14	00022030	S10V002098	SOLID	20100347
CARBON-14	00022030	S10V002100	SOLID	20100454
CARBON-14	00022030	S10V002102	SOLID	20100454
CARBON-14	00022030	S10V002104	SOLID	20100454
CARBON-14	00022030	S10V002106	SOLID	20100426
CARBON-14	00022030	S10V002108	SOLID	20100426
CARBON-14	00022030	S10V002110	SOLID	20100426
CN - EDTA	00018759	S10V000492	SOLID	20100311
CN - EDTA	00018759	S10V000521	SOLID	20100311
CN - EDTA	00018804	S10V000532	SOLID	20100311
CN - EDTA	00018804	S10V000543	SOLID	20100311
CN - EDTA	00018804	S10V000548	SOLID	20100311
CN - EDTA	00019043	S10V000728	SOLID	20100347
CN - EDTA	00019151	S10V000729	SOLID	20100347
CN - EDTA	00019455	S10V000781	SOLID	20100350
CN - EDTA	00019455	S10V000783	SOLID	20100347
CN - EDTA	00019636	S10V000782	SOLID	20100350
CN - EDTA	00019924	S10V001020	SOLID	20100426
CN - EDTA	00020160	S10V001076	SOLID	20100454
CN - EDTA	00020160	S10V001091	SOLID	20100454
CN - EDTA	00020160	S10V001106	SOLID	20100454
CN - EDTA	00020164	S10V001035	SOLID	20100426
CN - EDTA	00020164	S10V001050	SOLID	20100426
CONDUCTIVITY	00018609	S10V000496	SOLID	20100311
CONDUCTIVITY	00018609	S10V000524	SOLID	20100311
CONDUCTIVITY	00018851	S10V000535	SOLID	20100311
CONDUCTIVITY	00018851	S10V000551	SOLID	20100311
CONDUCTIVITY	00018851	S10V000557	SOLID	20100311
CONDUCTIVITY	00019030	S10V000737	SOLID	20100347
CONDUCTIVITY	00019280	S10V000738	SOLID	20100347
CONDUCTIVITY	00019280	S10V000792	SOLID	20100347
CONDUCTIVITY	00019424	S10V000790	SOLID	20100350
CONDUCTIVITY	00019506	S10V000791	SOLID	20100350

METHOD	BATCH	SAMPLE	MATRIX	SDG
CONDUCTIVITY	00019798	S10V001023	SOLID	20100426
CONDUCTIVITY	00019880	S10V001038	SOLID	20100426
CONDUCTIVITY	00019954	S10V001053	SOLID	20100426
CONDUCTIVITY	00020048	S10V001079	SOLID	20100454
CONDUCTIVITY	00020048	S10V001094	SOLID	20100454
CONDUCTIVITY	00020048	S10V001109	SOLID	20100454
GEA	00019128	S10V000501	SOLID	20100311
GEA	00019128	S10V000522	SOLID	20100311
GEA	00019128	S10V000533	SOLID	20100311
GEA	00019128	S10V000544	SOLID	20100311
GEA	00019128	S10V000549	SOLID	20100311
GEA	00019769	S10V000731	SOLID	20100347
GEA	00019769	S10V000732	SOLID	20100347
GEA	00019769	S10V000786	SOLID	20100347
GEA	00019773	S10V000784	SOLID	20100350
GEA	00019773	S10V000785	SOLID	20100350
GEA	00019784	S10V000768	LIQUID	20100349
GEA	00020090	S10V001021	SOLID	20100426
GEA	00020090	S10V001036	SOLID	20100426
GEA	00020090	S10V001051	SOLID	20100426
GEA	00020091	S10V001077	SOLID	20100454
GEA	00020091	S10V001092	SOLID	20100454
GEA	00020091	S10V001107	SOLID	20100454
GRAV. PERCENT SOLID - APD	00026995	S10V000492	SOLID	20100311
GRAV. PERCENT SOLID - APD	00026995	S10V000521	SOLID	20100311
GRAV. PERCENT SOLID - APD	00026995	S10V000532	SOLID	20100311
GRAV. PERCENT SOLID - APD	00026995	S10V000543	SOLID	20100311
GRAV. PERCENT SOLID - APD	00026995	S10V000548	SOLID	20100311
GRAV. PERCENT SOLID - APD	00026995	S10V000728	SOLID	20100347
GRAV. PERCENT SOLID - APD	00026995	S10V000729	SOLID	20100347
GRAV. PERCENT SOLID - APD	00026995	S10V000781	SOLID	20100350
GRAV. PERCENT SOLID - APD	00026995	S10V000782	SOLID	20100350
GRAV. PERCENT SOLID - APD	00026995	S10V000783	SOLID	20100347
GRAV. PERCENT SOLID - APD	00026995	S10V001020	SOLID	20100426
GRAV. PERCENT SOLID - APD	00026995	S10V001035	SOLID	20100426
GRAV. PERCENT SOLID - APD	00026995	S10V001050	SOLID	20100426
GRAV. PERCENT SOLID - APD	00026995	S10V001076	SOLID	20100454
GRAV. PERCENT SOLID - APD	00026995	S10V001091	SOLID	20100454
GRAV. PERCENT SOLID - APD	00026995	S10V001106	SOLID	20100454
HG	00018900	S10V000492	SOLID	20100311
HG	00018900	S10V000521	SOLID	20100311
HG	00018900	S10V000532	SOLID	20100311
HG	00018900	S10V000543	SOLID	20100311
HG	00018900	S10V000548	SOLID	20100311
HG	00019427	S10V000728	SOLID	20100347
HG	00019427	S10V000729	SOLID	20100347
HG	00019427	S10V000781	SOLID	20100350
HG	00019427	S10V000782	SOLID	20100350
HG	00019427	S10V000783	SOLID	20100347
HG	00019541	S10V000766	LIQUID	20100349
HG	00019802	S10V001020	SOLID	20100426
HG	00020121	S10V001035	SOLID	20100426
HG	00020121	S10V001050	SOLID	20100426
HG	00020121	S10V001076	SOLID	20100454
HG	00020121	S10V001091	SOLID	20100454
HG	00020121	S10V001106	SOLID	20100454
IC - ANIONS	00018705	S10V000495	SOLID	20100311
IC - ANIONS	00018705	S10V000523	SOLID	20100311
IC - ANIONS/SMALL ORG. ACIDS	00018876	S10V000497	SOLID	20100311
IC - ANIONS/SMALL ORG. ACIDS	00018876	S10V000525	SOLID	20100311

METHOD	BATCH	SAMPLE	MATRIX	SDG
IC - ANIONS/SMALL ORG. ACIDS	00018876	S10V000534	SOLID	20100311
IC - ANIONS/SMALL ORG. ACIDS	00018876	S10V000536	SOLID	20100311
IC - ANIONS/SMALL ORG. ACIDS	00018876	S10V000550	SOLID	20100311
IC - ANIONS/SMALL ORG. ACIDS	00018876	S10V000552	SOLID	20100311
IC - ANIONS/SMALL ORG. ACIDS	00018876	S10V000556	SOLID	20100311
IC - ANIONS/SMALL ORG. ACIDS	00018876	S10V000558	SOLID	20100311
IC - ANIONS/SMALL ORG. ACIDS	00019058	S10V000734	SOLID	20100347
IC - ANIONS/SMALL ORG. ACIDS	00019058	S10V000740	SOLID	20100347
IC - ANIONS/SMALL ORG. ACIDS	00019383	S10V000761	LIQUID	20100349
IC - ANIONS/SMALL ORG. ACIDS	00019446	S10V000787	SOLID	20100350
IC - ANIONS/SMALL ORG. ACIDS	00019446	S10V000793	SOLID	20100350
IC - ANIONS/SMALL ORG. ACIDS	00019446	S10V000794	SOLID	20100350
IC - ANIONS/SMALL ORG. ACIDS	00019599	S10V000788	SOLID	20100350
IC - ANIONS/SMALL ORG. ACIDS	00019759	S10V000741	SOLID	20100347
IC - ANIONS/SMALL ORG. ACIDS	00019759	S10V000795	SOLID	20100347
IC - ANIONS/SMALL ORG. ACIDS	00019810	S10V001024	SOLID	20100426
IC - ANIONS/SMALL ORG. ACIDS	00019963	S10V001052	SOLID	20100426
IC - ANIONS/SMALL ORG. ACIDS	00020038	S10V001037	SOLID	20100426
IC - ANIONS/SMALL ORG. ACIDS	00020042	S10V001022	SOLID	20100426
IC - ANIONS/SMALL ORG. ACIDS	00020045	S10V001078	SOLID	20100454
IC - ANIONS/SMALL ORG. ACIDS	00020045	S10V001093	SOLID	20100454
IC - ANIONS/SMALL ORG. ACIDS	00020045	S10V001108	SOLID	20100454
IC - ANIONS/SMALL ORG. ACIDS	00020886	S10V001039	SOLID	20100426
IC - ANIONS/SMALL ORG. ACIDS	00020886	S10V001054	SOLID	20100426
IC - ANIONS/SMALL ORG. ACIDS	00020886	S10V001080	SOLID	20100454
IC - ANIONS/SMALL ORG. ACIDS	00020886	S10V001095	SOLID	20100454
IC - ANIONS/SMALL ORG. ACIDS	00020886	S10V001110	SOLID	20100454
IC - ANIONS/SMALL ORG. ACIDS	00021086	S10V001024	SOLID	20100426
IC - NH4	00018673	S10V000499	SOLID	20100311
IC - NH4	00018673	S10V000527	SOLID	20100311
IC - NH4	00018693	S10V000538	SOLID	20100311
IC - NH4	00018693	S10V000554	SOLID	20100311
IC - NH4	00018829	S10V000560	SOLID	20100311
IC - NH4	00019029	S10V000746	SOLID	20100347
IC - NH4	00019076	S10V000747	SOLID	20100347
IC - NH4	00019246	S10V000801	SOLID	20100347
IC - NH4	00019420	S10V000799	SOLID	20100350
IC - NH4	00019471	S10V000800	SOLID	20100350
IC - NH4	00019874	S10V001026	SOLID	20100426
IC - NH4	00019896	S10V001041	SOLID	20100426
IC - NH4	00019938	S10V001056	SOLID	20100426
IC - NH4	00020024	S10V001082	SOLID	20100454
IC - NH4	00020024	S10V001097	SOLID	20100454
IC - NH4	00020024	S10V001112	SOLID	20100454
ICP-TOTAL METALS	00020002	S10V000498	SOLID	20100311
ICP-TOTAL METALS	00020002	S10V000526	SOLID	20100311
ICP-TOTAL METALS	00020002	S10V000537	SOLID	20100311
ICP-TOTAL METALS	00020002	S10V000553	SOLID	20100311
ICP-TOTAL METALS	00020002	S10V000559	SOLID	20100311
ICP-TOTAL METALS	00020002	S10V000743	SOLID	20100347
ICP-TOTAL METALS	00020002	S10V000744	SOLID	20100347
ICP-TOTAL METALS	00020124	S10V000766	LIQUID	20100349
ICP-TOTAL METALS	00020557	S10V000796	SOLID	20100350
ICP-TOTAL METALS	00020557	S10V000797	SOLID	20100350
ICP-TOTAL METALS	00020557	S10V000798	SOLID	20100347
ICP-TOTAL METALS	00021241	S10V001025	SOLID	20100426
ICP-TOTAL METALS	00021241	S10V001040	SOLID	20100426
ICP-TOTAL METALS	00021241	S10V001055	SOLID	20100426
ICP-TOTAL METALS	00021276	S10V001081	SOLID	20100454
ICP-TOTAL METALS	00021276	S10V001096	SOLID	20100454

METHOD	BATCH	SAMPLE	MATRIX	SDG
ICP-TOTAL METALS	00021276	S10V001111	SOLID	20100454
IODINE-129 in SOIL	00019339	S10V000501	SOLID	20100311
IODINE-129 in SOIL	00019339	S10V000522	SOLID	20100311
IODINE-129 in SOIL	00019339	S10V000533	SOLID	20100311
IODINE-129 in SOIL	00019339	S10V000544	SOLID	20100311
IODINE-129 in SOIL	00019339	S10V000549	SOLID	20100311
IODINE-129 in SOIL	00020054	S10V000731	SOLID	20100347
IODINE-129 in SOIL	00020054	S10V000732	SOLID	20100347
IODINE-129 in SOIL	00020054	S10V000786	SOLID	20100347
IODINE-129 in SOIL	00020055	S10V000767	LIQUID	20100349
IODINE-129 in SOIL	00020495	S10V000784	SOLID	20100350
IODINE-129 in SOIL	00020495	S10V000785	SOLID	20100350
IODINE-129 in SOIL	00020819	S10V001021	SOLID	20100426
IODINE-129 in SOIL	00020819	S10V001036	SOLID	20100426
IODINE-129 in SOIL	00020819	S10V001051	SOLID	20100426
IODINE-129 in SOIL	00020820	S10V001077	SOLID	20100454
IODINE-129 in SOIL	00020820	S10V001092	SOLID	20100454
IODINE-129 in SOIL	00020820	S10V001107	SOLID	20100454
MS ACTINIDES	00019811	S10V000766	LIQUID	20100349
MS ACTINIDES	00019813	S10V000498	SOLID	20100311
MS ACTINIDES	00019813	S10V000526	SOLID	20100311
MS ACTINIDES	00019813	S10V000537	SOLID	20100311
MS ACTINIDES	00019813	S10V000553	SOLID	20100311
MS ACTINIDES	00019813	S10V000559	SOLID	20100311
MS ACTINIDES	00019813	S10V000743	SOLID	20100347
MS ACTINIDES	00019813	S10V000744	SOLID	20100347
MS ACTINIDES	00019908	S10V000796	SOLID	20100350
MS ACTINIDES	00019908	S10V000797	SOLID	20100350
MS ACTINIDES	00019908	S10V000798	SOLID	20100347
MS ACTINIDES	00021368	S10V001025	SOLID	20100426
MS ACTINIDES	00021368	S10V001040	SOLID	20100426
MS ACTINIDES	00021368	S10V001055	SOLID	20100426
MS ACTINIDES	00021368	S10V001081	SOLID	20100454
MS ACTINIDES	00021368	S10V001096	SOLID	20100454
MS ACTINIDES	00021368	S10V001111	SOLID	20100454
MS ANTIMONY	00026772	S11V004567	SOLID	20100350
MS ANTIMONY	00026772	S11V004568	SOLID	20100350
MS FISSION PRODUCTS	00019817	S10V000766	LIQUID	20100349
MS FISSION PRODUCTS	00021021	S10V000802	SOLID	20100350
MS FISSION PRODUCTS	00021021	S10V000803	SOLID	20100350
MS FISSION PRODUCTS	00021021	S10V000804	SOLID	20100347
MS FISSION PRODUCTS	00021022	S10V000500	SOLID	20100311
MS FISSION PRODUCTS	00021022	S10V000528	SOLID	20100311
MS FISSION PRODUCTS	00021022	S10V000539	SOLID	20100311
MS FISSION PRODUCTS	00021022	S10V000555	SOLID	20100311
MS FISSION PRODUCTS	00021022	S10V000561	SOLID	20100311
MS FISSION PRODUCTS	00021022	S10V000749	SOLID	20100347
MS FISSION PRODUCTS	00021022	S10V000750	SOLID	20100347
MS FISSION PRODUCTS	00021528	S10V000500	SOLID	20100311
MS FISSION PRODUCTS	00021528	S10V000528	SOLID	20100311
MS FISSION PRODUCTS	00021528	S10V000539	SOLID	20100311
MS FISSION PRODUCTS	00021528	S10V000555	SOLID	20100311
MS FISSION PRODUCTS	00021528	S10V000561	SOLID	20100311
MS FISSION PRODUCTS	00021528	S10V000749	SOLID	20100347
MS FISSION PRODUCTS	00021528	S10V000750	SOLID	20100347
MS FISSION PRODUCTS	00021537	S10V001027	SOLID	20100426
MS FISSION PRODUCTS	00021537	S10V001042	SOLID	20100426
MS FISSION PRODUCTS	00021537	S10V001057	SOLID	20100426
MS FISSION PRODUCTS	00021537	S10V001083	SOLID	20100454
MS FISSION PRODUCTS	00021537	S10V001098	SOLID	20100454

METHOD	BATCH	SAMPLE	MATRIX	SDG
MS FISSION PRODUCTS	00021537	S10V001113	SOLID	20100454
MS PERIODIC TABLE	00021254	S10V000796	SOLID	20100350
MS PERIODIC TABLE	00021254	S10V000797	SOLID	20100350
MS PERIODIC TABLE	00021254	S10V000798	SOLID	20100347
MS PERIODIC TABLE	00021376	S10V002099	SOLID	20100454
MS PERIODIC TABLE	00021376	S10V002101	SOLID	20100454
MS PERIODIC TABLE	00021376	S10V002103	SOLID	20100454
MS PERIODIC TABLE	00021376	S10V002105	SOLID	20100426
MS PERIODIC TABLE	00021376	S10V002107	SOLID	20100426
MS PERIODIC TABLE	00021376	S10V002109	SOLID	20100426
MS PERIODIC TABLE	00021987	S10V002083	SOLID	20100311
MS PERIODIC TABLE	00021987	S10V002085	SOLID	20100311
MS PERIODIC TABLE	00021987	S10V002087	SOLID	20100311
MS PERIODIC TABLE	00021987	S10V002089	SOLID	20100311
MS PERIODIC TABLE	00021987	S10V002091	SOLID	20100311
MS PERIODIC TABLE	00021987	S10V002093	SOLID	20100347
MS PERIODIC TABLE	00021987	S10V002095	SOLID	20100347
MS PERIODIC TABLE	00021987	S10V002097	SOLID	20100347
MS PERIODIC TABLE	00023138	S10V000498	SOLID	20100311
MS PERIODIC TABLE	00023138	S10V000526	SOLID	20100311
MS PERIODIC TABLE	00023138	S10V000537	SOLID	20100311
MS PERIODIC TABLE	00023138	S10V000553	SOLID	20100311
MS PERIODIC TABLE	00023138	S10V000559	SOLID	20100311
MS PERIODIC TABLE	00023138	S10V000743	SOLID	20100347
MS PERIODIC TABLE	00023138	S10V000744	SOLID	20100347
MS PERIODIC TABLE	00024452	S10V001081	SOLID	20100454
MS PERIODIC TABLE	00024452	S10V001096	SOLID	20100454
MS PERIODIC TABLE	00024452	S10V001111	SOLID	20100454
MS PERIODIC TABLE	00024558	S10V001081	SOLID	20100454
MS PERIODIC TABLE	00024558	S10V001096	SOLID	20100454
MS PERIODIC TABLE	00024558	S10V001111	SOLID	20100454
MS PERIODIC TABLE	00024574	S10V001025	SOLID	20100426
MS PERIODIC TABLE	00024574	S10V001040	SOLID	20100426
MS PERIODIC TABLE	00024574	S10V001055	SOLID	20100426
MS PERIODIC TABLE	00026853	S10V000498	SOLID	20100311
MS PERIODIC TABLE	00026853	S10V000526	SOLID	20100311
MS PERIODIC TABLE	00026853	S10V000537	SOLID	20100311
MS PERIODIC TABLE	00026853	S10V000553	SOLID	20100311
MS PERIODIC TABLE	00026853	S10V000559	SOLID	20100311
MS PERIODIC TABLE	00026853	S10V000743	SOLID	20100347
MS PERIODIC TABLE	00026853	S10V000744	SOLID	20100347
MS PERIODIC TABLE	00026853	S10V001025	SOLID	20100426
MS PERIODIC TABLE	00026853	S10V001040	SOLID	20100426
MS PERIODIC TABLE	00026853	S10V001055	SOLID	20100426
MS TC-99	00018760	S10V000495	SOLID	20100311
MS TC-99	00018760	S10V000523	SOLID	20100311
MS TC-99	00018883	S10V000534	SOLID	20100311
MS TC-99	00018883	S10V000550	SOLID	20100311
MS TC-99	00018883	S10V000556	SOLID	20100311
MS TC-99	00019462	S10V000734	SOLID	20100347
MS TC-99	00019462	S10V000735	SOLID	20100347
MS TC-99	00019462	S10V000789	SOLID	20100347
MS TC-99	00019642	S10V000787	SOLID	20100350
MS TC-99	00019642	S10V000788	SOLID	20100350
MS TC-99	00019906	S10V001022	SOLID	20100426
MS TC-99	00020020	S10V001037	SOLID	20100426
MS TC-99	00020020	S10V001052	SOLID	20100426
MS TC-99	00020047	S10V001078	SOLID	20100454
MS TC-99	00020047	S10V001093	SOLID	20100454
MS TC-99	00020047	S10V001108	SOLID	20100454

METHOD	BATCH	SAMPLE	MATRIX	SDG
NICKEL SCREEN	00022480	S10V000768	LIQUID	20100349
NICKEL-63	00019733	S10V000504	SOLID	20100311
NICKEL-63	00019733	S10V000531	SOLID	20100311
NICKEL-63	00019733	S10V000542	SOLID	20100311
NICKEL-63	00019733	S10V000547	SOLID	20100311
NICKEL-63	00019733	S10V000564	SOLID	20100311
NICKEL-63	00020445	S10V000758	SOLID	20100347
NICKEL-63	00020445	S10V000759	SOLID	20100347
NICKEL-63	00020445	S10V000813	SOLID	20100347
NICKEL-63	00021456	S10V001086	SOLID	20100454
NICKEL-63	00021456	S10V001101	SOLID	20100454
NICKEL-63	00021456	S10V001116	SOLID	20100454
NICKEL-63	00022001	S10V000812	SOLID	20100350
NICKEL-63	00022303	S10V000768	LIQUID	20100349
NICKEL-63	00023957	S10V000811	SOLID	20100350
NICKEL-63	00023961	S10V001030	SOLID	20100426
NICKEL-63	00023961	S10V001045	SOLID	20100426
NICKEL-63	00023961	S10V001060	SOLID	20100426
PH LIQUID	00019399	S10V000761	LIQUID	20100349
PH SOLID	00018558	S10V000496	SOLID	20100311
PH SOLID	00018558	S10V000524	SOLID	20100311
PH SOLID	00018852	S10V000535	SOLID	20100311
PH SOLID	00018852	S10V000551	SOLID	20100311
PH SOLID	00018852	S10V000557	SOLID	20100311
PH SOLID	00019028	S10V000737	SOLID	20100347
PH SOLID	00019425	S10V000790	SOLID	20100350
PH SOLID	00019428	S10V000738	SOLID	20100347
PH SOLID	00019428	S10V000792	SOLID	20100347
PH SOLID	00019665	S10V000791	SOLID	20100350
PH SOLID	00019797	S10V001023	SOLID	20100426
PH SOLID	00019884	S10V001038	SOLID	20100426
PH SOLID	00019947	S10V001053	SOLID	20100426
PH SOLID	00020037	S10V001079	SOLID	20100454
PH SOLID	00020037	S10V001094	SOLID	20100454
PH SOLID	00020037	S10V001109	SOLID	20100454
PLUTONIUM	00019755	S10V000502	SOLID	20100311
PLUTONIUM	00019755	S10V000529	SOLID	20100311
PLUTONIUM	00019755	S10V000540	SOLID	20100311
PLUTONIUM	00019755	S10V000545	SOLID	20100311
PLUTONIUM	00019755	S10V000562	SOLID	20100311
PLUTONIUM	00019790	S10V000768	LIQUID	20100349
PLUTONIUM	00020374	S10V000752	SOLID	20100347
PLUTONIUM	00020374	S10V000753	SOLID	20100347
PLUTONIUM	00020374	S10V000807	SOLID	20100347
PLUTONIUM	00021032	S10V000805	SOLID	20100350
PLUTONIUM	00021032	S10V000806	SOLID	20100350
PLUTONIUM	00021451	S10V001084	SOLID	20100454
PLUTONIUM	00021451	S10V001099	SOLID	20100454
PLUTONIUM	00021451	S10V001114	SOLID	20100454
PLUTONIUM	00023452	S10V001028	SOLID	20100426
PLUTONIUM	00023452	S10V001043	SOLID	20100426
PLUTONIUM	00023452	S10V001058	SOLID	20100426
SELENIUM-79	00019732	S10V000504	SOLID	20100311
SELENIUM-79	00019732	S10V000531	SOLID	20100311
SELENIUM-79	00019732	S10V000542	SOLID	20100311
SELENIUM-79	00019732	S10V000547	SOLID	20100311
SELENIUM-79	00019732	S10V000564	SOLID	20100311
SELENIUM-79	00019793	S10V000768	LIQUID	20100349
SELENIUM-79	00020446	S10V000758	SOLID	20100347
SELENIUM-79	00020446	S10V000759	SOLID	20100347

METHOD	BATCH	SAMPLE	MATRIX	SDG
SELENIUM-79	00020446	S10V000813	SOLID	20100347
SELENIUM-79	00021029	S10V000811	SOLID	20100350
SELENIUM-79	00021029	S10V000812	SOLID	20100350
SELENIUM-79	00021457	S10V001086	SOLID	20100454
SELENIUM-79	00021457	S10V001101	SOLID	20100454
SELENIUM-79	00021457	S10V001116	SOLID	20100454
SELENIUM-79	00021474	S10V001030	SOLID	20100426
SELENIUM-79	00021474	S10V001045	SOLID	20100426
SELENIUM-79	00021474	S10V001060	SOLID	20100426
SR-90 ENV LIQUID	00019792	S10V000768	LIQUID	20100349
STRONTIUM-90	00019758	S10V000503	SOLID	20100311
STRONTIUM-90	00019758	S10V000530	SOLID	20100311
STRONTIUM-90	00019758	S10V000541	SOLID	20100311
STRONTIUM-90	00019758	S10V000546	SOLID	20100311
STRONTIUM-90	00019758	S10V000563	SOLID	20100311
STRONTIUM-90	00020444	S10V000755	SOLID	20100347
STRONTIUM-90	00020444	S10V000756	SOLID	20100347
STRONTIUM-90	00020444	S10V000810	SOLID	20100347
STRONTIUM-90	00020974	S10V000808	SOLID	20100350
STRONTIUM-90	00020974	S10V000809	SOLID	20100350
STRONTIUM-90	00021909	S10V001029	SOLID	20100426
STRONTIUM-90	00021909	S10V001044	SOLID	20100426
STRONTIUM-90	00021909	S10V001059	SOLID	20100426
STRONTIUM-90	00022333	S10V001059	SOLID	20100426
STRONTIUM-90	00023180	S10V001085	SOLID	20100454
STRONTIUM-90	00023180	S10V001100	SOLID	20100454
STRONTIUM-90	00023180	S10V001115	SOLID	20100454
SULFIDE	00018582	S10V000492	SOLID	20100311
SULFIDE	00018582	S10V000521	SOLID	20100311
SULFIDE	00018656	S10V000532	SOLID	20100311
SULFIDE	00018656	S10V000543	SOLID	20100311
SULFIDE	00018800	S10V000548	SOLID	20100311
SULFIDE	00019017	S10V000728	SOLID	20100347
SULFIDE	00019084	S10V000729	SOLID	20100347
SULFIDE	00019254	S10V000783	SOLID	20100347
SULFIDE	00019381	S10V000781	SOLID	20100350
SULFIDE	00019463	S10V000782	SOLID	20100350
SULFIDE	00019716	S10V001020	SOLID	20100426
SULFIDE	00019886	S10V001035	SOLID	20100426
SULFIDE	00019968	S10V001050	SOLID	20100426
SULFIDE	00020059	S10V001076	SOLID	20100454
SULFIDE	00020059	S10V001091	SOLID	20100454
SULFIDE	00020059	S10V001106	SOLID	20100454
TRITIUM-LARGE VOLUME	00020551	S10V000793	SOLID	20100350
TRITIUM-LARGE VOLUME	00020551	S10V000794	SOLID	20100350
TRITIUM-LARGE VOLUME	00020554	S10V000767	LIQUID	20100349
TRITIUM-LARGE VOLUME	00021939	S10V002084	SOLID	20100311
TRITIUM-LARGE VOLUME	00021939	S10V002086	SOLID	20100311
TRITIUM-LARGE VOLUME	00021939	S10V002088	SOLID	20100311
TRITIUM-LARGE VOLUME	00021939	S10V002090	SOLID	20100311
TRITIUM-LARGE VOLUME	00021939	S10V002092	SOLID	20100311
TRITIUM-LARGE VOLUME	00021939	S10V002094	SOLID	20100347
TRITIUM-LARGE VOLUME	00021939	S10V002096	SOLID	20100347
TRITIUM-LARGE VOLUME	00021939	S10V002098	SOLID	20100347
TRITIUM-LARGE VOLUME	00021939	S10V002100	SOLID	20100454
TRITIUM-LARGE VOLUME	00021939	S10V002102	SOLID	20100454
TRITIUM-LARGE VOLUME	00021939	S10V002104	SOLID	20100454
TRITIUM-LARGE VOLUME	00021939	S10V002106	SOLID	20100426
TRITIUM-LARGE VOLUME	00021939	S10V002108	SOLID	20100426
TRITIUM-LARGE VOLUME	00021939	S10V002110	SOLID	20100426

Attachment 7

GEOLOGICAL REPORT

Table A-1 Geologic descriptions of S-SX barrier samples. Described during sample breakdown by Gary A. Cooke, WA State Professional Geologist, #2785.

Sample ID	Lab Number	Date examined	Description
B24HH9-A 45' - 47'	S10V000488	03-29-2010	Tube is full. mS muddy sand, very slightly moist, mix of silt and fine sand, uniform texture, vaguely cohesive, trace mica. Several pieces of foil removed. Color: 2.5Y 6/3, Acid reactivity: moderate Sand mostly medium to very fine grained, < 10% coarse sand and fine gravel salt and pepper, sub-round to sub- angular. *Foil covers on ends unless otherwise noted.
B24HH9-B 45' - 47'	S10V000489	03-29-2010	Tube is full. (m)S Slightly muddy sand, very slightly moist, scattered cohesive clay clasts some are friable, mixed with uniform fine grained sand, trace mica, some large sand grains up to 2mm, Color: 2.5Y5/3 Acid reactivity: moderate to vigorous, Sand medium to very fine grained (5% coarse) salt and pepper
B24HH9-C 45' - 47'	S10V000490	03-29-2010	Tube is full. (m)S slightly muddy sand, very slightly moist, uniform fine sand with silt and some fine gravel, largest particle 4mm, trace mica. Color: missing, Acid reactivity moderate to vigorous. Sand medium to very fine grained, 10% coarse grained salt and pepper.
B24HH9-shoe 45' - 47'	S10V000491	03-29-2010	(m)S slightly muddy sand, very slightly moist, uniform texture, some slightly cohesive clasts, trace mica. Color: 2.5Y6/3 Acid reactivity: Moderate. Sand largely medium to fine grained, <coarse sand, salt and pepper. *No security tape
B24HJ0-A 62' - 64'	S10V000505	03-29-2010	Tube is full. sM sandy mud, slightly moist, slightly cohesive, uniform color and texture, mostly silt little or no clay, minor mica (more than usual). Color: 2.5Y5/3 Acid reactivity moderate. Sand: very fine to fine. Ends covered with foil (unless noted) **Procedure change to determine percentage sand, fine sand, very fine sand, coarse to fine silt and mud content
B24HJ0-B 62' - 64'	S10V000506	03-29-2010	3mm irregular depression top and bottom. sM sandy mud mostly silt, slightly moist, slightly cohesive, uniform color and texture, mica as above: Color:2.5Y5/3 Acid reactivity moderate. Sand, very fine to fine.

Munsell colors were determined using the 2.5Y color card.

Table A-1 Geologic descriptions of S-SX barrier samples. Described during sample breakdown by Gary A. Cooke, WA State Professional Geologist, #2785.

Sample ID	Lab Number	Date examined	Description
B24HJ0-C 62' - 64'	S10V000507	03-29-2010	Tube is full. sM sandy mud, very slightly moist, cohesive clasts with loose soil, clasts appear more clay rich, clasts appear more cohesive than A & B, Minor mica, Color:2.5Y5/3 Acid reactivity: slight to moderate, Slightly sandier, medium to very fine sand
B24HJ0-shoe 62' - 64'	S10V000508	03-29-2010	sM sandy mud, very slightly moist, uniform mix loose and small clasts, clasts are very slightly cohesive and friable. Trace mica, Color:2.5Y5/3 Acid reactivity: moderate to vigorous. Sand mostly fine to very fine with several very coarse grains.
B24KV1-A 96' - 98'	S10V000509	04/01/2010	Tube is full. sM sandy mud, slightly moist, uniform silt and sand, slightly cohesive few clasts. Trace mica. Color: 2.5Y5/3 Acid reactivity: moderate. Sand very fine to fine grained. No medium or coarse grains.
B24KV1-B 96' - 98'	S10V000510	04/01/2010	Tube is full. Slight bulge on top up to 3mm. mS muddy sand. Slightly moist. Uniform texture, slightly cohesive, clasts break easily, trace mica. Color: 2.5Y6/3, Acid reactivity: moderate. Sand very fine to fine grained no medium or coarse grains. (*removed several fragments of aluminum foil and tape)
B24KV1-C 96' - 98'	S10V000511	04/01/2010	Slight depression both ends, top 1mm, bottom 3mm. sM sandy mud, bottom 25mm mS muddy sand, very slightly moist. Abundant small dark (wall side) flat clasts, break easily, uniform texture, very slightly cohesive, trace mica. Color: 2.5Y5/3 Acid reactivity: moderate. Sand very fine to fine grained trace medium to coarse grained. (*fragment of "O" ring, tape and foil removed)
B24KV1-Shoe 96' - 98'	S10V000512	04/01/2010	mS muddy sand, very slightly moist, uniform texture, small clasts break easily, slightly cohesive, trace mica Color: 2.5Y5/3 Acid reactivity: moderate. Sand very fine to fine with minor medium grained, no coarse slightly more medium grained than previous sample.

Munsell colors were determined using the 2.5Y color card.

Table A-1 Geologic descriptions of S-SX barrier samples. Described during sample breakdown by Gary A. Cooke, WA State Professional Geologist, #2785.

Sample ID	Lab Number	Date examined	Description
B24KV2-A 127'- 129'	S10V000513	04/01/2010	Tube is full. mS muddy sand, very slightly moist, uniform texture and color, small clasts slightly cohesive break easily, trace mica. Color: 2.5Y6/3 Acid reactivity: moderate. Sand mostly very fine, some fine grained. **Using teflon® caps (first time)
B24KV2-B 127'- 129'	S10V000514	04/01/2010	Tube is full. sM sandy mud, very slightly moist, uniform color and texture, clasts very slightly cohesive break easily, trace mica. Color: 2.5Y5/3 Acid reactivity moderate to vigorous. Sand very fine grained to silt.
B24KV2-C 127'- 129'	S10V000515	04/01/2010	Tube is full sM sandy mud, slightly moist, uniform color and texture, clasts slightly cohesive break easily, trace mica. Color: 2.5Y5/3 Acid reactivity: vigorous. Sand fine to very fine, minor medium grained.
B24KV2-shoe 127'- 129'	S10V000516	04/01/2010	sM sandy mud, very slightly moist, uniform color and texture, slightly cohesive clasts break easily, trace mica Color: 2.5Y6/3 Acid reactivity: moderate. Sand mostly very fine grained, some fine grained.
B24KV3-A 159' - 161'	S10V000517	04/08/2010	Tube is full. (m)S slightly muddy sand, very slightly moist, mostly fine grained sand little silt, no gravel or clay, uniform color and texture, clasts break easily non cohesive, trace mica. Color: 2.5Y6/3 Acid reactivity: very slight reactivity (four bubbles). 80% fine to very fine sand 20% medium sand no coarse.
B24KV3-B 159' - 161'	S10V000518	04/08/2010	Tube is full. (m)S slightly muddy sand, very slightly moist, uniform color and texture, clasts break easily, no gravel, little or no clay, non cohesive clasts, trace mica. Color: 2.5Y6/3 Acid reactivity: very slightly reactive. Sand (80%) mostly fine to very fine. (20%) medium grained sand

Munsell colors were determined using the 2.5Y color card.

Table A-1 Geologic descriptions of S-SX barrier samples. Described during sample breakdown by Gary A. Cooke, WA State Professional Geologist, #2785.

Sample ID	Lab Number	Date examined	Description
B24KV3-C 159' - 161'	S10V000519	04/08/2010	Tube is full. (m)S slightly muddy sand at bottom very slightly moist. 75mm from bottom (gm)S slightly gravelly muddy sand, slightly moist, this is the top 25mm. (m)S uniform color and texture, clasts break easily fine to very fine sand dominates, trace mica. Color: 2.5Y6/3 Acid reactivity: very weak. (gm)S poorly sorted gravel with sand and mud, clasts are slightly cohesive break easily, gravel is angular to sub round largest piece 18mm long (excluded), trace mica. Color: 2.5Y5/3 Acid reactivity: weak. (m)S mostly medium to fine grained, 10% very fine grained, 10% coarse grained. (gm)S predominantly medium to very coarse grained sand, some fine to very fine grained.
B24KV3-shoe 159' - 161'	S10V000520	04/08/2010	(m)S slightly muddy sand, very slightly moist, uniform color and texture, non cohesive clasts break easily, mostly fine grained sand little silt, no clay or gravel. Trace mica. Color: 2.5Y6/2 Acid reactivity: very weak. Sand mostly fine to very fine grained some medium grained, no coarse grained.
B24YW0-A 40' - 42'	S10V000716	04/21/2010	Top is full, 25mm gap on bottom. From bottom ~200mm lithology change. gS gravelly sand slightly moist bottom ⅔, poorly sorted, angular to sub rounded, largest particle 22mm long (excluded). Upper ⅓ mS muddy sand, slightly moist, uniform color and texture, some silt and gravel mostly basalt, trace mica. Both sections sand slightly cohesive. Layers combined color: 2.5Y5/3 Acid reactivity moderate. Sand poorly sorted, very fine to very coarse grained.
B24YW0-B 40' - 42'	S10V000717	04/21/2010	Tube is full, top slight dome 2mm. (m)S slightly muddy sand, slightly moist, medium to fine grained with some silt, uniform color and texture, very slightly cohesive, trace mica. Coarse grains <1mm. Color:2.5Y 6/3 Acid reactivity: moderate. Sand mostly medium to fine grained, traces of very fine and coarse grains.

Munsell colors were determined using the 2.5Y color card.

Table A-1 Geologic descriptions of S-SX barrier samples. Described during sample breakdown by Gary A. Cooke, WA State Professional Geologist, #2785.

Sample ID	Lab Number	Date examined	Description
B24YW0-C 40' - 42'	S10V000718	04/21/2010	Tube is full. mS muddy sand, slightly moist, clasts are brittle only slightly cohesive, mottled in texture light and dark clasts, trace mica. Color: 2.5Y5/3 darker clasts are 2.5Y4/3. Acid reactivity: moderate to vigorous. Sand very fine to fine grained few very coarse grains; majority of sand is very fine to fine grained.
B24YW1-A 96'- 98'	S10V000720	04/26/2010	Tube is full. top half mS muddy sand, Slightly moist, bottom half sM sandy mud, slightly moist, clasts slightly cohesive break easily, largest grains ~1mm, sandy mud has only fine to very fine grains, trace mica throughout. Color: 2.5Y5/3 Acid reactivity slight to moderate. Sand mostly fine to very fine, ~20% medium to coarse grained sand, no very coarse grained sand. *Color and acid reactivity done on the homogenized sample.
B24YW1-B 96'- 98'	S10V000721	04/26/2010	Tube is full. sM sandy mud, slightly moist to moist, drop of moisture on bottom end cap. Loess? Mostly silt with very fine sand, little clay, uniform color and texture, clasts slightly cohesive, easily broken, trace mica. Color: 2.5Y5/3 Acid reactivity: slight to moderate. Sand all fine to very fine grained.
B24YW1-C 96'- 98'	S10V000722	04/26/2010	Tube is full. sM sandy mud, slightly moist to moist tiny droplets of moisture in bottom end cap. Mud is mostly silt, little clay, clasts slightly cohesive, uniform color and texture. Sand is mostly fine to very fine grained. Trace mica. Color: 2.5Y5/3 Acid reactivity: slight to moderate. Sand, mix of fine and very fine grained, no medium or coarse grains.
B24YW1-Shoe 96'- 98'	S10V000723	04/26/2010	(m)S slightly muddy sand, slightly moist, no clasts, very slightly cohesive, easily broken. Largest grains <1 mm. Slight salt and pepper texture. Color: 2.5Y6/3 Acid reactivity: moderate.
B24YW6-A 135' - 137'	S10V000777	05/05/2010	Irregular depression ~5mm deep on top. M mud, moist, uniform stiff slightly cohesive, silty clay, clasts break easily, trace mica, trace sand very fine grained. Color: 2.5Y5/4 Acid reactivity: moderate to vigorous

Munsell colors were determined using the 2.5Y color card.

Table A-1 Geologic descriptions of S-SX barrier samples. Described during sample breakdown by Gary A. Cooke, WA State Professional Geologist, #2785.

Sample ID	Lab Number	Date examined	Description
B24YW6-B 135' - 137'	S10V000778	05/05/2010	Tube over full, bottom bulges ~3mm. M mud, slightly moist to moist, stiff slightly cohesive clasts break easily, uniform color and texture. Trace very fine grained sand, trace mica. Color: 2.5Y5/3 Acid reactivity: vigorous
B24YW6-C 135' - 137'	S10V000779	05/05/2010	Tube is full. M mud, slightly moist, predominantly gray mud and silt, mottled brown layer ~20mm thick 40mm from the top of the tube. Gray layer clasts slightly cohesive, brown layer crumbles easily, small white flakes throughout (Caliche). Brown layer appears to be organic rich, trace mica. Color: 2.5Y3/2 composite, Brown layer 2.4YR4/3, gray layer 2.5Y6/3 Acid reactivity: moderate to vigorous. Trace very fine grained sand ~5%. * ”O” ring fragment removed.
B24YW6-shoe 135' - 137'	S10V000780	05/05/2010	M mud slightly moist, slightly cohesive clay with silt, trace very fine grained sand, clasts break easily, uniform texture, trace mica. Color: 2.5Y5/4 Acid reactivity: moderate to heavy (vigorous).
B24YW4-A 40’ – 42’	S10V000769	05/11/2010	Tube is full. sM sandy mud, slightly moist, uniform fine grained sand and silt, few clasts break easily, trace mica, some small white grains caliche, trace medium to coarse grain sand, largest grains ~2mm. Color: 2.5Y5/4 Acid reactivity moderate. Sand poorly sorted fine to coarse grained, largest grains angular to sub angular.
B24YW4-B 40' – 42'	S10V000770	05/11/2010	Tube is full. sM sandy mud, slightly moist, uniform mostly silt some fine sand, few clasts break easily, trace mica. Color: 2.5Y5/3 Acid reactivity moderate to vigorous. Sand, very fine to medium grained trace coarse grains, moderately well sorted.
B24YW4-C 40' – 42'	S10V000771	05/11/2010	Tube is full. mS muddy sand, slightly moist, uniform texture, few clasts easily broken, little or no clay, trace mica. Color: 2.5Y5/4 Acid reactivity moderate to vigorous. Sand is very fine to fine grained, trace coarse grains, largest grains ~1mm.

Munsell colors were determined using the 2.5Y color card.

Table A-1 Geologic descriptions of S-SX barrier samples. Described during sample breakdown by Gary A. Cooke, WA State Professional Geologist, #2785.

Sample ID	Lab Number	Date examined	Description

B24YW4-shoe 40' – 42'	S10V000772	05/11/2010	sM sandy mud, very slightly moist, uniform texture, few clasts easily broken, mix of fine sand and silt, trace mica. Color: 2.5Y4/3 Acid reactivity moderate to vigorous. Sand mostly fine to very fine grained minor medium and coarse grains, largest grains ~2mm, coarse grains are sub round to round
B24YW5-A 96' - 98'	S10V000773	05/13/2010	Tube is full. mS muddy sand, very slightly moist bottom 15mm, remainder of tube sM sandy mud, slightly moist. Muddy sand fine grained with silt, trace clay, trace of medium sand, coarsest grains <1mm. Uniform color and texture. Sandy mud, predominantly silt, trace clay, slightly cohesive, clasts easily broken, trace mica. Color: mS 2.5Y6/3 sM 2.5Y5/3. Acid reactivity: mS slight, sM slight to moderate. Sand very fine grained.
B24YW5-B 96' - 98'	S10V000774	05/13/2010	Tube is full. sM sandy mud, slightly moist, uniform texture and color, mix of very fine sand and silt with minor clay clasts, slightly cohesive break easily, trace mica. Color: 2.5Y5/3 Acid reactivity: Slight to moderate. Sand is fine to very fine grained, trace medium grained.
B24YW5-C 96' - 98'	S10V000775	05/13/2010	Tube is full. sM sandy mud, slightly moist, uniform texture and color, predominantly fine to very fine sand and silt, clay clasts easily broken (minor) trace mica. Thin dark layer where soil meets tube. Color: 2.5Y5/3 Acid reactivity: moderate. Sand is all fine to very fine.
B24YW5-shoe 96' - 98'	S10V000776	05/13/2010	mS Muddy sand, slightly moist, mud is dominantly silt coarsest grains are medium. Trace or no clay uniform texture and color, very slightly cohesive, trace mica Color: 2.5Y6/3 Acid reactivity slight to moderate. Sand is 25% medium grained.
B24YX2-A 44'-46'	S10V001016	05/26/2010	Tube is full. mS (muddy sand) slightly moist, uniform color and texture, clasts are very slightly cohesive, break easily, sand is mostly very fine to fine grained, minor medium grained, no coarse grains, no coarse gravel, trace mica, color: 2.5Y4/4, Acid reactivity: moderate.

Munsell colors were determined using the 2.5Y color card.

Table A-1 Geologic descriptions of S-SX barrier samples. Described during sample breakdown by Gary A. Cooke, WA State Professional Geologist, #2785.

Sample ID	Lab Number	Date examined	Description

B24YX2-B 44’-46’	S10V001017	05/26/2010	Tube is full, protruding 1mm from top and bottom, mS (muddy sand) slightly moist, clasts break easily, slightly cohesive, sand is mostly fine to very fine grained, trace medium and coarse grained, trace gravel, largest fragment 9mm, trace mica, Color: 2.5Y4/3 Acid reactivity: moderate.
B24YX2-C 44’-46’	S10V001018	5/26/2010	Tube is full. sM (sandy mud) slightly moist, uniform mix of fine to very fine sand and mud (mostly silt), minor amounts of medium sand, no coarse sand, no gravel, clasts are slightly cohesive but easily broken. Color: 2.5Y4/3 Acid reactivity: moderate.
B24YX2-Shoe 44’-46’	S10V001019	5/26/2010	mS (muddy sand) very slightly moist, fine to very fine sand with silt, uniform color and texture, some clasts, non-cohesive and crumbly, sand is mostly fine to very fine grained with trace medium grained, no coarse grained. Color: 2.5Y6/3 Acid reactivity: moderate to vigorous.
B24YX3-A 94’-96’	S10V001031	6/03/2010	Tube is full. M mud, very slightly moist, silt with trace clay, trace sand very fine grained, trace mica, uniform fine grained color and texture, (loess?). Color: 2.4Y6/4. Acid reactivity: moderate to vigorous, water rinse: 20% fine to very fine grained sand, trace medium grained sand.
B24YX3-B 94’-96’	S10V001032	6/03/2010	Tube is full. M mud, very slightly moist, mud with minor sand, uniform color and texture, some silt and fine sand (as above), no clay, trace mica. Color: 2.5Y6/4. Acid reactivity: moderate to vigorous. Water rinse: sand fine to very fine grained, trace medium grained.
B24YX3-C 94’-96’	S10V001033	6/03/2010	Tube is full. M mud, very slightly moist, predominantly silt (loess?), trace clay, minor sand, uniform color and texture, trace mica. Color: 2.5Y6/4 Acid reactivity: moderate to vigorous. Water rinse: very fine to fine grained with trace medium sand

Munsell colors were determined using the 2.5Y color card.

Table A-1 Geologic descriptions of S-SX barrier samples. Described during sample breakdown by Gary A. Cooke, WA State Professional Geologist, #2785.

Sample ID	**Lab Number**	**Date examined**	**Description**
B24YX3-Shoe	S10V001034	6/03/2010	M mud, very slightly moist, predominantly silt, trace clay, minor sand, uniform color

94’-96’			and texture, trace mica, (loess?) Color: 2.5Y6/3 Acid reactivity: moderate. Water rinse: sand very fine to fine grained, trace medium grained, one coarse grain 1.5mm.
B24YX4-A 144’-146’	S10V001046	6/07/2010	Tube is full. M mud, moist, mostly clay, cohesive, clasts break easily, hackly texture slightly plastic, irregular blackish lining on wall of tube, (source unknown), uniform color and texture. Color: 2.5Y5/3 Acid reactivity: moderate to vigorous. Water rinse: no sand
B24YX4-B 144’-146’	S10V001047	6/07/2010	Tube is full. M mud, moist, mostly clay, cohesive clasts, break easily, uniform color and texture, hackly texture, slightly plastic, less black material on walls. Color: 2.5Y5/3 Acid reactivity: moderate to vigorous. Water rinse: no sand, trace coarse grained silt
B24YX4-C 144’-146’	S10V001048	6/07/2010	Tube is full. M mud, moist, mostly clay, cohesive, clasts break easily, uniform color and texture, few black streaks, hackly texture, moderate plasticity, trace mica, occasional small iron stained patches ~2mm across. Color: 2.5Y5/3 Acid reactivity: moderate to vigorous. Water rinse: no sand, trace coarse grained silt
B24YX4-Shoe 144’-146’	S10V001049	6/07/2010	M mud, slightly moist, mostly clay, cohesive, clasts break easily, uniform color and texture, no black streaks, hackly texture, moderate plasticity. Color: 2.5Y5/3 Acid reactivity: moderate to vigorous. Water rinse: no sand, trace coarse grained silt
B24YW8-A 37’-39’	S10V001072	06/09/2010	Tube is full. (m)S slightly muddy sand, slightly moist, bottom 10% (gm)S slightly gravelly muddy sand poorly sorted, mix of sand and silt, minor gravel, largest particle 12mm (excluded), dark layer (skin) nest to walls, sub-angular to sub-rounded, coarse fragments dark basalt, trace mica, silt clasts crumble easily, non cohesive, Color: 2.5Y4/2, Acid reactivity: moderate, Water rinse: sand poorly sorted, mostly fine to very fine grained, minor medium and coarse grained

Munsell colors were determined using the 2.5Y color card.

Table A-1 Geologic descriptions of S-SX barrier samples. Described during sample breakdown by Gary A. Cooke, WA State Professional Geologist, #2785.

Sample ID	**Lab Number**	**Date examined**	**Description**
B24YW8-B	S10V001073	06/09/2010	Tube is full. mS muddy sand, slightly moist, clasts are slightly cohesive, break easily,

37’-39’			largest fragment sub-rounded pebble 20mm (excluded), trace very fine to fine grained gravel, poorly sorted, silt to medium grained sand, sub-angular to sub-rounded, trace mica. Color: 2.5Y4/2, Acid reactivity: moderate, Water rinse: fine to very fine sand dominates, minor medium and coarse grained
B24YW8-C 37’-39’	S10V001074	06/09/2010	Tube is full. gS gravelly sand, very slightly moist, largest fragments 17 to 20mm (4 excluded), angular to rounded, poorly sorted sand and gravel, minor silt, basalt dominates, coarse grained top third of tube, no clasts, some white caliche grains. Color: 2.5Y4/2, Acid reactivity: moderate, Water rinse: sand poorly sorted, very fine to medium grained dominates, minor coarse grained
B24YW8-Shoe 37’-39’	S10V001075	06/09/2010	gS gravelly sand, very slightly moist, some clasts, non cohesive, break with moderate pressure. Minor silt, gravel angular to sub-rounded, largest fragments 19mm, 17mm (excluded), poorly sorted sand, basalt dominates gravel, trace mica, Color: 2.5Y5/2, Acid reactivity: moderate, Water rinse: sand very poorly sorted, approximately equal proportions of coarse, medium, fine and very fine grained
B24YW9-A 96’-98’	S10V001087	06/09/2010	Tube is full. Moist, free moisture top of tube. sM sandy mud, moist, bottom 50mm mS muddy sand, cohesive clasts, largely silt, break easily, minor clay, minor fine grained sand uniform color and texture, except for the bottom 50mm noted, trace mica. Color: 2.5Y5/3, Acid reactivity: moderate, Water rinse: sand predominantly very fine to medium grained, no coarse
B24YW9-B 96’-98’	S10V001088	06/09/2010	1mm bulge on top, uniform 5mm depression on bottom, M mud, moist, mostly silt, uniform color and texture, minor clay and sand, clasts slightly cohesive, break easily, trace mica. Color: 2.5Y5/4, Acid reactivity: moderate, Water rinse: sand very fine grained, minor fine, no medium or coarse grained

Munsell colors were determined using the 2.5Y color card.

Table A-1 Geologic descriptions of S-SX barrier samples. Described during sample breakdown by Gary A. Cooke, WA State Professional Geologist, #2785.

Sample ID	Lab Number	Date examined	Description
B24YW9-C	S10V001089	06/09/2010	Tube is full. sM sandy mud, moist, fine grained sand and silt dominate, slightly

96’-98’			cohesive clasts, break easily, uniform color and texture, trace mica. Color: 2.5Y 5/4, Acid reactivity: moderate, Water rinse: sand very fine, trace fine grained
B24YW9-Shoe 96’-98’	S10V001090	06/09/2010	mS muddy sand, slightly moist, fine grained sand with silt, slightly cohesive, uniform color and texture, trace mica, Color: 2.5Y5/3 Acid reactivity: moderate, Water rinse: dominant medium grained sand, minor coarse, very fine and fine grained. Small “o” ring fragment removed
B24YX0-A 127’-129’	S10V001102	06/09/2010	Tube is full. sM sandy mud, slightly moist, fine sand and silt, trace clay, clasts slightly cohesive, break easily, uniform color and texture, trace mica. Color: 2.5Y6/3. Acid reactivity: moderate. Water rinse: sand fine to very fine grained, no medium or coarse grained
B24YX0-B 127’-129’	S10V001103	06/09/2010	Tube is full. M mud, slightly moist, clay, silt and very fine grained sand, clasts very slightly cohesive, break easily, slightly hackly texture, uniform color and texture, trace mica. Color: 2.5Y5/3 Acid reactivity: moderate to vigorous Water rinse: Sand is very fine grained, minor fine grained
B24YX0-C 127’-129’	S10V001104	06/09/2010	Irregular gap at top, bottom full. M mud, slightly moist, clasts slightly cohesive, break easily, dark skin on walls, predominantly silt, uniform color and texture. Color: 2.5Y6/3 Acid reactivity: vigorous Water rinse: silt with minor very fine grained sand
B24YX0-Shoe 127’-129’	S10V001105	06/09/2010	sM sandy mud, dry, dominantly silt and very fine grained sand, slightly cohesive clasts, break easily, uniform color and texture, trace mica. Color: 2.5Y6/3 Acid reactivity: moderate Water rinse: sand is very fine grained

Munsell colors were determined using the 2.5Y color card.

S-SX Barrier, 2010, Parts B and C

Figure A-1: Core 7738, Sample B24HH9, Liner A

Figure A-2: Core 7738, Sample B24H H9, Liner B

Figure A-3: Core 7738, Sample B24H H9, Liner C

Figure A-4: Core 7738, Sample B24H H9, Shoe

Figure A-5: Core 7738, Sample B24HH9, Composite

Figure A-6: Core 7738, Sample B24HJ0, Liner A

Figure A-7: Core 7738, Sample B24HJ0, Liner B

Figure A-8: Core 7738, Sample B24HJ0, Liner C

Figure A-9: Core 7738, Sample B24HJ0, Shoe

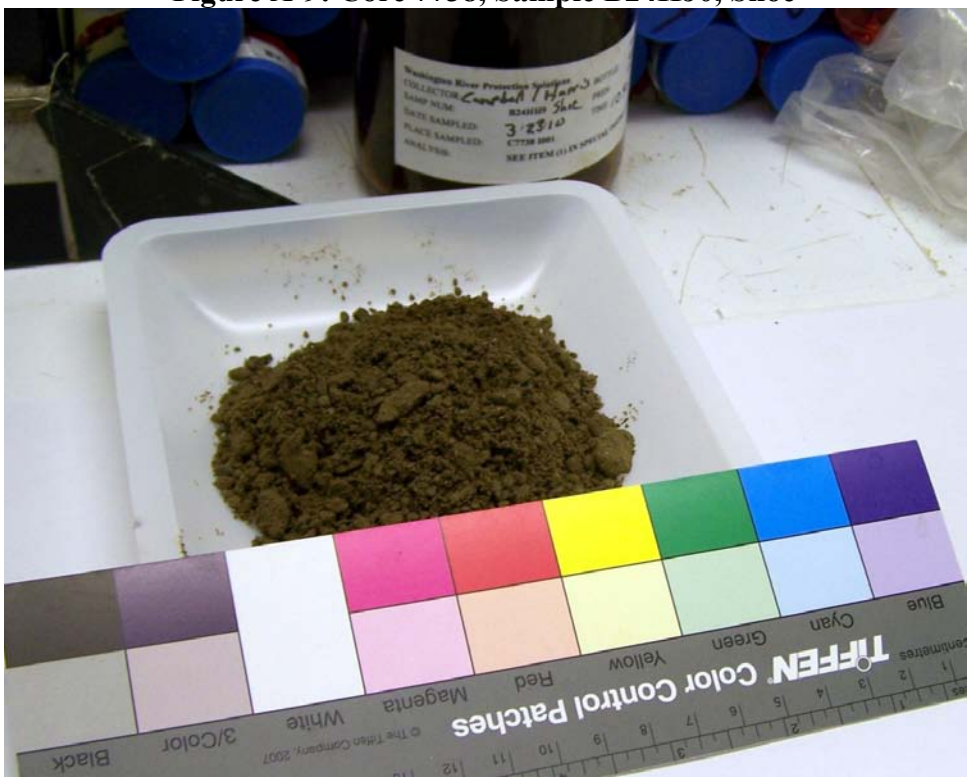


Figure A-10: Core 7738, Sample B24HJ0 Composite

Figure A-11: Core 7738, Sample B24KV1, Liner A

Figure A-12: Core 7738, Sample B24KV1, Liner B

Figure A-13: Core 7738, Sample B24KV1, Liner C

Figure A-14: Core 7738, Sample B24KV1, Shoe

Figure A-15: Core 7738, Sample B24KV1, Composite

Figure A-16: Core 7738, Sample B24KV2, Liner A

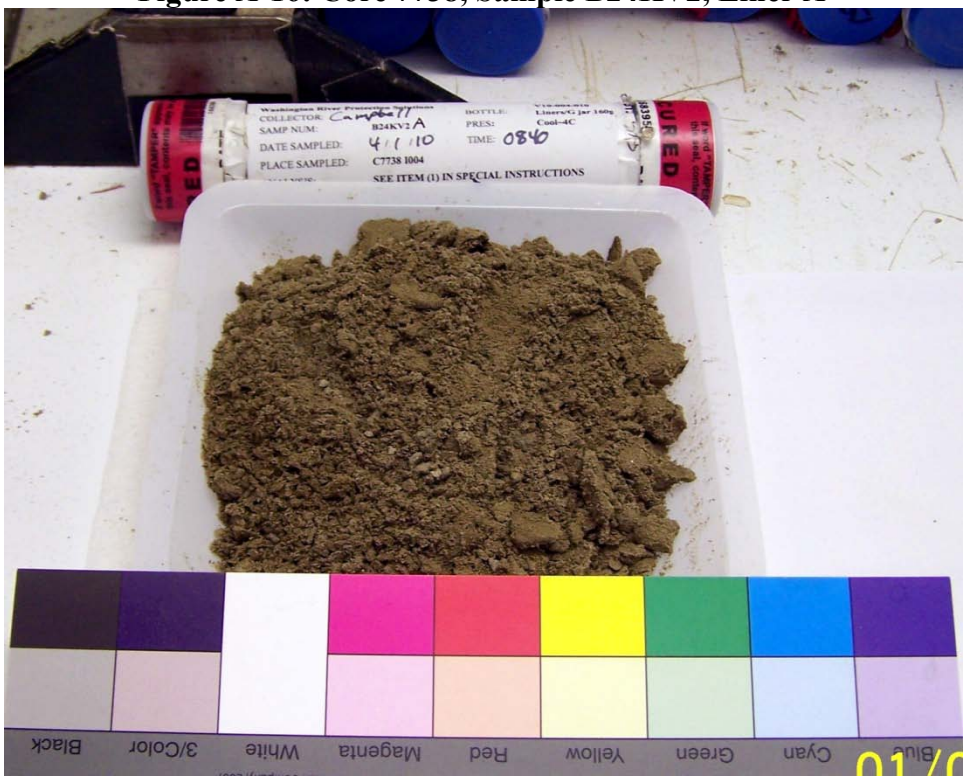


Figure A-17: Core 7738, Sample B24KV2, Liner B

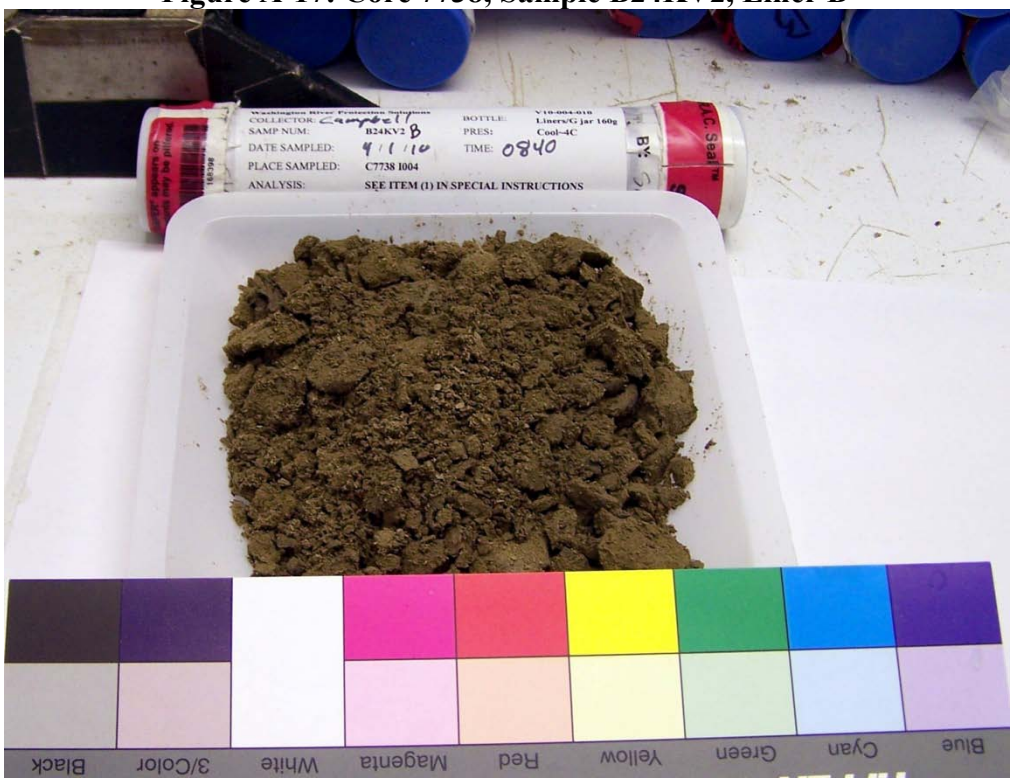


Figure A-18: Core 7738, Sample B24KV2, Liner C

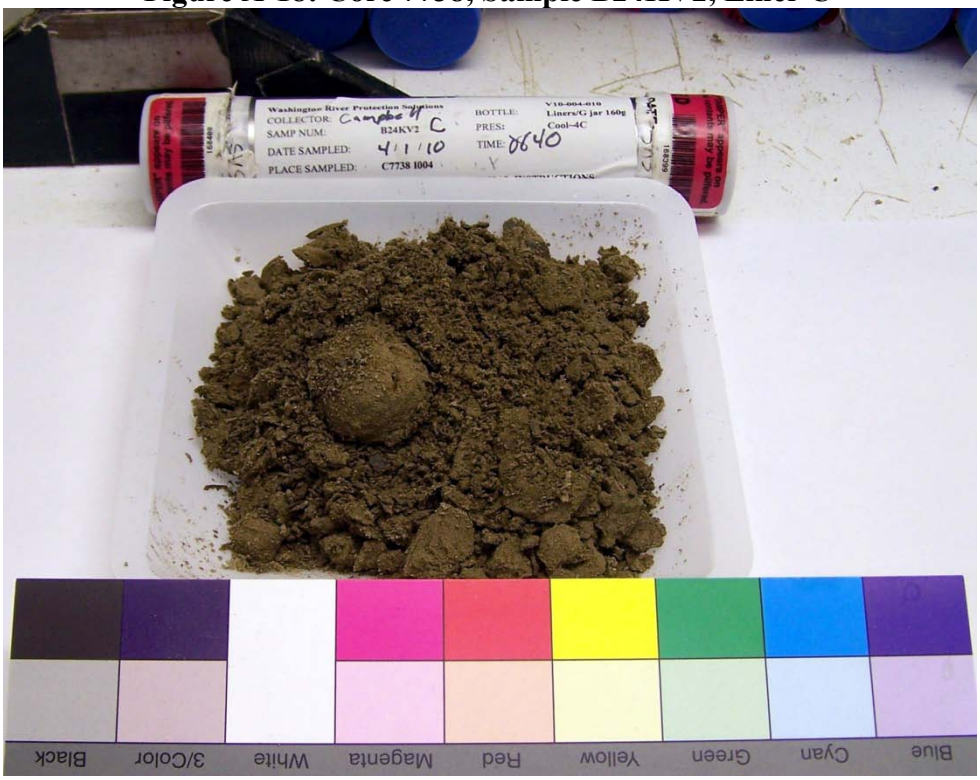


Figure A-19: Core 7738, Sample B24KV2, Shoe

Figure A-20: Core 7738, Sample B24KV2, Composite

Figure A-21: Core 7738, Sample B24KV3, Liner A

Figure A-22: Core 7738, Sample B24KV3, Liner B

Figure A-23: Core 7738, Sample B24KV3, Liner C

Figure A-24: Core 7738, Sample B24KV3, Shoe

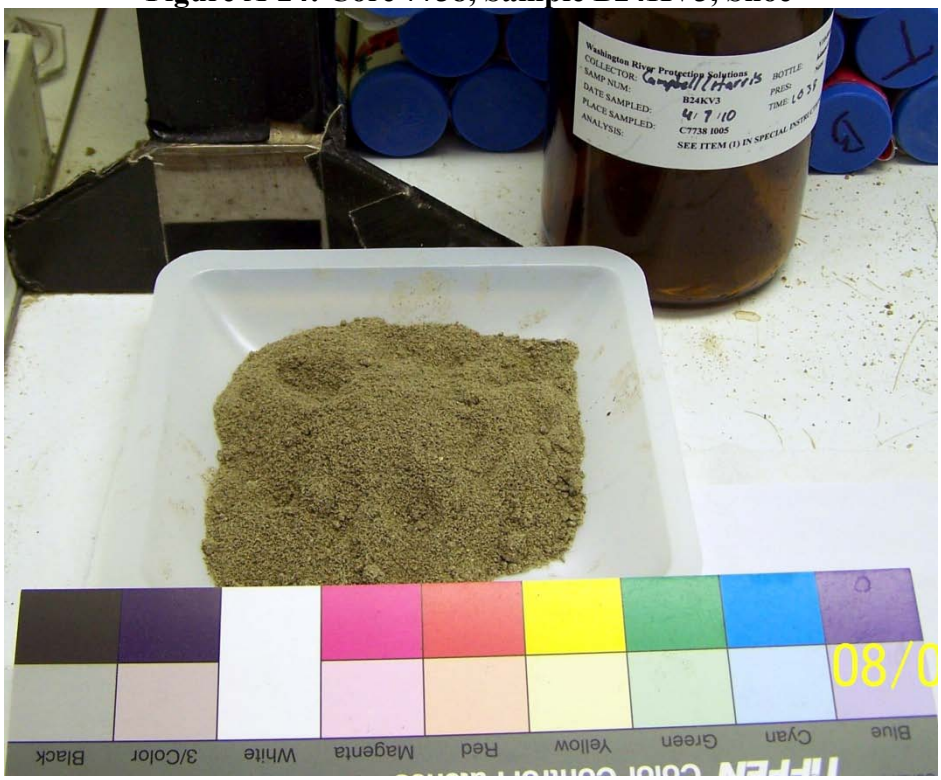


Figure A-25: Core 7738, Sample B24KV3, Composite

Figure A-26: Core 7742, Sample B24YW0, Liner A

Figure A-27: Core 7742, Sample B24YW0, Liner B

Figure A-28: Core 7742, Sample B24YW0, Liner C

Figure A-29: Core 7742, Sample B24YW0, Composite

Figure A-30: Core 7742, Sample B24YW1, Liner A

Figure A-31: Core 7742, Sample B24YW1, Liner B

Figure A-32: Core 7742, Sample B24YW1, Liner C

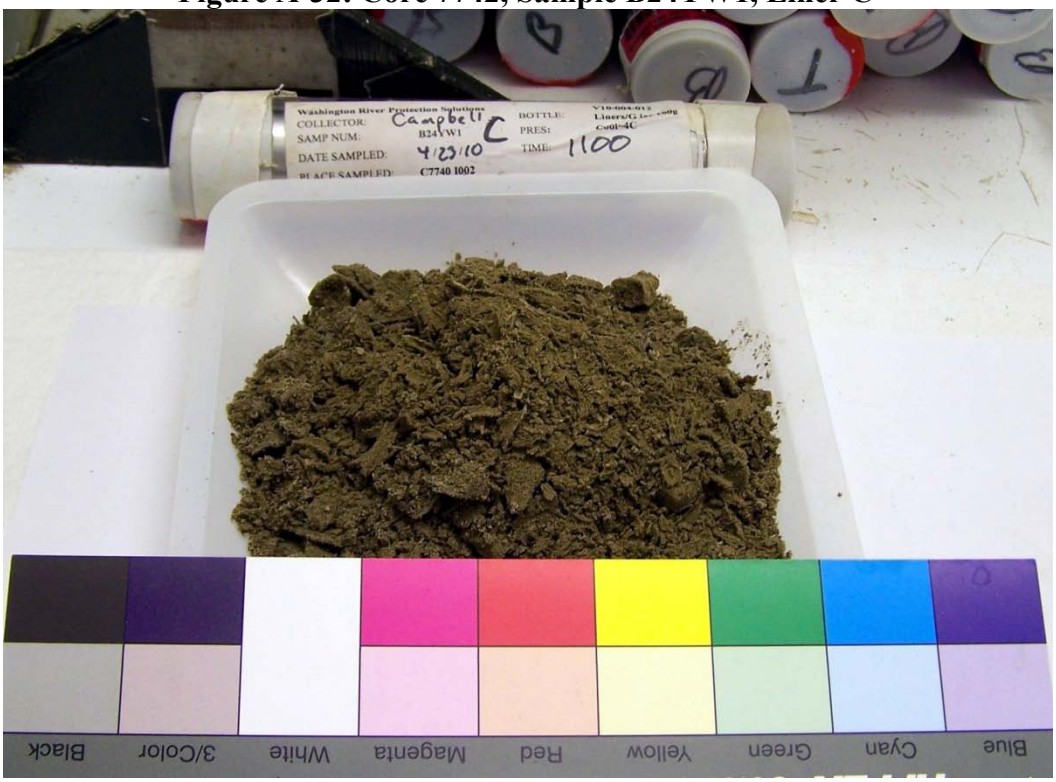


Figure A-33: Core 7742, 3Sample B24YW1, Shoe

Figure A-34: Core 7742, Sample B24YW1, Composite

Figure A-35: Core 7742, Sample B24YW6, Liner A

Figure A-36: Core 7742, Sample B24YW6, Liner B

Figure A-37: Core 7742, Sample B24YW6, Liner C

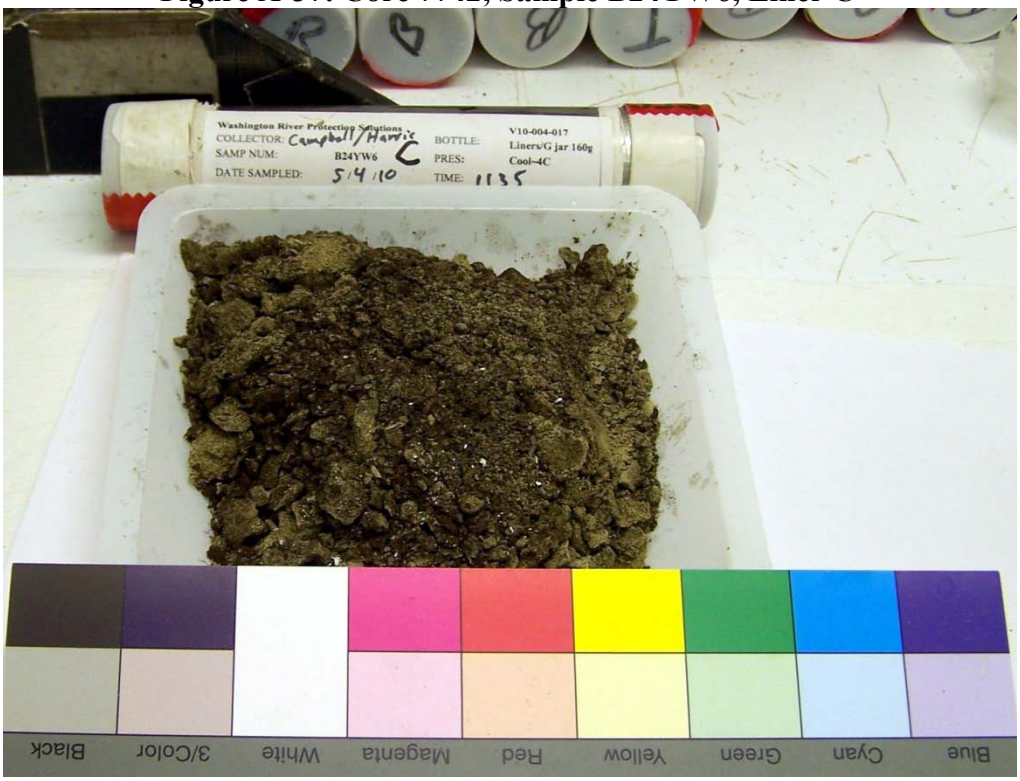


Figure A-38: Core 7742, Sample B24YW6, Shoe

Figure A-39: Core 7742, Sample B24YW6, Composite

Figure A-40: Core 7740, Sample B24YW4, Liner A

Figure A-41: Core 7740, Sample B24YW4, Liner B

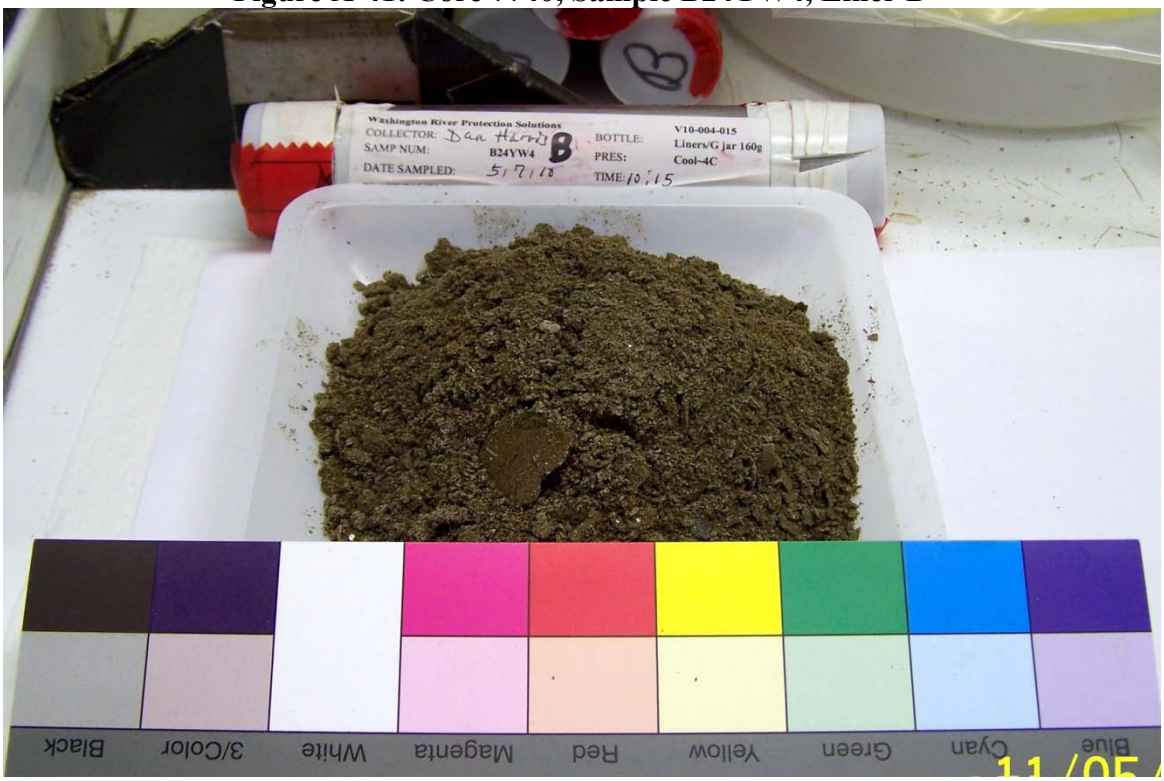


Figure A-42: Core 7740, Sample B24YW4, Liner C

Figure A-43: Core 7740, Sample B24YW4, Shoe

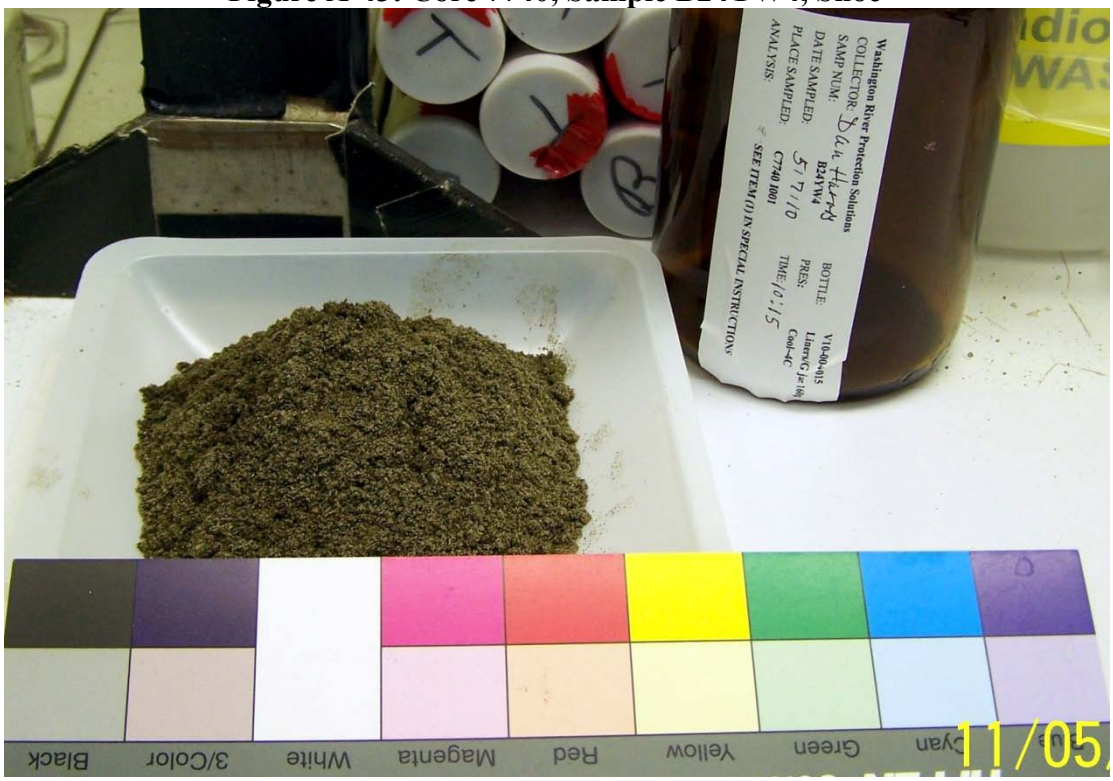


Figure A-44: Core 7740, Sample B24YW4, Composite

Figure A-45: Core 7740, Sample B24YW5, Liner A

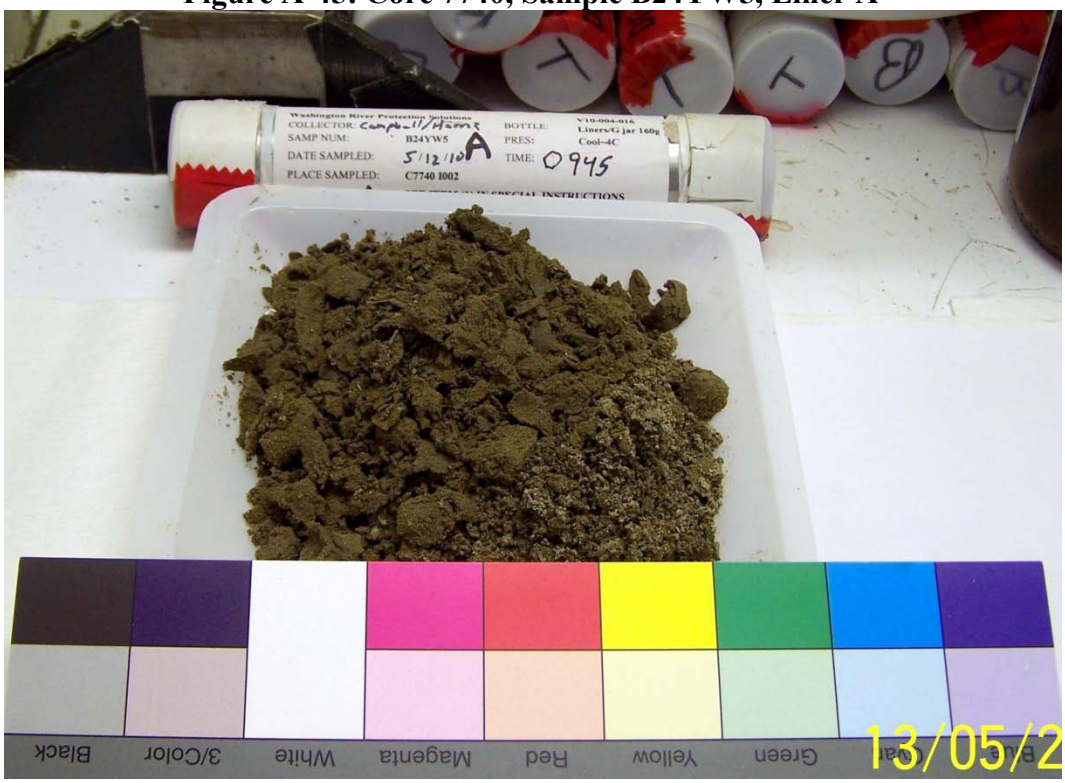


Figure A-46: Core 7740, Sample B24YW5, Liner B

Figure A-47: Core 7740, Sample B24YW5, Liner C

Figure A-48: Core 7740, Sample B24YW5, Shoe

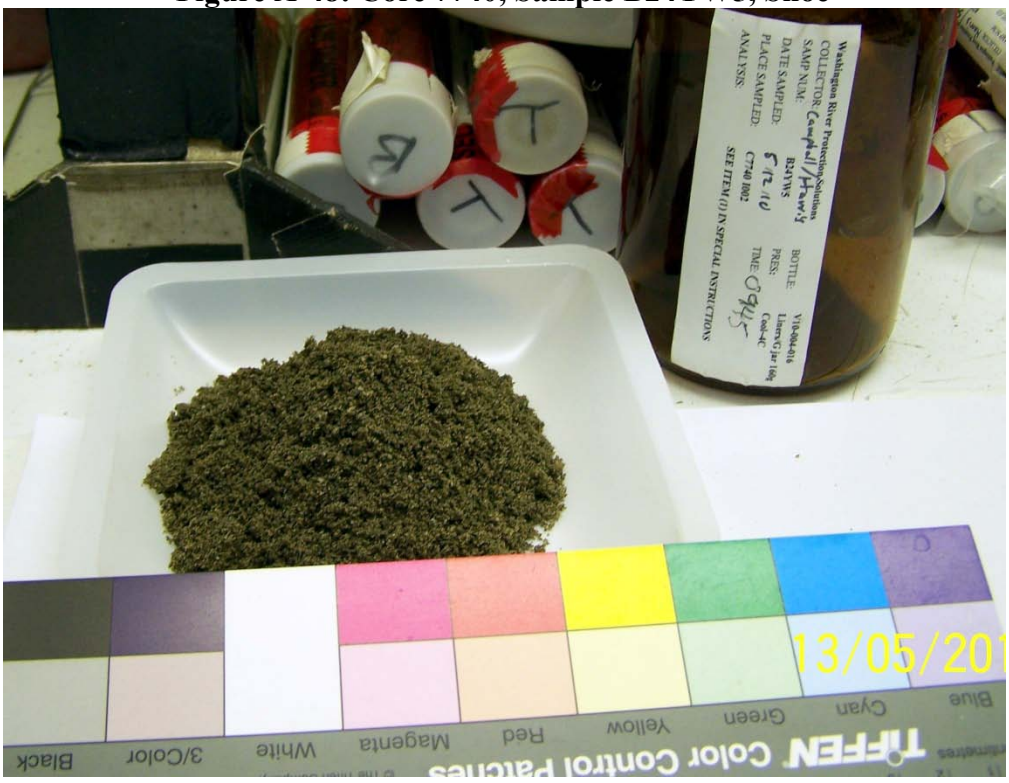


Figure A-49: Core 7740, Sample B24YW5, Composite

Figure A-50: Core 7746, Sample B24YX2, Liner A

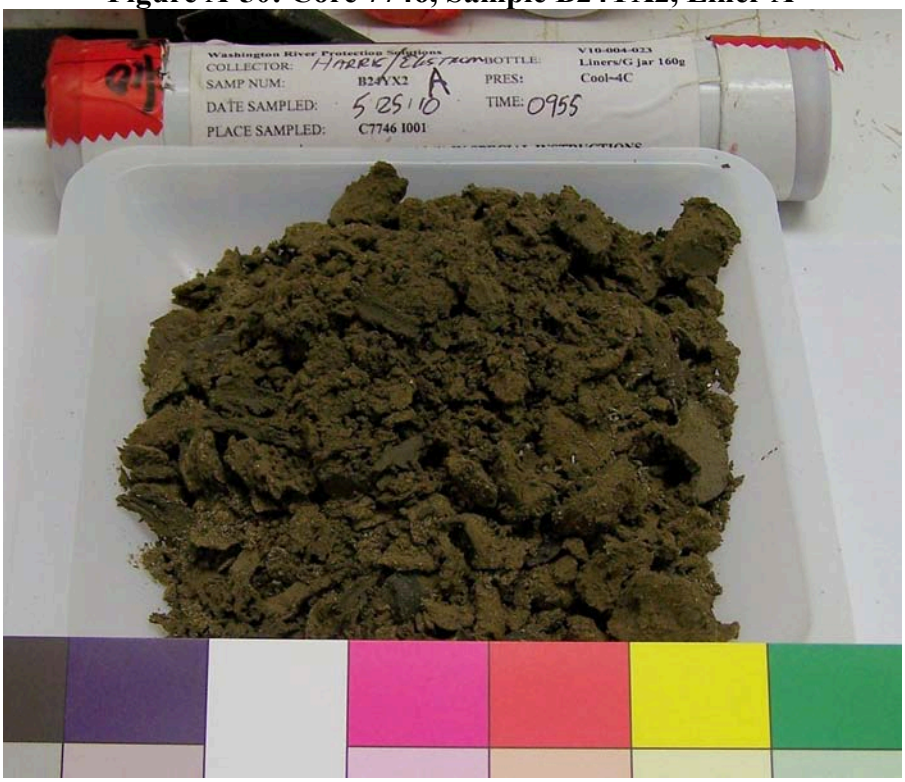


Figure A-51: Core 7746, Sample B24YX2, Liner B

Figure A-52: Core 7746, Sample B24YX2, Liner C

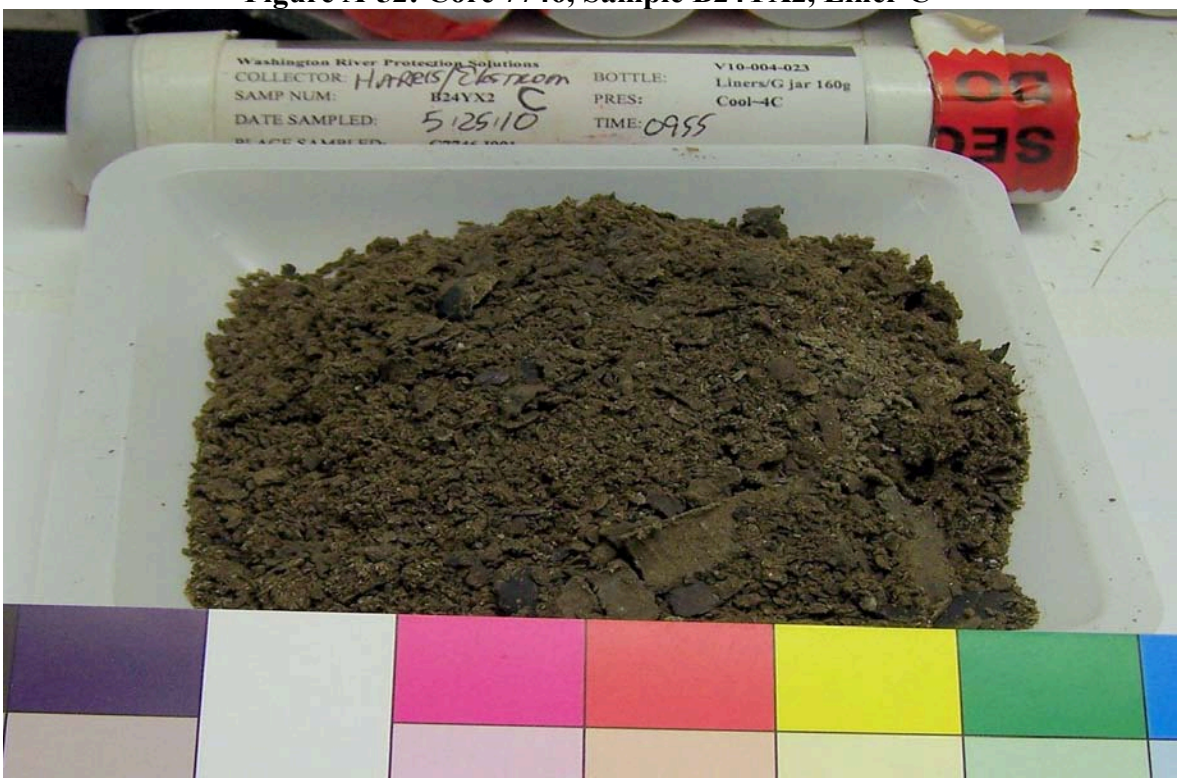


Figure A-53: Core 7746, Sample B24YX2, Shoe

Figure A-54: Core 7746, Sample B24YX2, Composite

Figure A-55: Core 7746, Sample B24YX3, Liner A

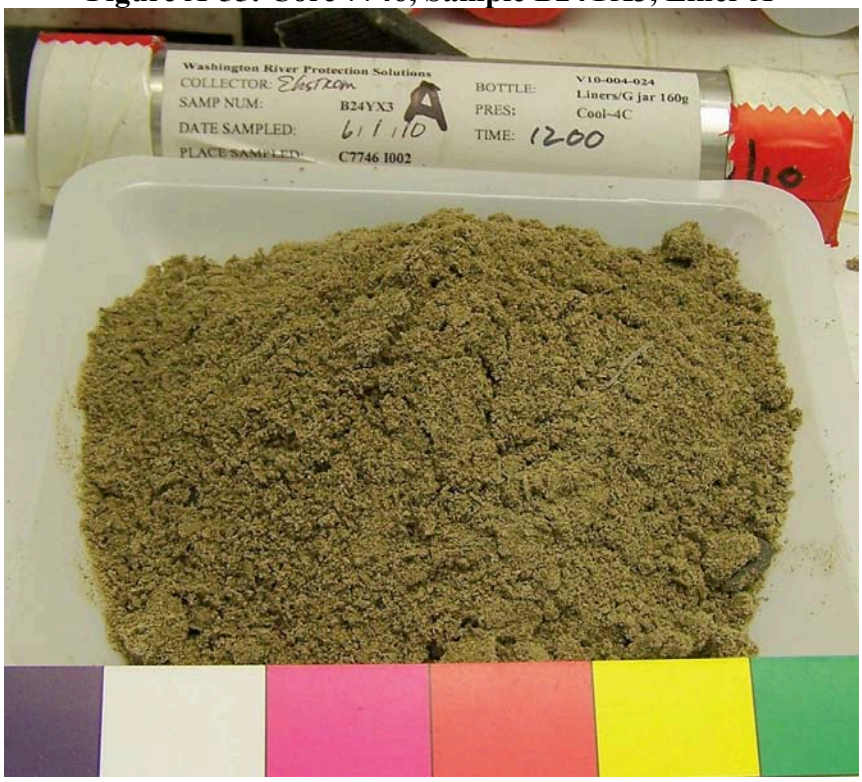


Figure A-56: Core 7746, Sample B24YX3, Liner B

Figure A-57: Core 7746, Sample B24YX3, Liner C

Figure A-58: Core 7746, Sample B24YX3, Shoe

Figure A-59: Core 7746, Sample B24YX3, Composite

Figure A-60: Core 7746, Sample B24YX4, Liner A

Figure A-61: Core 7746, Sample B24YX4, Liner B

Figure A-62: Core 7746, Sample B24YX4, Liner C

Figure A-63: Core 7746, Sample B24YX4 Shoe

Figure A-64: Core 7746, Sample B24YX4, Composite

Figure A-65: Core 7744, Sample B24YW8, Liner A

Figure A-66: Core 7744, Sample B24YW8, Liner B

Figure A-67: Core 7744, Sample B24YW8, Liner C

Figure A-68: Core 7744, Sample B24YW8, Shoe

Figure A-69: Core 7744, Sample B24YW8, Composite

Figure A-70: Core 7744, Sample B24YW9, Liner A

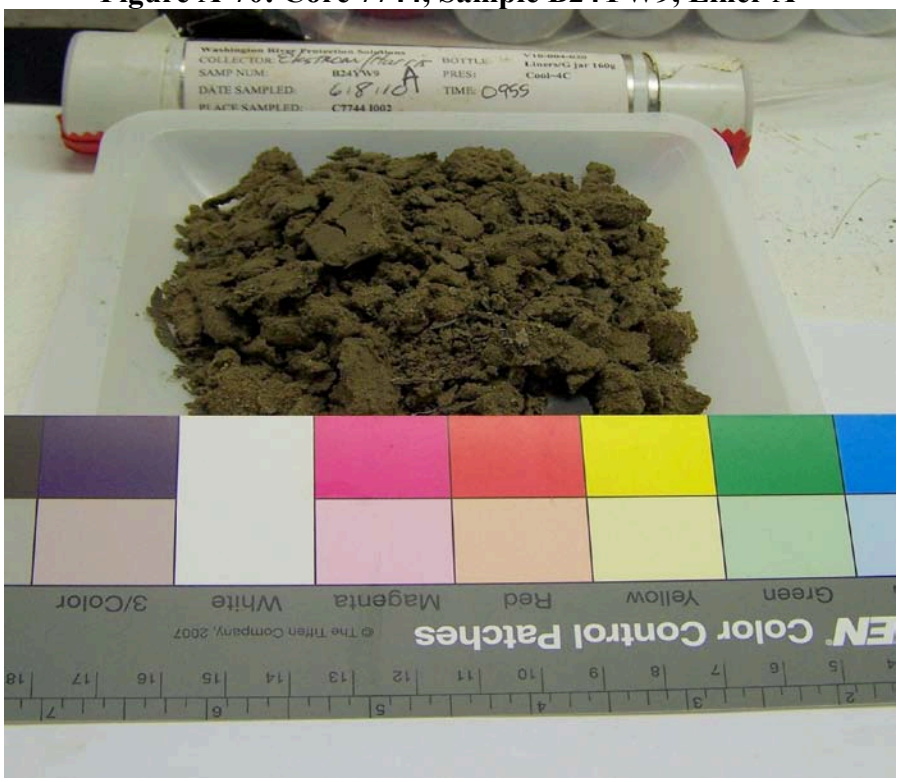


Figure A-71: Core 7744, Sample B24YW9, Liner B

Figure A-72: Core 7744, Sample B24YW9, Liner C

Figure A-73: Core 7744, Sample B24YW9, Shoe

Figure A-74: Core 7744, Sample B24YX0, Liner A

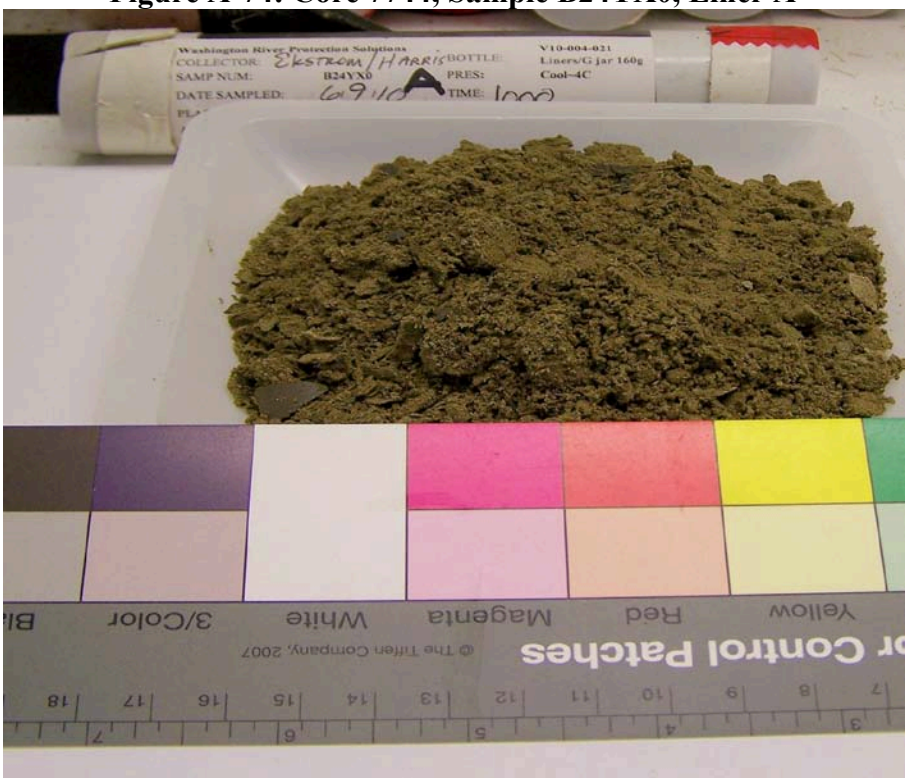


Figure A-75: Core 7744, Sample B24YX0, Liner B

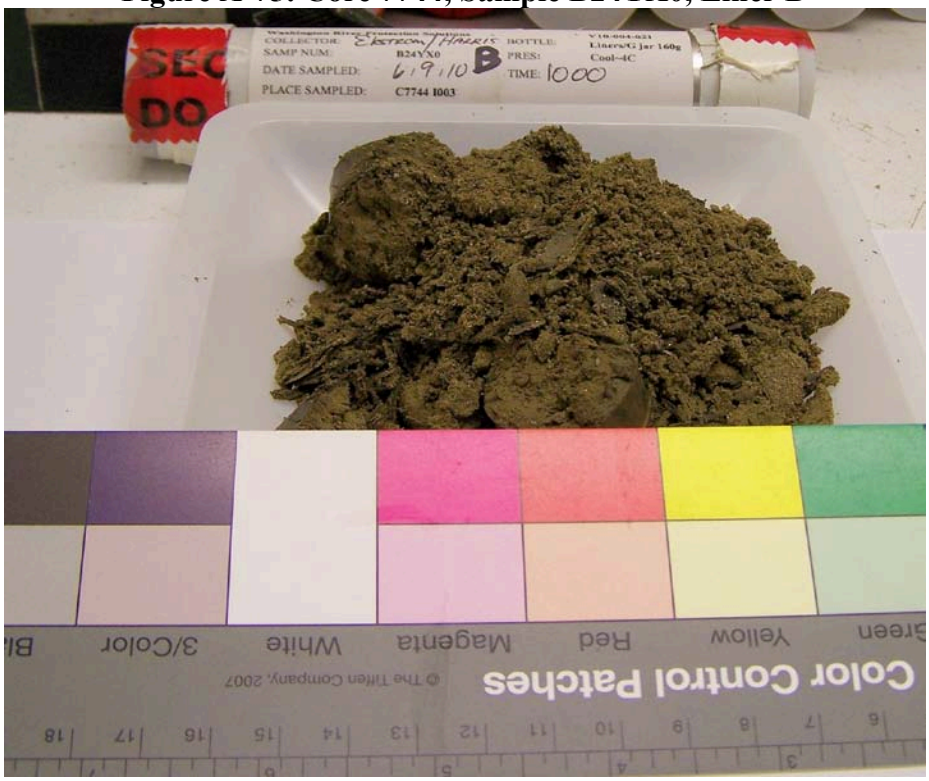


Figure A-76: Core 7744, Sample B24YX0, Liner C

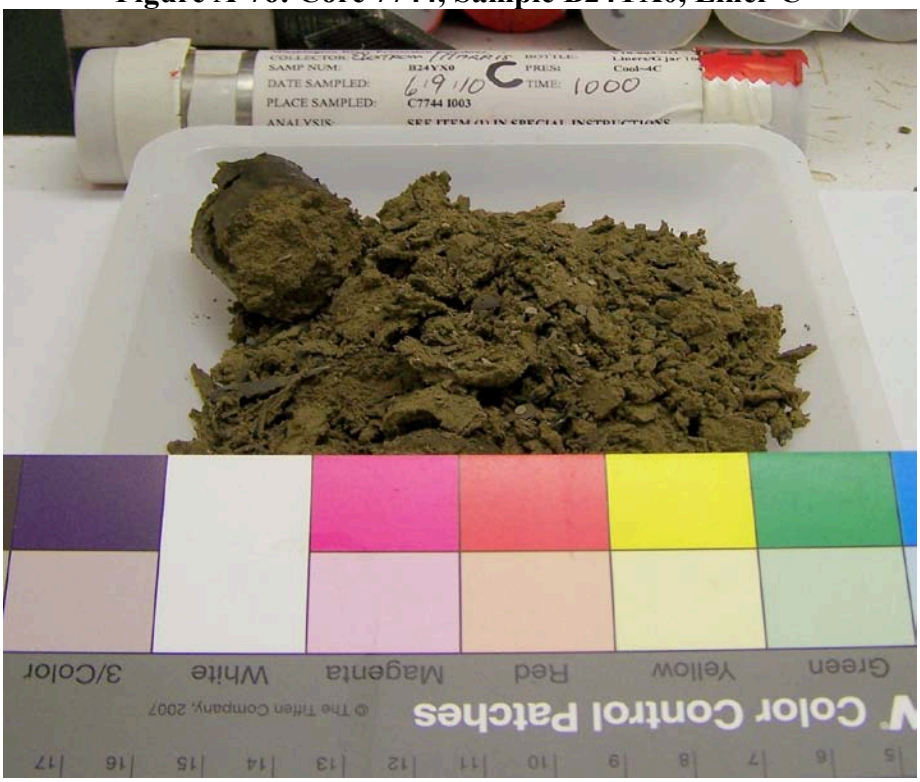


Figure A-77: Core 7744, Sample B24YX0, Shoe

Figure A-78: Core 7744, Sample B24YX0, Composite

Attachment 8

CHARACTERIZATION CHANGE NOTICES
AND CORRESPONDENCE

VADOSE ZONE
CHARACTERIZATION CHANGE NOTICE

Document: RPP-PLAN-44162, Rev. 0 **Change Number:** WMA S/SX-001 **ECN to TSAP Required?** Y / N

Requestor: Andrew Templeton **Date:** 3-24-10

Samples Impacted: All

Proposed Change: Table 5-1 of RPP-PLAN-44162, Rev. 0 indicates that gross alpha and gross beta analyses will be performed by liquid scintillation (acid and water digest/preparation). This CCN cancels these gross alpha and gross beta analyses.

Reason for Change: The analyses are not required in either of the DQOs (RPP-43551 and RPP-RPT-38152) identified in RPP-PLAN-44162, Rev. 0.

Date Change Effective: 3-24-10

Schedule Impact: None

Authorization:

Vadose Zone POC (Print/Sign): Andrew Templeton — **Date:** 4-5-10

Vadose Zone Quality Assurance (Print/Sign): Kathy Dunbar — **Date:** 4-6-10

222-S Project Coordinator (Print/Sign): Steve Mckinney — **Date:** 4-7-10

ATL Project Coordinator (Print/Sign): Gerald Ritenour — **Date:** 4-7-2010

Other (Optional, Print/Sign): — **Date:**

Additional Distribution: S. J. Eberlein, K. M. Hall, Dana Stewart, Penny Berlin, Erik Wyse

REVIEW COMMENT RECORD (RCR)	1. Date 4/28/2011	2. Review No.
	3. Project No.	Page 1 of 1

5. Document Number(s)/Title(s)	6. Program/Project/Building Number	7. Reviewer	8. Organization/Group	9. Location/Phone
ATL#20100311 Rev.0 **Final Analytical Report for Soil Samples in Support of an Interim Barrier Southeast of S Farm, bordering SX Farm**	WRPS	HL Anastos	Closure and Corrective Measures	1200 Jadwin/ Rm. 301 373-2616

17. Comment Submittal Approval	10. Agreement With Indicated Comment Disposition(s)	11. CLOSED
Date / Organization Manager (optional) (print and sign)	8-29-11 Date; HL Anastos Reviewer/Point of Contact (print and sign); GP Ritenour Author/Originator (print and sign)	8-29-11 Date; HL Anastos Reviewer/Point of Contact (print and sign); GP Ritenour Author/Originator (print and sign)

12. Item	13a. Comments	13b. Basis	13c. Recommendation	14. Reviewer Concurrence Required (Y or N)	15. Disposition (provide justification if **NOT** accepted)	16. Status
1	p.5: Narrative is contradictory regarding meeting required detection limits for Hg.	Professional opinion	Omit statement that "This analysis met the required and target detection limits."	Y	Fix narrative to reflect missed RDLs for Hg	
2	p.160: Geological description report: Depths and lab ids for B24HJ0 and B24HH9 are not consistent with COCs.	Report and COC review	Correct geological report.	Y	Fix Report	
3	p. 165-6: Geological description report: Depths for B24YW4 and B24YW5 are incorrect.	Report and COC review	Correct geological report	Y	Fix Report	
4	p.170: Geological description report: Depth for B24YX0 is incorrect.	Report and COC review	Correct geological report	Y	Fixed report	
5	COC V10-004-007 relinquished time and received times are inconsistent.	COC Review	Document discrepancy on RCR.	N	N/A	CLOSED

A-6400-090.1 (REV 1)

From:	Templeton, Andrew M
To:	Ritenour, Gerald P; McKinney, Steve G
Cc:	Campbell, Bobby C (Bob); "Rory Z. Steffler"
Subject:	RE: CoC status
Date:	Monday, August 02, 2010 3:08:08 PM
Attachments:	RICWANorthColor_20100727_102155.pdf

Sounds good JR, please use the attached Drilling and Sampling Daily Work Record for documentation that the actual sample depth was 127-129 ft. bgs.

When you have done it will you please scan it in and send a copy to Rory, he needs it for his completion report.

Thanks and hope you had a good vacation!

Andrew

From: Ritenour, Gerald P
Sent: Monday, August 02, 2010 2:15 PM
To: Templeton, Andrew M; McKinney, Steve G
Cc: Campbell, Bobby C (Bob)
Subject: RE: CoC status

Andrew,
It's probably easiest if I just make the changes based on this email.
JR

Gerald "JR" Ritenour
Project Manager
ATL International, Inc.
(509) 372-2742 office
(509) 438-8837 cell
gerald_p_ritenour@rl.gov

From: Templeton, Andrew M
Sent: Monday, August 02, 2010 2:12 PM
To: McKinney, Steve G
Cc: Ritenour, Gerald P; Campbell, Bobby C (Bob)
Subject: FW: CoC status

Steve,

You may have seen some of the e-mails on this. The samplers got the wrong depth on this COC for the S/SX sampling. Let me know what you think the best way to correct this is. I was thinking that the samplers could stop by after delivering a sample and make the correction. As you can see below they apparently need it for a completion report.

Thanks!

Andrew

From: Rory Z. Steffler [mailto:rzsteffler@energysolutions.com]
Sent: Monday, August 02, 2010 7:51 AM
To: Templeton, Andrew M
Cc: McKinney, Steve G
Subject: CoC status

Good Morning Andrew,

I was wondering what the status is on correcting Chain of Custody # V10-004-021 at the lab, ie: changing the depth from 137 to 139 ft, to 127 to 129 ft. Our technical editor is attempting to add all of the attachments to my report, but she doesn't want to attach this one until it has the corrected CoC.

Please let me know what the status is, as this is holding up the report for Harold.

Thanks,

Rory

From:	Anastos, Heather L
To:	Ritenour, Gerald P
Cc:	Johnson, Jo M; McKinney, Steve G; Hansen, Daniel R
Subject:	RE: S-SX Barrier, Potassium LCS
Date:	Monday, March 28, 2011 11:37:38 AM

We will accept the spike.

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: Sunday, March 27, 2011 12:20 PM
To: Anastos, Heather L
Cc: Johnson, Jo M; McKinney, Steve G; Hansen, Daniel R
Subject: S-SX Barrier, Potassium LCS

Heather,
In reviewing the ICP/AES data I have found a low LCS for potassium at 77%,requirement is ±20%. All other QC except the MS passed, but MS criterion did not apply since there was 20X the spike in the sample. Since all LLSs and CCVs passed and no LCS recovery for any element is above 96% it appears to have been a “sloppy” spike. Do you want us to rerun or report “as is”? Sampling date are from June, 2010.
Thanks, JR

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:	Johnson, Jo M; McKinney, Steve G; Hansen, Daniel R
Subject:	RE: S-SX Barrier Sb analysis
Date:	Monday, March 28, 2011 12:19:21 PM

I agree with bullet 1 – the 5 samples with a low MS can be reported. The two samples which were not properly digested need to be reprepped and reanalyzed to confirm the results. I understand the reanalysis will be outside of holding time.

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: Sunday, March 27, 2011 9:15 AM
To: Anastos, Heather L
Cc: Johnson, Jo M; McKinney, Steve G; Hansen, Daniel R
Subject: S-SX Barrier Sb analysis

Heather,
In reviewing the ICP/MS data for Sb from the S-SX project. I have found:

- Five samples with a low MS of 40%, Results were 100X below RDL and TDL. Sample were properly digested. I would like to report with flags and narrative
- 2 samples with low MS of 20%, were not properly digested (no extra HCL), results were X5 below RDL/TLD. Sample were collected on 5/4/2010, should they be analyze or reported "as is". Appears were not logged-in correctly

Thanks, JR

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: 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:	McKinney, Steve G; Johnson, Jo M
Subject:	RE: S-SX Pb blank Issue
Date:	Wednesday, March 30, 2011 8:20:02 AM

Agree – please rerun.

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: Tuesday, March 29, 2011 2:58 PM
To: Anastos, Heather L
Cc: McKinney, Steve G; Johnson, Jo M
Subject: S-SX Pb blank Issue

Heather,
I found a couple of samples with a high blank for Pb. Blank and sample results are above the quantitation level and the blank result is > 20% of the sample. Sample results were around 6-7ppm. I am planning on reprep and reanalysis unless you think we can report with narrative. New results will be passed HT
Thanks JR

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

RPP-RPT-50504 Rev.0

Attachment 9

RECEIPT PAPERWORK

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	LO-090-101 Rev _____

Date Samples Received: 3/23/10 Group #: _____

Number of Samples: 8 (2 ~~8~~ of 4)

Sample Custodian: CDavies

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	✓		
RSR provided?	✓		
Verify GKI is complete	✓		On file
Check that outer custody seal is intact, if present	✓		
Record cooler temperature in centigrade, as appropriate	✓		☐ Check if no cooler and/or no ice -1°C
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)	✓		2B Ref 4

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

PM to Complete:

Samples acceptable for release? Yes PM Initials * Date 3/23/10

If No, comment on communication and resolution:

* CDavies for QR

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-007	PAGE 1 OF 2
COLLECTOR Campbell / Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7738 I001	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO. TFVS-09-003	**FIELD LOGBOOK NO.** TFVZ-10-00002	**ACTUAL SAMPLE DEPTH** 45-47	**COA** n/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
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~4C
TYPE OF CONTAINER	Liners/G jar
NO. OF CONTAINER(S)	4
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B24HH9	SOIL	3-23-10	1030	✓
S10V000488	Liner A			
S10V000489	Liner B			
S10V000490	Liner C			
S10V000491	Shoe			

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
BCampbell BCampbell	3-23-10 1305	[illegible]	3/23/10 1505

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

Group # 222S 20100311

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

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-007	PAGE 2 OF 2
COLLECTOR Campbell / Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7738 I001	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	**75 Days / 75 Days**
ICE CHEST NO. TFV2-09-003	**FIELD LOGBOOK NO.** TFV2-10-000002	**ACTUAL SAMPLE DEPTH** 45-47	**COA** n/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** n/A		**BILL OF LADING/AIR BILL NO.** n/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1)ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate} pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Niobium, Samarium, Boron, Bismuth, Lead, Neodymium, Tin, Sulfur, Sodium, Tantalum, Tellurium, Aluminum, Iron, Lanthanum, Palladium, Potassium, Rubidium, Barium, Chromium, Europium, Praseodymium, Rhenium, Copper, Molybdenum, Strontium, Tungsten, Beryllium, Cerium, Yttrium, Zinc, Zirconium, Manganese, Thorium, Titanium, Calcium, Lithium, Magnesium, Ruthenium, Silicon, Uranium, Phosphorus} 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126} GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-239/240, Plutonium-238} Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90} ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-008	PAGE 1 OF 2
COLLECTOR Campbell / Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7738 I002	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO. TFVZ-09-603	**FIELD LOGBOOK NO.** TFVZ-10-000002	**ACTUAL SAMPLE DEPTH** 62-64	**COA** n/a	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
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~4C
TYPE OF CONTAINER	Liners/G jar
NO. OF CONTAINER(S)	4
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B24HJ0	SOIL	3-23-10	1413	✓
S10V000505	Liner A			
S10V000506	Liner B			
S10V000507	Liner C			
S10V000508	Shoe			

CHAIN OF POSSESSION — SIGN/ PRINT NAMES			
RELINQUISHED BY/REMOVED FROM	**DATE/TIME**	**RECEIVED BY/STORED IN**	**DATE/TIME**
B Campbell B Campbell	3-23-10 1505	C Edwards C Edwards	3/23/10 1505

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

Group # 222S 20100311

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

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-008	PAGE 2 OF 2
COLLECTOR Campbell / Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7738 I002	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	**75 Days / 75 Days**
ICE CHEST NO. TFVZ-09-003	**FIELD LOGBOOK NO.** TFVZ-10-00002	**ACTUAL SAMPLE DEPTH** 62 - 64	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1)ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate} pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Niobium, Samarium, Boron, Bismuth, Lead, Neodymium, Tin, Sulfur, Sodium, Tantalum, Tellurium, Aluminum, Iron, Lanthanum, Palladium, Potassium, Rubidium, Barium, Europium, Chromium, Praseodymium, Rhenium, Copper, Molybdenum, Strontium, Tungsten, Beryllium, Cerium, Yttrium, Zinc, Zirconium, Manganese, Thorium, Titanium, Calcium, Lithium, Magnesium, Ruthenium, Silicon, Uranium, Phosphorus} 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126} GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-239/240, Plutonium-238} Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90} ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

A-6003-618(01/06)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	LO-090-101 Rev _____

Date Samples Received: 3/30/10 Group #: 20100311

Number of Samples: one set 3 liner 5 shoe

Sample Custodian: Ron Hale

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	Y		
RSR provided?		N/A	
Verify GKI is complete	Y		
Check that outer custody seal is intact, if present	Y		
Record cooler temperature in centigrade, as appropriate	-1°C		☐ Check if no cooler and/or no ice
Samples are intact and in good condition	Y		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	Y		
• Date and time of sampling	Y		
• Sampling location or origin	Y		
• Container type, size, and number	Y		
• Analysis request is clear	Y		
• Signature of persons relinquishing and receiving samples	Y		
• Date and/or time of sample custody exchange	Y		
Verify that sample numbers on containers match the COC and/or RSA	Y		
Samples stored properly (e.g., refrigeration)	Y		

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

PM to Complete:

Samples acceptable for release? Yes PM Initials BM Date 3-30-2010

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-009	PAGE 1 OF 2
COLLECTOR Campbell / Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7738 I003	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO. TFV2-09-003	**FIELD LOGBOOK NO.** TFV2-10-00002	**ACTUAL SAMPLE DEPTH** 96-98	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
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~4C
TYPE OF CONTAINER	Liners/G jar
NO. OF CONTAINER(S)	4
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B24KV1	SOIL	3-30-10	1350
S10V000509	Liner A		
S10V000510	Liner B		
S10V000511	Liner C		
S10V000512	Shoe		

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
BCampbell BC-pbell	3-30-10 1495	RD Hale / RD HALE	3/30/10 / 14:45

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

-1 C

Group#

222S20100311

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

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-009	PAGE 2 OF 2
COLLECTOR Campbell / Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7738 I003	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	**75 Days / 75 Days**
ICE CHEST NO. TFV2-09-003	**FIELD LOGBOOK NO.** TFV2-10-00002	**ACTUAL SAMPLE DEPTH** 96-98	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1)ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate} pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Niobium, Samarium, Boron, Bismuth, Lead, Neodymium, Tin, Sulfur, Sodium, Tantalum, Tellurium, Aluminum, Iron, Lanthanum, Palladium, Potassium, Rubidium, Barium, Chromium, Europium, Praseodymium, Rhenium, Copper, Molybdenum, Strontium, Tungsten, Beryllium, Cerium, Yttrium, Zinc, Zirconium, Manganese, Thorium, Titanium, Calcium, Lithium, Magnesium, Ruthenium, Uranium, Phosphorus, Silicon} 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126} GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-239/240, Plutonium-238} Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90} ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

A-6003-618(01/06)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	LO-090-101 Rev EE-8

Date Samples Received: 4/1/10 Group #: 20100511

Number of Samples: 1 sample (4 containers)

Sample Custodian: C Edwards

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	Y		
RSR provided?		NA	
Verify GKI is complete	Y		On file
Check that outer custody seal is intact, if present	Y		
Record cooler temperature in centigrade, as appropriate	Y		☐ Check if no cooler and/or no ice 1° C
Samples are intact and in good condition	Y		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	Y		
• Date and time of sampling	Y		
• Sampling location or origin	Y		
• Container type, size, and number	Y		
• Analysis request is clear	Y		
• Signature of persons relinquishing and receiving samples	Y		
• Date and/or time of sample custody exchange	Y		
Verify that sample numbers on containers match the COC and/or RSA	Y		
Samples stored properly (e.g., refrigeration)	Y		

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

PM to Complete:

Samples acceptable for release? Yes PM Initials * Date 4/1/10

If No, comment on communication and resolution: CE for QR

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-010	PAGE 1 OF 2
COLLECTOR Campbell	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7738 I004	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO. TFV2-09-003	**FIELD LOGBOOK NO.** TFV2-10-000002	**ACTUAL SAMPLE DEPTH** 127-129	**COA** n/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
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~4C
TYPE OF CONTAINER	Liners/G jar
NO. OF CONTAINER(S)	4
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B24KV2	SOIL	4-1-10	0840	✓
S10V000513	Liner A			
S10V000514	Liner B			
S10V000515	Liner C			
S10V000516	Shoe			

CHAIN OF POSSESSION — **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
B Campbell BC-pbell	4-1-10 1000	[illegible]	4/1/10 1000

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

222S0100311

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

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-010	PAGE 2 OF 2
COLLECTOR Campbell	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7738 I004	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	**75 Days / 75 Days**
ICE CHEST NO. TFVZ-09-003	**FIELD LOGBOOK NO.** TFVZ-10-00002	**ACTUAL SAMPLE DEPTH** 127-129	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1)ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate} pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Niobium, Samarium, Boron, Bismuth, Lead, Neodymium, Tin, Sulfur, Sodium, Tantalum, Tellurium, Aluminum, Iron, Lanthanum, Palladium, Potassium, Rubidium, Barium, Chromium, Europium, Praseodymium, Rhenium, Copper, Molybdenum, Strontium, Tungsten, Beryllium, Cerium, Yttrium, Zinc, Zirconium, Manganese, Thorium, Titanium, Calcium, Lithium, Ruthenium, Silicon, Uranium, Phosphorus, Magnesium} 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126} GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-239/240, Plutonium-238} Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90} ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

A-6003-618(01/06)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	LO-090-101 Rev EF-0

Date Samples Received: 4-7-10 Group #: 20100311

Number of Samples: 1 set SX, BARRIER

Sample Custodian: RT Clark

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	✓		
RSR provided?	✓		
Verify GKI is complete	✓		ON File
Check that outer custody seal is intact, if present		✓	
Record cooler temperature in centigrade, as appropriate	✓		☐ Check if no cooler and/or no ice -1°C T/B
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)	✓		REF # 6
Notify the PM immediately if any problems are noted. (A "No" answer requires Project Manager resolution.)			

PM to Complete:

Samples acceptable for release? yes PM Initials RK Date 4-7-10

If No, comment on communication and resolution: For JR Ritenour

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-006	PAGE 1 OF 2
COLLECTOR Campbell / Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7738 I005	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO. TFV2-09-003	**FIELD LOGBOOK NO.** TFV2-10-00000~~3~~ 2 BC 4-7-10	**ACTUAL SAMPLE DEPTH** 159 – 161	**COA** n/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
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	None
TYPE OF CONTAINER	Liners/G jar
NO. OF CONTAINER(S)	4
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B24KV3	SOIL	4-7-10	1038	✓
S10V000517	Liner A			
S10V000518	Liner B			
S10V000519	Liner C			
S10V000520	Shoe			

CHAIN OF POSSESSION — **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
B Campbell BC—pbell	4.7.10 1130	RT Steele RTSteele	4.7.10 1130

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

-1°C - BLANK
pta

222S20100311

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

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-006	PAGE 2 OF 2
COLLECTOR Campbell / Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P **AIR QUALITY** ☐	**DATA TURNAROUND** 75 Days / 75 Days
SAMPLING LOCATION C7738 I005	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004		
ICE CHEST NO. TFVZ-09-003	**FIELD LOGBOOK NO.** TFVZ-10-000002	**ACTUAL SAMPLE DEPTH** 159 – 161	**COA** n/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** n/A		**BILL OF LADING/AIR BILL NO.** n/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1)ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate} pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Niobium, Samarium, Boron, Bismuth, Lead, Neodymium, Tin, Sulfur, Sodium, Tantalum, Tellurium, Aluminum, Iron, Lanthanum, Palladium, Potassium, Rubidium, Barium, Chromium, Europium, Praseodymium, Rhenium, Copper, Molybdenum, Strontium, Tungsten, Beryllium, Cerium, Yttrium, Zinc, Zirconium, Manganese, Thorium, Titanium, Calcium, Lithium, Magnesium, Ruthenium, Silicon, Uranium, Phosphorus} 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126} GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-239/240, Plutonium-238} Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90} ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

A-6003-618(01/06)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	LO-090-101 Rev FE-8

Date Samples Received: 4/19/10 Group #: 2010347

Number of Samples: 3

Sample Custodian: CE

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	Y		
RSR provided?		NA	
Verify GKI is complete	Y		
Check that outer custody seal is intact, if present	Y		
Record cooler temperature in centigrade, as appropriate	Y		☐ Check if no cooler and/or no ice. Blank-0 SX-Barrier-14
Samples are intact and in good condition	Y		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	Y		
• Date and time of sampling	Y		
• Sampling location or origin	Y		
• Container type, size, and number	Y		
• Analysis request is clear	Y		
• Signature of persons relinquishing and receiving samples	Y		
• Date and/or time of sample custody exchange	Y		
Verify that sample numbers on containers match the COC and/or RSA	Y		
Samples stored properly (e.g., ~~refrigeration~~)	Y		

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

PM to Complete:

Samples acceptable for release? Yes PM Initials CE Date 4/19/10

If No, comment on communication and resolution: for QR

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-011	PAGE 1 OF 2
COLLECTOR Dan Harris per Hickson 4/Dan Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION ~~C7740 1001~~ BC 4-27-10 C7742-I001	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	**75 Days / 75 Days**
ICE CHEST NO. TFUZ-09-005	**FIELD LOGBOOK NO.** TFUZ-10-000002	**ACTUAL SAMPLE DEPTH** 40' - 42'	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
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~4C
TYPE OF CONTAINER	Liners/G jar
NO. OF CONTAINER(S)	3 4-19-10 dd
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B24YW0	SOIL	4-19-10	12:15	✓
S10V000716	Lmn A			
717	Lmn B			
718	Lmn C			

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Dan Harris	4-19-10 1255	C Edwards	4/19/10 1255

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

222S20100347

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

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-011	PAGE 2 OF 2
COLLECTOR	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7740 I001 4-22-10 BZ C774ZI001	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	**75 Days / 75 Days**
ICE CHEST NO. TFVZ-09-003	**FIELD LOGBOOK NO.** TFVZ-10-000002	**ACTUAL SAMPLE DEPTH** 40' - 42'	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1)ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate} pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Niobium, Samarium, Boron, Bismuth, Tin, Sulfur, Lead, Neodymium, Sodium, Tantalum, Palladium, Potassium, Rubidium, Barium, Chromium, Europium, Tellurium, Aluminum, Iron, Lanthanum, Praseodymium, Rhenium, Copper, Tungsten, Beryllium, Cerium, Strontium, Yttrium, Zinc, Zirconium, Molybdenum, Titanium, Calcium, Thorium, Manganese, Ruthenium, Silicon, Uranium, Phosphorus, Lithium, Magnesium} 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126} GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-239/240, Plutonium-238} Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90} ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

A-6003-618(01/06)

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

Date Samples Received: 4-23-10 Group #: ______
Number of Samples: (1 set) C FARM vadose (1 set) SSX Barrier
Sample Custodian: [signature]

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	✓		
RSR provided?	✓		
Verify GKI is complete		✓	on File
Check that outer custody seal is intact, if present		✓	
Record cooler temperature in centigrade, as appropriate	0°C 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. (A "No" answer requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? ______ PM Initials ______ Date ______

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		V10-004-012	PAGE 1 OF 2
COLLECTOR Campbell	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P; **DATA TURNAROUND** 75 Days / 75 Days
SAMPLING LOCATION ~~C7740 1002~~ BC 4-27-10 C7742 I002	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004; **AIR QUALITY** ☐	
ICE CHEST NO. TFV2-09-003	**FIELD LOGBOOK NO.** TFV2-10-00082	**ACTUAL SAMPLE DEPTH** 96-98	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE
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~4C
TYPE OF CONTAINER	Liners/G jar
NO. OF CONTAINER(S)	4
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B24YW1	SOIL	4/23/10	1100	✓
S10V000720	Liner A			
721	Liner B			
722	Liner C			
723	Shoe			

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
B Campbell B C-pbell	4-23-10 1150	R Stedje R Stedje	4-23-10 1150

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
OCTB
O RK

222S 2010347

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

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-012	PAGE 2 OF 2
COLLECTOR Campbell	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION ~~C7740 I002~~ BC 4-2740 C7742 I002	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	**75 Days / 75 Days**
ICE CHEST NO. TFV2-09-003	**FIELD LOGBOOK NO.** TFV2-10-00002	**ACTUAL SAMPLE DEPTH** 96-98	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1)ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate} pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Niobium, Samarium, Boron, Bismuth, Lead, Neodymium, Tin, Sulfur, Sodium, Tantalum, Tellurium, Aluminum, Lanthanum, Iron, Palladium, Potassium, Rubidium, Barium, Chromium, Europium, Praseodymium, Rhenium, Copper, Molybdenum, Strontium, Tungsten, Beryllium, Cerium, Yttrium, Zinc, Zirconium, Manganese, Thorium, Titanium, Calcium, Lithium, Magnesium, Ruthenium, Silicon, Uranium, Phosphorus} 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126} GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-239/240, Plutonium-238} Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90} ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

A-6003-618(01/06)

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

Date Samples Received: 5-4-16 Group #: 20100213, 20100347

Number of Samples: 2 sets vadose

Sample Custodian: pl stat

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	✓		
RSR provided?	✓		
Verify GKI is complete		✓	o.w file
Check that outer custody seal is intact, if present		✓	
Record cooler temperature in centigrade, as appropriate	10°C/-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. (A "No" answer requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? Yes PM Initials JPR Date 5-4-16

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V10-004-017	PAGE 1 OF 2

COLLECTOR Campbell / Harris	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR BERLIN, PC	PRICE CODE 8P AIR QUALITY ☐ DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C7742 I003	PROJECT DESIGNATION Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		SAF NO. V10-004	
ICE CHEST NO. TFVZ-09-003	FIELD LOGBOOK NO. TFVZ-10-000002	ACTUAL SAMPLE DEPTH 135-137	COA n/A	METHOD OF SHIPMENT GOVERNMENT VEHICLE
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~4C
TYPE OF CONTAINER	Liners/G jar
NO. OF CONTAINER(S)	4
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B24YW6	SOIL	5-4-10	1135
S10V000777	A		
778	B		
779	C		
780	Shoe		

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
B Campbell BCampbell	5-4-10 1215	RSteele RSteele	5-4-10 12:15

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS
DPR 5-4-10
347
GRP# 222S20100~~350~~
Sample# S10V000777→780
TB
OMNI Rev

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

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-017	PAGE 2 OF 2
COLLECTOR Campbell / Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7742 I003	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO. TFV2-09-003	**FIELD LOGBOOK NO.** TFV2-10-000002	**ACTUAL SAMPLE DEPTH** 135-137	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1)ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate} pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Niobium, Samarium, Boron, Bismuth, Lead, Neodymium, Tin, Sulfur, Sodium, Tantalum, Tellurium, Aluminum, Iron, Lanthanum, Palladium, Potassium, Rubidium, Barium, Chromium, Europium, Praseodymium, Rhenium, Copper, Molybdenum, Strontium, Tungsten, Beryllium, Cerium, Yttrium, Zinc, Zirconium, Manganese, Thorium, Titanium, Calcium, Lithium, Magnesium, Ruthenium, Silicon, Uranium, Phosphorus} 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126} GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-239/240, Plutonium-238} Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90} ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

A-6003-618(01/06)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	LO-090-101 Rev

Date Samples Received: 5/12/10 Group #: 20100662

Number of Samples: 5 272 TCS-5-X E.B. 349 DPR 5-12-10

Sample Custodian: T McCollock

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	✓		
RSR provided?		✓	
Verify GKI is complete		✓	
Check that outer custody seal is intact, if present	✓		
Record cooler temperature in centigrade, as appropriate	✓		☐ Check if no cooler and/or no ice Blank 4°C
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. (A "No" answer requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? yes PM Initials DPR Date 5-12-2010

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-005-001	PAGE 1 OF 1
COLLECTOR: Campbell / Harris	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: BERLIN, PC	PRICE CODE 7P	DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION: 272TC Equipment samples	PROJECT DESIGNATION: Direct Push Samples for Area SE of S Tank Farm - Interim Barrier - QC Sam		SAF NO.: V10-005	AIR QUALITY ☐	
ICE CHEST NO.: TFVZ-09-003	FIELD LOGBOOK NO.: TFVZ-10-000002	ACTUAL SAMPLE DEPTH: Equipment sample	COA: n/a	METHOD OF SHIPMENT: GOVERNMENT VEHICLE	
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	HNO3 to pH <2 (ULTREX)	Cool~4C	HNO3 to pH <2	None
HOLDING TIME	6 months/28 days	28 Days/48 Hours/ASAP	6 Months	6 Months
TYPE OF CONTAINER	G	G/P	G/P	G/P
NO. OF CONTAINER(S)	1	1	2	1
VOLUME	500mL	500mL	1000mL	1000mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS 766	IC Anions - 9056; pH (Water) - 9040 (TF); 761	SEE ITEM (2) IN SPECIAL INSTRUCTIONS 768	C-14; H3 - TRITIUM; I129_SEP_GEA (TF); 767

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B25LB6	WATER	5-12-10	1320	✓	✓	✓	✓

CHAIN OF POSSESSION	DATE/TIME	SIGN/ PRINT NAMES	DATE/TIME
RELINQUISHED BY/REMOVED FROM: [signature] C-pbell	5-12-10 1430	RECEIVED BY/STORED IN: [signature] T McCloch	5/12/10 @ 1430
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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
(1) ICP Metals - 6010 (SW-846) (TF); Mercury - 7470 - (CV) (TF); RADISO_ICPMS (TF);
(2) GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); CURIUM; Nickel-63 (TF); Isotopic Plutonium {Plutonium-238, Plutonium-239/240}; Selenium-79 (TF); Strontium-89,90 -- Sr-90;

20100349

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

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	LO-090-101 Rev GG.0

Date Samples Received: 5-7-10 Group #: 20100350

Number of Samples: 1 set S-SX VADose

Sample Custodian: [illegible]

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	✓		
RSR provided?	✓		
Verify GKI is complete		✓	on 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. (A "No" answer requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? Yes PM Initials GPR Date 5-10-10

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V10-004-015	PAGE 1 OF 2

COLLECTOR Dan Harrold	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P; **DATA TURNAROUND** 75 Days / 75 Days
SAMPLING LOCATION C7740 I001	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐
ICE CHEST NO. TFVS-09-003	**FIELD LOGBOOK NO.** TFVZ-10-000002	**ACTUAL SAMPLE DEPTH** 40' - 42'	**COA** n/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE
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~4C
		HOLDING TIME	6 Months
		TYPE OF CONTAINER	Liners/G jar
		NO. OF CONTAINER(S)	4
		VOLUME	160g
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B24YW4	SOIL	5-7-10	10:15	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Dan Harrold Dan Harrold	5-7-10 11:00	R.Steele R.J.Steele	5.7.10 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

SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

1°C TB
RAK

222S20100350
S10V000769, 770, 771, 772

liner A - S10V000769
liner B - 770
liner C - 771
Shoe - 772

DRR 4/15/11

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

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-015	PAGE 2 OF 2
COLLECTOR Dan Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND** 75 Days / 75 Days
SAMPLING LOCATION C7740 I001	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	
ICE CHEST NO. TFVS-09-003	**FIELD LOGBOOK NO.** TFVZ-18-000002	**ACTUAL SAMPLE DEPTH** 40' - 42'	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1) ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate}; pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Aluminum, Barium, Beryllium, Bismuth, Boron, Calcium, Cerium, Chromium, Copper, Europium, Iron, Lanthanum, Lead, Lithium, Magnesium, Manganese, Molybdenum, Neodymium, Niobium, Palladium, Phosphorus, Potassium, Praseodymium, Rhenium, Rubidium, Ruthenium, Samarium, Silicon, Sodium, Strontium, Sulfur, Tantalum, Tellurium, Thorium, Tin, Titanium, Tungsten, Uranium, Yttrium, Zinc, Zirconium}; 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126}; GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-238, Plutonium-239/240}; Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90}; ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

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

Date Samples Received: 5/12/10 Group #: 20100350

Number of Samples: 1

Sample Custodian: T McCulloch

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	✓		
RSR provided?	✓		
Verify GKI is complete		✓	
Check that outer custody seal is intact, if present	✓		
Record cooler temperature in centigrade, as appropriate	✓		☐ Check if no cooler and/or no ice Blank 9°C
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. (A "No" answer requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? _____ PM Initials _____ Date _____

If No, comment on communication and resolution:

Group # 20100350
Sample # S10V000782

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-016	PAGE 1 OF 2
COLLECTOR Campbell / Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7740 I002	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO. TFV2-09-003	**FIELD LOGBOOK NO.** TFV270-00002	**ACTUAL SAMPLE DEPTH** 96-98	**COA** n/a	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
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~4C
HOLDING TIME	6 Months
TYPE OF CONTAINER	Liners/G jar
NO. OF CONTAINER(S)	4
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B24YW5	SOIL	5-12-10	0945	✓

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 C-phell	5-12-10 1030	[signature]	5/12/10 @1030	20100350
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	S10V000773 - A
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	774 - B
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	775 - C
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	776 - Shoe
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**

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-016	PAGE 2 OF 2
COLLECTOR Campbell/Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7740 I002	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	**75 Days / 75 Days**
ICE CHEST NO. TFV2-09-003	**FIELD LOGBOOK NO.** TFV2-09-00002 10 Ac 5-12-10	**ACTUAL SAMPLE DEPTH** 96-98	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1) ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate}; pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Aluminum, Barium, Beryllium, Bismuth, Boron, Calcium, Cerium, Chromium, Copper, Europium, Iron, Lanthanum, Lead, Lithium, Magnesium, Manganese, Molybdenum, Neodymium, Niobium, Palladium, Phosphorus, Potassium, Praseodymium, Rhenium, Rubidium, Ruthenium, Samarium, Silicon, Sodium, Strontium, Sulfur, Tantalum, Tellurium, Thorium, Tin, Titanium, Tungsten, Uranium, Yttrium, Zinc, Zirconium}; 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126}; GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-238, Plutonium-239/240}; Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90}; ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

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

Date Samples Received: 5.25.10 Group #: 20100426

Number of Samples: 1 set S-Farm VADose

Sample Custodian: Rittal

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	✓		
RSR provided?	✓		
Verify GKI is complete			on File
Check that outer custody seal is intact, if present	✓		
Record cooler temperature in centigrade, as appropriate	8C		☐ 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. (A "No" answer requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? Yes PM Initials DPR Date 5-27-10

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V10-004-023	PAGE 1 OF 2

COLLECTOR	COMPANY CONTACT	TELEPHONE NO.	PROJECT COORDINATOR	PRICE CODE 8P	DATA TURNAROUND
HARRIS / EKSTROM	SYDNOR, HA	373-3967	BERLIN, PC	AIR QUALITY ☐	75 Days / 75 Days

SAMPLING LOCATION	PROJECT DESIGNATION	SAF NO.
C7746 I001	Direct Push Samples for Area SE of S Tank Farm - Interim Barrier	V10-004

ICE CHEST NO.	FIELD LOGBOOK NO.	ACTUAL SAMPLE DEPTH	COA	METHOD OF SHIPMENT
TFVS-09-008	TFVZ-10-000002	44-46Ft	N/A	GOVERNMENT VEHICLE

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~4C
TYPE OF CONTAINER	Liners/G jar
NO. OF CONTAINER(S)	4 3/4 liner jar
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B24YX2	SOIL	5/25/10	0955	✓

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RR Ekstrom / BC Ekstrom	5/25/10 1035	R Steele R Steele	5.25.10 1035

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

0 L TB
0 pk

GRP# 20100426
SAM# 510V001016 A
1017 B
1018 C
1019 JAR/Shoe

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

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-023	PAGE 2 OF 2
COLLECTOR Hoods/ Ekstrom	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P **AIR QUALITY** ☐	**DATA TURNAROUND** 75 Days / 75 Days
SAMPLING LOCATION C7746 I001	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004		
ICE CHEST NO. TFVS-09-008	**FIELD LOGBOOK NO.** TFVZ-10-00002	**ACTUAL SAMPLE DEPTH** 44'-46'	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1)ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate} pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Niobium, Samarium, Boron, Bismuth, Lead, Neodymium, Tin, Sulfur, Sodium, Tantalum, Lanthanum, Palladium, Potassium, Rubidium, Barium, Chromium, Europium, Tellurium, Aluminum, Iron, Praseodymium, Rhenium, Copper, Molybdenum, Strontium, Tungsten, Beryllium, Cerium, Yttrium, Zinc, Zirconium, Manganese, Thorium, Titanium, Calcium, Lithium, Magnesium, Ruthenium, Silicon, Uranium, Phosphorus} 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126} GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-239/240, Plutonium-238} Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90} ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

A-6003-618(01/06)

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

Date Samples Received: 6.1.10 Group #: 20100426

Number of Samples: 1 set 5-5x VADOSE

Sample Custodian: [signature]

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	✓		
RSR provided?	✓		
Verify GKI is complete			on File
Check that outer custody seal is intact, if present	✓		
Record cooler temperature in centigrade, as appropriate	0°C TB		☐ 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. (A "No" answer requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? yes PM Initials [signature] Date 6.1.10

If No, comment on communication and resolution: per J.R.

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		V10-004-024	PAGE 1 OF 2
COLLECTOR Ekstrom	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P **DATA TURNAROUND**
SAMPLING LOCATION C7746 I002	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐ **75 Days / 75 Days**
ICE CHEST NO. TFVS-09-008	**FIELD LOGBOOK NO.** TFVZ-GP-10-000002	**ACTUAL SAMPLE DEPTH** 94-96 ft	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE
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~4C
TYPE OF CONTAINER	Liners/G jar
NO. OF CONTAINER(S)	4 3 Liners 1 JAR
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B24YX3	SOIL	6/1/10	1200

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
BC Ekstrom BC Ekstrom	6-1-10 1250	RH Hook RH Steele	6-1-10 1250

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

oc TB
O RK

ERP # 20100426
SAM # S10V001031
1032 LA
1033 LB LC
1034 JAR

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

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-024	PAGE 2 OF 2
COLLECTOR	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P **AIR QUALITY** ☐	**DATA TURNAROUND** 75 Days / 75 Days
SAMPLING LOCATION C7746 I002	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004		
ICE CHEST NO.	**FIELD LOGBOOK NO.**	**ACTUAL SAMPLE DEPTH**	**COA**	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.**		**BILL OF LADING/AIR BILL NO.**		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1)ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate} pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Niobium, Samarium, Boron, Bismuth, Lead, Neodymium, Tin, Sulfur, Sodium, Tantalum, Lanthanum, Iron, Palladium, Potassium, Rubidium, Barium, Chromium, Europium, Tellurium, Aluminum, Praseodymium, Rhenium, Copper, Molybdenum, Strontium, Tungsten, Beryllium, Cerium, Yttrium, Zinc, Zirconium, Manganese, Thorium, Titanium, Calcium, Magnesium, Ruthenium, Silicon, Uranium, Phosphorus, Lithium} 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126} GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-239/240, Plutonium-238} Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90} ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

A-6003-618(01/06)

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

Date Samples Received: 6-3-10 Group #: 20100426

Number of Samples: 1 Set 5-5K VADOSE

Sample Custodian: [signature]

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	✓		
RSR provided?	✓		
Verify GKI is complete		✓	on file
Check that outer custody seal is intact, if present	✓		
Record cooler temperature in centigrade, as appropriate	2°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. (A "No" answer requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? Yes PM Initials APR Date 6-3-10

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-025	PAGE 1 OF 2
COLLECTOR Dan Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7746 I003	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO. TFUS-09-008	**FIELD LOGBOOK NO.** TFUZ-10-00002	**ACTUAL SAMPLE DEPTH** 144' - 146'	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
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~4C
TYPE OF CONTAINER	Liners/G jar
NO. OF CONTAINER(S)	4
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B24YX4	SOIL	6-3-10	14:15

CHAIN OF POSSESSION / **SIGN/ PRINT NAMES**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Dan Harris	6.3.10 1445	RtSteele	6.3.10 1445

SPECIAL INSTRUCTIONS
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

OC TB
-1

GRP# 20100426
SAM# 510V001046 A
1047 B
1048 C
1049 JAR

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

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-025	PAGE 2 OF 2
COLLECTOR Dan Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P **AIR QUALITY** ☐	**DATA TURNAROUND** 75 Days / 75 Days
SAMPLING LOCATION C7746 I003	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004		
ICE CHEST NO. TFVS-09-008	**FIELD LOGBOOK NO.** TFVZ-10-000002	**ACTUAL SAMPLE DEPTH** 144' - 146'	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1)ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate} pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Niobium, Samarium, Boron, Bismuth, Lead, Neodymium, Tin, Sulfur, Sodium, Tantalum, Tellurium, Aluminum, Iron, Lanthanum, Palladium, Potassium, Rubidium, Barium, Chromium, Europium, Praseodymium, Rhenium, Copper, Molybdenum, Strontium, Tungsten, Beryllium, Cerium, Yttrium, Zinc, Zirconium, Manganese, Thorium, Titanium, Calcium, Lithium, Magnesium, Ruthenium, Silicon, Uranium, Phosphorus} 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126} GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-239/240, Plutonium-238} Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90} ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

A-6003-618(01/06)

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

Date Samples Received: 6.7.10 Group #: 20100454
Number of Samples: 1 Set CX Farm Vadose
Sample Custodian: [signature]

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	✓		
RSR provided?	✓		
Verify GKI is complete		✓	on 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. (A "No" answer requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? yes PM Initials GPR Date 6-9-10

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V10-004-019	PAGE 1 OF 2

COLLECTOR Ekstrom / Harris	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR BERLIN, PC
SAMPLING LOCATION C7744 I001	PROJECT DESIGNATION Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		SAF NO. V10-004
ICE CHEST NO. TFVS-09-008	FIELD LOGBOOK NO. TFVZ-~~09~~ 10 -000002 (6/7/10)	ACTUAL SAMPLE DEPTH 37-39 ft.	COA N/A
SHIPPED TO 222-S Lab Operations	OFFSITE PROPERTY NO. N/A		BILL OF LADING/AIR BILL NO. N/A

PRICE CODE 8P

AIR QUALITY ☐

DATA TURNAROUND 75 Days / 75 Days

METHOD OF SHIPMENT: GOVERNMENT VEHICLE

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~4C
TYPE OF CONTAINER	Liners/G jar
NO. OF CONTAINER(S)	4 3 Liners 1 JAR
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B24YW8	SOIL	6/7/10	1015	✓

CHAIN OF POSSESSION	DATE/TIME	SIGN/ PRINT NAMES	DATE/TIME
RELINQUISHED BY/REMOVED FROM BL Ekstrom BR Ekstrom	6/7/10 1100	RECEIVED BY/STORED IN RA Leolo RA Leolo	6.7.10 1100
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
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

0°C TB
0°C RA

222S20100454

S10V001072 - A
73 - B
74 - C
75 - Shoe

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

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-019	PAGE 2 OF 2
COLLECTOR Ehistrom / HARRIS	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7744 I001	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	75 Days / 75 Days
ICE CHEST NO. TFVS-09-008	**FIELD LOGBOOK NO.** TFVZ-10-000002	**ACTUAL SAMPLE DEPTH** 37-39 ft	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1)ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate} pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Niobium, Samarium, Boron, Bismuth, Lead, Neodymium, Tin, Sulfur, Sodium, Tantalum, Tellurium, Aluminum, Iron, Lanthanum, Palladium, Potassium, Rubidium, Barium, Chromium, Europium, Praseodymium, Rhenium, Copper, Molybdenum, Strontium, Tungsten, Beryllium, Cerium, Yttrium, Zinc, Zirconium, Manganese, Thorium, Titanium, Calcium, Lithium, Magnesium, Ruthenium, Silicon, Uranium, Phosphorus} 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126} GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-239/240, Plutonium-238} Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90} ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

A-6003-618(01/06)

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

Date Samples Received: 6.8.10 Group #: 20100454

Number of Samples: 1 set 5-5x VADOSE

Sample Custodian: [signature]

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	✓		
RSR provided?	✓		
Verify GKI is complete		✓	on 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. (A "No" answer requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? YES PM Initials RT Date 6.8.10

If No, comment on communication and resolution:

Other Comments:

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V10-004-020	PAGE 1 OF 2

COLLECTOR: Ekstrom / Harris	COMPANY CONTACT: SYDNOR, HA	TELEPHONE NO.: 373-3967	PROJECT COORDINATOR: BERLIN, PC	PRICE CODE: 8P; DATA TURNAROUND: 75 Days / 75 Days
SAMPLING LOCATION: C7744 I002	PROJECT DESIGNATION: Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		SAF NO.: V10-004	AIR QUALITY: ☐
ICE CHEST NO.: TFVS-09-008	FIELD LOGBOOK NO.: TFVZ-10-000002	ACTUAL SAMPLE DEPTH: 96-98ft	COA: N/A	METHOD OF SHIPMENT: GOVERNMENT VEHICLE
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~4C
TYPE OF CONTAINER	Liners/G jar
NO. OF CONTAINER(S)	4 (3 Liners, 1 500mL jar)
VOLUME	160g
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B24YW9	SOIL	6/8/10	0955	✓

CHAIN OF POSSESSION	DATE/TIME	SIGN/ PRINT NAMES RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM: [signature] Brad C Ekstrom	6/8/10 1030	[signature] RISTEC/G	6.8.10 1030
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
SEE PAGE 2 FOR ALL SPECIAL INSTRUCTIONS

OC TB 222S20100454

0 RA S10V001087 A
1088 B
1089 C
1090 Shoe

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

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-020	PAGE 2 OF 2
COLLECTOR ELGSTROM / HARRIS	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P	**DATA TURNAROUND**
SAMPLING LOCATION C7744 I002	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004	**AIR QUALITY** ☐	**75 Days / 75 Days**
ICE CHEST NO. TFVS-09-008	**FIELD LOGBOOK NO.** TFV2-10-000002	**ACTUAL SAMPLE DEPTH** 96-98FT	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1)ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate} pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Niobium, Samarium, Boron, Bismuth, Lead, Neodymium, Tin, Sulfur, Sodium, Tantalum, Tellurium, Aluminum, Iron, Lanthanum, Palladium, Potassium, Rubidium, Barium, Chromium, Europium, Praseodymium, Rhenium, Copper, Molybdenum, Strontium, Tungsten, Beryllium, Cerium, Yttrium, Zinc, Zirconium, Manganese, Thorium, Titanium, Calcium, Lithium, Magnesium, Ruthenium, Silicon, Uranium, Phosphorus} 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126} GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-239/240, Plutonium-238} Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90} ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

A-6003-618(01/06)

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	LO-090-101 Rev 6.60

Date Samples Received: 6.9.10 Group #: 20100454

Number of Samples: 1 set 5-5X VADOSE

Sample Custodian: RT Ltd

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	Y		
RSR provided?	Y		
Verify GKI is complete		✓	on file
Check that outer custody seal is intact, if present	Y		
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	X		
• Sampling location or origin	X		
• Container type, size, and number	Y		
• Analysis request is clear	X		
• Signature of persons relinquishing and receiving samples	X		
• Date and/or time of sample custody exchange	X		
Verify that sample numbers on containers match the COC and/or RSA	X		
Samples stored properly (e.g., refrigeration)	Y		

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

PM to Complete:

Samples acceptable for release? Yes PM Initials RT Date 6.9.10

If No, comment on communication and resolution:

Other Comments:

A-6005-342 (REV 0)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	V10-004-021	PAGE 1 OF 2

COLLECTOR Ekstrom / Harris	COMPANY CONTACT SYDNOR, HA	TELEPHONE NO. 373-3967	PROJECT COORDINATOR BERLIN, PC	PRICE CODE 8P AIR QUALITY ☐ DATA TURNAROUND 75 Days / 75 Days
SAMPLING LOCATION C7744 I003	PROJECT DESIGNATION Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		SAF NO. V10-004	
ICE CHEST NO. TFVS-09-008	FIELD LOGBOOK NO. TFVZ-10-000002	ACTUAL SAMPLE DEPTH ~~137 to 139 Ft~~ 127 - 129 ft OPR 8-3-2010	COA N/A	METHOD OF SHIPMENT GOVERNMENT VEHICLE
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~4C
		TYPE OF CONTAINER	Liners/G jar
		NO. OF CONTAINER(S)	4 3 Liners 1 500ml jar
		VOLUME	160g
	SPECIAL HANDLING AND/OR STORAGE	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B24YX0	SOIL	6/9/10	1000	✓

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RB Ekstrom RB Ekstrom	6-9-10 1045	R Steele RSteele	6-9-10 1045
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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

1°C TB RK

222S20100~~545~~ 454 OPR 6-10-2010

210V001102 A
1103 B
1104 C
1105 Shoe

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

A-6003-618(01/06)

Washington River Protection Solutions	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			V10-004-021	PAGE 2 OF 2
COLLECTOR Elstrom / Harris	**COMPANY CONTACT** SYDNOR, HA	**TELEPHONE NO.** 373-3967	**PROJECT COORDINATOR** BERLIN, PC	**PRICE CODE** 8P **AIR QUALITY** ☐	**DATA TURNAROUND** 75 Days / 75 Days
SAMPLING LOCATION C7744 I003	**PROJECT DESIGNATION** Direct Push Samples for Area SE of S Tank Farm - Interim Barrier		**SAF NO.** V10-004		
ICE CHEST NO. TFVS-09-008	**FIELD LOGBOOK NO.** TFVZ-10-000002	**ACTUAL SAMPLE DEPTH** ~~137-139 ft~~ 127-129 ft DPR 8-3-2010	**COA** N/A	**METHOD OF SHIPMENT** GOVERNMENT VEHICLE	
SHIPPED TO 222-S Lab Operations	**OFFSITE PROPERTY NO.** N/A		**BILL OF LADING/AIR BILL NO.** N/A		

SPECIAL INSTRUCTIONS

** Field personnel will put material from the shoe into a 500 ml G/P jar; the liners will be taped. All will be labeled and shipped to the laboratory. The laboratory will composite the liners and the material from the 500 ml jar (shoe).

** A "Quick Turn" sample will be analyzed for nitrate, pH, Tc-99 and conductivity on a 1:1 water digest. The nitrate and Tc-99 results are due 48 hours after receipt of the last sample from that push hole.

** The remainder of the composited material will be used for the remaining analyses and will be reported with the pH and conductivity results in the final analysis report. The final data package should be in Format VI with QA verification.
(1)ICPMS Tc-99_WE(TF); IC Anions - 9056_WE {Nitrate} pH (Soil) - 9045; Conductivity - 9050_WE; 6010M_ICP_AE (TF) {Niobium, Samarium, Boron, Bismuth, Lead, Neodymium, Tin, Sulfur, Sodium, Tantalum, Tellurium, Aluminum, Iron, Lanthanum, Palladium, Potassium, Rubidium, Barium, Chromium, Europium, Praseodymium, Rhenium, Copper, Molybdenum, Strontium, Tungsten, Beryllium, Cerium, Yttrium, Zinc, Zirconium, Manganese, Thorium, Titanium, Calcium, Lithium, Magnesium, Ruthenium, Silicon, Uranium, Phosphorus} 6020_METALS_ICPMS (TF); Mercury - 7471 - (CV) (TF); IC Anions - 9056; 300.7_AMMONIUM (TF); Sulfide - 9215; Total Cyanide - 9014 (TF); Percent Solids (TF); Percent Water (TF); Actinides ICPMS (TF); RADISO_ICPMS (TF) {Technetium-99, Tin-126} GAMMA ENERGY ANALYSIS (TF); Americium-241 (TF); C-14; CURIUM; H3 - TRITIUM; I129_SEP_GEA (TF); Isotopic Plutonium {Plutonium-239/240, Plutonium-238} Nickel-63 (TF); Selenium-79 (TF); Strontium-89,90 -- Sr-90 {Strontium-90} ALPHA_BETA_LSC_AE (TF); ALPHA_BETA_LSC_WE (TF);

A-6003-618(01/06)

DISTRIBUTION SHEET

To	From	Page 1 of 1
S. J. Eberlein	G. P. Ritenour	Date 1/4/12
Project Title/Work Order		EDT No. N/A
FINAL ANALYTICAL REPORT FOR SOIL SAMPLES IN SUPPORT OF AN INTERIM BARRIER SOUTHEAST OF S FARM, BORDERING SX FARM		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			

A-6000-135 (10/97)

INFORMATION CLEARANCE REVIEW AND RELEASE APPROVAL

Part I: Background Information

Title: Final Analytical Report for Soil Samples in Support of an Interim Barrier Southeast of S Farm, Bordering SX Farm

Information Category:
☐ Abstract ☐ Journal Article ☐ Summary
☐ Internet ☐ Visual Aid ☐ Software
☐ Full Paper ☑ Report ☐ Other

Publish to OSTI? ☐ Yes ☑ No

Trademark/Copyright "Right to Use" Information or Permission Documentation	Yes ☐	NA ☑

Document Number: RPP-RPT-50504 Revision 0 Date: January 2012

Author: Tabor, Cindy L

Part II: External/Public Presentation Information

Conference Name:

Sponsoring Organization(s): WRPS

Date of Conference: Conference Location:

Will Material be Handed Out? ☐ Yes ☑ No Will Information be Published? ☐ Yes ☑ No *(If Yes, attach copy of Conference format instructions/guidance.)*

Part III: WRPS Document Originator Checklist

Description	*Yes*	*N/A*	*Print/Sign/Date*
Information Product meets requirements in TFC-BSM-AD-C-01?	☐	☑	
Document Release Criteria in TFC-ENG-DESIGN-C-25 completed? (Attach checklist)	☐	☑	
If product contains pictures, safety review completed?	☑	☐	Roberts, Sheryl K Approved - IDMS data file att.

Part IV: WRPS Internal Review

Function	*Organization*	*Date*	*Print Name/Signature/Date*
Subject Matter Expert	WRPS	04/15/2019	Tabor, Cindy L Approved - IDMS data file att.
Responsible Manager	WRPS	04/09/2020	Rutland, Paul L Approved - IDMS data file att.
Other:			

Part V: IRM Clearance Services Review

Description	*Yes*	*No*	*Print Name/Signature*
Document Contains Classified Information?	☐	☒	If Answer is "Yes," ADC Approval Required Print Name/Signature/Date
Document Contains Information Restricted by DOE Operational Security Guidelines?	☐	☒	Reviewer Signature: Print Name/Signature/Date
Document is Subject to Release Restrictions? *If the answer is "Yes," please mark category at right and describe limitation or responsible organization below:*	☐	☒	Document contains: ☐ Applied Technology ☐ Protected CRADA ☐ Personal/Private ☐ Export Controlled ☐ Proprietary ☐ Procurement – Sensitive ☐ Patentable Info. ☐ OUO ☐ Predecisional Info. ☐ UCNI ☐ Restricted by Operational Security Guidelines ☐ Other (Specify)
Additional Comments from Information Clearance Specialist Review?	☐	☒	Information Clearance Specialist Approval APPROVED By Sarah Harrison at 11:55 am, Apr 21, 2020 Print Name/Signature/Date

When IRM Clearance Review is Complete – Return to WRPS Originator for Final Signature Routing (Part VI)

INFORMATION CLEARANCE REVIEW AND RELEASE APPROVAL

Part VI: Final Review and Approvals

Description	Approved for Release		Print Name/Signature	
	Yes	N/A		
WRPS External Affairs	☒	☐	Mc Cune, Hal C	Approved - IDMS data file att.
WRPS Office of Chief Counsel	☒	☐	Peters, Amber D	Approved - IDMS data file att.
DOE – ORP Public Affairs/Communications	☒	☐	Levardi, Yvonne M / Tyree, Geoff T	Approved - IDMS data file att.
Other: ORP OCC	☒	☐	Zelen, Banjamin J	Approved - IDMS data file att.
Other: ORP SME	☒	☐	Blackwell, Becky	Approved - IDMS data file att.

Comments Required for WRPS-Indicate Purpose of Document:

This final report contains the analytical results supporting characterization of soil samples for an interim barrier southeast of 241-S Tank Farm, bordering 241-SX Tank Farm. It also contains the results for associated field and trip blanks supporting the sampling effort.

APPROVED
By Sarah Harrison at 11:55 am, Apr 21, 2020

Approved for Public Release; Further Dissemination Unlimited

Information Release Station

Was/Is Information Product Approved for Release? ☒ Yes ☐ No

If Yes, what is the Level of Releaser? ☑ Public/Unrestricted ☐ Other (Specify) _____

Date Information Product Stamped/Marked for Release: 04/21/2020

Was/Is Information Product Transferred to OSTI? ☐ Yes ☒ No

Forward Copies of Completed Form to WRPS Originator

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        Analytical Report for Soil Samples in Support of an Interim Barrier Southeast of
        S Farm, Bordering SX Farm submitted by Cindy Tabor for public release to
        Ecology. Thank you, Sarah Harrison Information Clearance</comments>
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