RECEIVED MAY 12, 2008

0078131

FINAL REPORT FOR SOIL SAMPLES COLLECTED FROM 216-B-26 TRENCH FOR SAMARIUM-151 ANALYSIS—SDG 222S20080229

Sample Group No. 222S20080229

Ruth A. Bushaw
Advanced Technologies and Laboratories International, Inc.

Date Published
May 9, 2008

Prepared for:

Fluor Hanford

Stephen J. Trent
Fluor Hanford, Inc.
Post Office Box 1000, T5-49
Richland, Washington 99352-1000
(509)373-5869

Prepared by:

Hanford Analytical Services
Advanced Technologies and Laboratories International, Inc.
222-S LAB

ATL International, Inc.
P.O. Box 250
Richland, WA 99352-0250
509-373-4314

Ruth A Bushaw 5/9/08
R. A. Bushaw; ATL Project Manager

RECEIVED
JUN 26 2008
EDMC

222-S LABORATORY

FINAL REPORT FOR SOIL SAMPLES COLLECTED FROM 216-B-26 TRENCH FOR SAMARIUM-151 ANALYSIS—SDG 222S20080229

1.0 INTRODUCTION

Five soil samples from the 216-B-26 Trench were received at the 222-S Laboratory on March 5, 2007, and assigned to group 222S20080229. The samples were analyzed for ^{151}Sm in accordance with ATL-MP-1011, *ATL Quality Assurance Project Plan for 222-S Laboratory*; Contract Number 27733, *Statement of Work for 222-S Laboratory Services for the 216-B-26 Phase 1 Trench Characterization Sample Analysis* (SOW), and verbal and electronic communication with the customer point of contact. The following attachments are included with this report:

Attachment 1	Data Summary Report
Attachment 2	Sample Breakdown Diagrams
Attachment 3	Tracer Recoveries
Attachment 4	Gamma Energy Analysis Results
Attachment 5	Analysis Date and Time
Attachment 6	Receipt Paperwork

2.0 SAMPLE APPEARANCE AND HANDLING

The samples were collected in October 2007 and delivered to Eberline Services. To support the ^{151}Sm analysis work, the samples were transferred from Eberline Services to the 222-S Laboratory. The cooler containing the samples was received at the 222-S Laboratory on March 5, 2008. Due to insufficient information on the receipt paperwork, the cooler was not opened by the sample custodian until March 6, 2008, after additional information was received. This is recorded in the database as the receipt date.

Samples B1PPY2 and B1PR07 were described as tan in color with the consistency of dry, fine-grained sand. There were some particles which looked like dried clay that broke into small flakes. Samples B1PR00 and B1PR10 were described as being similar to the previously described samples, except the soil was damp. Sample B1PR14 was described as a dry sand that had a coarser texture than the other samples and was gray in color.

3.0 SAMARIUM-151 SEPARATION DEVELOPMENT

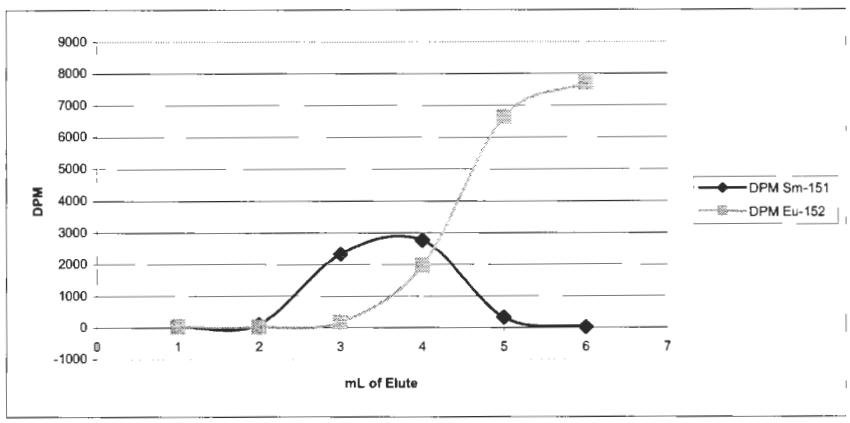
The SOW requested that the laboratory develop a procedure for analysis of ^{151}Sm based on the method development work conducted by the Waste Sampling and Characterization Facility (WSCF) Laboratory. Following is a description of this development at the 222-S Laboratory.

The starting point for development of the separation method for ^{151}Sm was a proposed method received from the responsible radiochemist at WSCF. Additions to that method for use at 222-S Laboratory would be the use of a "cold" tracer that could be used to correct for any losses during the separation process and to use the entire digest for the separation.

Europium-152 was initially used in place of ^{151}Sm so that gamma energy analysis (GEA) could be used as a detection method while determining the load, rinse, and elution volumes for the TRU resin column. This testing also showed that the column was not overloaded when the samarium tracer was used with the ^{152}Eu.

The ^{152}Eu was also used to determine how well the LN resin column separated samarium from europium. Side-by-side tests of the separation were run using ^{152}Eu and ^{151}Sm in separate columns to determine at what volume each radionuclide would elute. This test showed that the presence of radioactive europium would interfere with the counting of ^{151}Sm, as shown in Figure 1.

Figure 1. Samarium-Europium Separation with Eichrom Column.

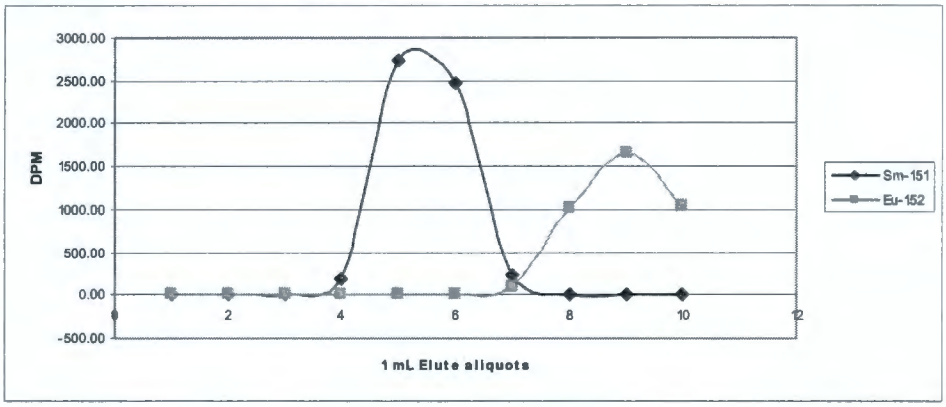


More testing would be needed to find a method that would provide a better separation. However, since time was limited and analysis of the samples at Eberline indicated that the level of europium activity in these samples was below their detection levels, it was decided to continue analysis using the Eichrom columns for separations and verify that there was no radioactive europium in the liquid scintillation counting (LSC) mounts. An aliquot of the sample with the highest dose rate was used to test the separation and test for the presence of any detectable radioactive europium. Neither a GEA nor an LSC scan of the mount detected any europium. In addition, a GEA of material that eluted after the 5 mL used to remove the samarium was collected also failed to detect any radioactive europium. Based on these tests, Eichrom columns were chosen for the sample analysis because it was the laboratory's opinion that any europium interference would be negligible.

Development of a more complete separation was proceeding concurrently with the Eichrom column testing. Since the separation is a chromatographic method, longer

columns were tested. The testing of the extended column followed the same technique described above, where ^{151}Sm and ^{152}Eu were run in separate columns to determine elution volumes. A much better separation was achieved with the longer columns, as shown in Figure 2.

Figure 2. Samarium-Europium Separation with Longer Column.



Additional work to provide a completed procedure will continue as time permits.

4.0 ANALYTICAL RESULTS

The Data Summary Report, included as Attachment 1, presents the analytical results for the ^{151}Sm analysis. The tracer recoveries are included in Attachment 3. The analysis date and time are included in Attachment 5.

Following the LSC counting, the individual ^{151}Sm mounts were counted by GEA. Also, additional solution collected from each column was counted by GEA. These GEA results are included in Attachment 4. The GEA counting was performed to verify that no europium was present and to provide a detection level for the europium. No europium was detected in these individual sample portions. Since the total activity is counted during liquid scintillation analysis, the europium detection limits are reported as total µCi/vial.

Following the GEA analyses of the individual sample portions, the non-samarium fractions from the five samples, the duplicate, and the spike columns were combined into a single composite and analyzed by GEA to get more sample material to lower the detection limit. Two europium isotopes were detected in this composite. The results were the following: ^{154}Eu, 4.64E-05 µCi total; and ^{155}Eu, 5.0E-05 µCi total.

4.1 LABORATORY CONTROL SAMPLE

The accuracy of the analysis was evaluated from the recovery of a laboratory control sample (LCS) and a matrix spike (MS). The LCS recovery was within the requested accuracy limits of 65-135% recovery.

4.2 METHOD BLANK

A low level of ^{151}Sm was detected in the method blank. However, since the level measured is below the minimum detectable activity (MDA) for the sample, it is the laboratory's opinion that the potential contamination is insignificant.

4.3 DUPLICATE ANALYSIS

A duplicate analysis was performed with one sample in the batch. The relative percent difference met the requested precision of ±35%.

4.4 MATRIX SPIKE ANALYSIS

An MS sample was analyzed with one sample in the batch. The MS recovery was within the requested accuracy limits of 65-135% recovery.

4.5 TARGET MINIMUM DETECTABLE ACTIVITY

The SOW provided target MDA of 15 pCi/g. This MDA was met.

5.0 ANALYTICAL PROCEDURES

Table 1 presents the 222-S Laboratory analytical procedure used to generate the reported results.

Table 1. Analytical Procedures.

Analysis	Preparation Procedure	Analysis Procedure
^{151}Sm	Acid digest – part of ATL-08-001	08-ATL-001, Rev. B-0

6.0 REFERENCES

Contract Number 27733 Release 15, Amendment 1, *Statement of Work for 222-S Laboratory Services for the 216-B-26 Phase 1 Trench Characterization Sample Analysis*, dated February 26, 2008, Fluor Hanford, Inc., Richland, Washington.

ATL-MP-1011, 2007, *ATL Quality Assurance Project Plan for 222-S Laboratory*, Revision 7, Advanced Technologies and Laboratories International, Inc., Richland, Washington.

ATL-08-001, 2007, *Advanced Technologies and Laboratories International, Inc. Test Plan and Test Procedure for Analysis of Samarium-151 in Soil and Aqueous Samples by Column Extraction Chromatography and Liquid Scintillation Counting*, Revision B-0, Advanced Technologies and Laboratories International, Inc., Richland, Washington.

Attachment 1

DATA SUMMARY REPORT

Data Summary Report

Sample Group: 20080229

Customer Group or SDG Number: 222S20080229

Customer Sample ID: B1PPY2

Sample Portion: Parent

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err %	Qual Flags
S08M000014			Samarium-151	uCi/g	83.3	3.50E-06	6.19E-03	n/a	n/a	n/a	n/a	3.24E-06	0.35	

20080229

Data Summary Report

Sample Group: 20080229

Customer Group or SDG Number: 222S20080229

Customer Sample ID: B1PR00

Sample Portion: Parent

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err %	Qual Flags
S08M000015			Samarium-151	uCi/g	83.3	3.50E-06	9.92E-03	1.02E-02	1.01E-02	2.78	n/a	6.55E-06	0.39	

Data Summary Report

Sample Group: 20080229

Customer Group or SDG Number: 222S20080229

Customer Sample ID: B1PR07

Sample Portion: Parent

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err %	Qual Flags
S08M000016			Samarium-151	uCi/g	83.3	3.50E-06	2.63E-04	n/a	n/a	n/a	n/a	4.98E-06	2.21	

Data Summary Report

Sample Group: 20080229

Customer Group or SDG Number: 222S20080229

Customer Sample ID: B1PR10

Sample Portion: Parent

Sample# R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err %	Qual Flags
S08M000017		Samarium-151	uCi/g	83.3	3.50E-06	5.01E-03	n/a	n/a	n/a	77.4	4.01E-06	0.43	

20080229

Data Summary Report

Sample Group: 20080229

Customer Group or SDG Number: 222S20080229

Customer Sample ID: B1PR14

Sample Portion: Parent

Sample#	R	A#	Analyte	Unit	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err %	Qual Flags
S08M000018			Samarium-151	uCi/g	83.3	3.50E-06	7.39E-04	n/a	n/a	n/a	n/a	4.45E-06	1.20	

Attachment 2

SAMPLE BREAKDOWN DIAGRAM

B26 Trench
216-B-26 Borehole Samples
Group 222S20080229

B1PPY2	B1PR00	B1PR07	B1PR10	B1PR14
S08M000014	S08M000015	S08M000016	S08M000017	S08M000018
SAMARIUM-151	SAMARIUM-151	SAMARIUM-151	SAMARIUM-151	SAMARIUM-151

Attachment 3

TRACER RECOVERIES

Tracer Recoveries

Customer ID	Laboratory Sample Number	Tracer Recovery (%)
B1PPY2	S08M000014	102
B1PR00	S08M000015	98.660
B1PR00 DUP	S08M000015 DUP	96.800
B1PR07	S08M000016	98.660
B1PR10	S08M000017	98.660
B1PR10 SPK	S08M000017 SPK	101.80
B1PR14	S08M000018	96.800
	Blank	96.200
	Standard	100.40

Attachment 4

GAMMA ENERGY ANALYSIS RESULTS

Gamma Study of Samples from SDG 222S20080229

		Gamma Results of the LSC Vials after LSC Counting (µCi/vial)			Gamma Result for Additional Elute after removal of the Samarium Fraction (µCi/vial)		
Customer ID	Sample Number	Eu-152	Eu-154	Eu-155	Eu-152	Eu-154	Eu-155
B1PPY2	S08M000014	**<1.00E-04**	**<7.88E-05**	**<3.41E-05**	**<2.10E-04**	**<1.28E-04**	**<8.30E-05**
B1PR00	S08M000015	**<8.72E-05**	**<5.85E-05**	**<2.63E-05**	**<1.99E-04**	**<1.51E-04**	**<8.21E-05**
B1PR00 DUP	S08M000015 DUP	**<1.38E-04**	**<7.52E-05**	**<6.54E-05**	**<2.24E-04**	**<1.54E-04**	**<8.61E-05**
B1PR07	S08M000016	**<6.96E-05**	**<4.60E-05**	**<2.62E-05**	**<2.26E-04**	**<1.41E-04**	**<7.93E-05**
B1PR10	S08M000017	**<1.10E-04**	**<7.35E-05**	**<3.42E-05**	**<2.10E-04**	**<1.56E-04**	**<8.80E-05**
B1PR10 SPK	S08M000017 SPK	**<1.40E-04**	**<9.05E-05**	**<6.66E-05**	**<2.07E-04**	**<1.36E-04**	**<8.45E-05**
B1PR14	S08M000018	**<7.66E-05**	**<4.78E-05**	**<2.59E-05**	**<2.16E-04**	**<1.29E-04**	**<7.83E-05**

Attachment 5

ANALYSIS DATE AND TIME

Analysis Date and Time

Customer ID	Laboratory Sample Number	Analysis Date/Time
B1PPY2	S08M000014	4/17/08 15:00
B1PR00	S08M000015	4/17/08 15:00
B1PR07	S08M000016	4/17/08 15:00
B1PR10	S08M000017	4/17/08 15:00
B1PR14	S08M000018	4/17/08 15:00

Attachment 6

RECEIPT PAPERWORK

INBOUND ACCEPTANCE CHECKLIST

F RM #: 11656

Continued From:

Fluor Hanford
2355 Stevens Drive
Bldg. 1162/1100 Area
Richland, WA 99354

Destination:

Area: 2W Bldg: 222-S

Contact Name: Michael Baechler

Phone #: 539-3117

This shipment is being forwarded from Fluor Hanford to the Hanford Site in the same packaging prepared by the original shipper. The original shipping papers are attached.

☒ **Shipment complies with all DOT and IATA shipping papers, packaging, markings, labeling, and placarding requirements.**

Surface Dose Rate of Package	Dose Rate @ 1 meter from Surface of Package	Smears of Outer Container	TRUCK LOAD or EXCLUSIVE USE
☐ ≤ 0.005 or _____ mSv/hr	☒ < 0.005 or _____ mSv/hr	☒ 4 Bq (220 dpm) βγ/cm²	Surface ☒ ≤ 2 mSv/hr (200 mrem/hr)
≤ 0.5 or 0.7 mrem/hr (N + βγ)	< 0.5 or _____ mrem/hr (N + βγ)	☒ 0.4 Bq (22 dpm) α/cm²	@ 2 meters ☒ ≤ 0.1 mSv/hr (10 mrem/hr)
☐ N/A	☐ N/A	☒ < Tbl. 2-2 HSRCM Onsite Limits	@ Cab or sleeper ☒ ≤ 0.02 mSv/hr (2 mrem/hr) (Using N + βγ)
			☐ N/A

Additional Data and Instructions

(Incl. Readings on Internal Packagings)

Signature - Radiation Monitoring	Bldg.	Survey No.	Date
[illegible]	1162	SS276624	3-5-08

Approved By: J. L. Mapell Date: 3-5-08 DE-Ci: N/A LTD QTY

Title: Sr. Trans. Prof

EMERGENCY CONTACT PHONE # (509) 373-3800

Received By: Ruth A Burkhart Date: 3/5/08

Title: Project Manager, ATL

White/Yellow copies (Transporter return to Shipping/Receiving, G1-40) Pink copy (To be retained by receiver)

BC-6004-225 (REV 0)

Eberline Services
2030 Wright Avenue
P.O. Box 4040
Richmond, CA 94804
(510) 235-2633
(510) 235-0438 FAX

Eberline Services

Memo

To: Roger Mitchell

From: Melissa Mannion mcm Elby/Ted

CC: Alex Kelenson and Fred Sarao

Date: 02/21/08

Re: **Returning Hot Samples to Hanford**

Hanford has authorized the return of samples in W.O. No. R711100-7711. The following directions must be followed for returning the samples to Hanford.

Samples in Group 7711 need to be shipped back to Hanford in two separate containers based on the activity of the samples. Samples should be segregated into two groups: (1) WSCF and (ATL/222-S). The segregation of the samples is listed below:

Ref. W.O.# R8-02-160 R802-161

Container 1	Container 2
WSCF	**ATL/222-S**
B1PPY1 (7711-01)	B1PPY2 (7711-02)
B1PPY3 (7711-03)	B1PR00 (7711-10)
B1PPY4 (7711-04)	B1PR07 (7711-17)
B1PPY5 (7711-05)	B1PR10 (7711-20)
B1PPY6 (7711-06)	B1PR14 (7711-24)
B1PPY7 (7711-07)	
B1PPY8 (7711-08)	
B1PPY9 (7711-09)	
B1PR01 (7711-11)	
B1PR02 (7711-12)	
B1PR03 (7711-13)	
B1PR04 (7711-14)	
B1PR05 (7711-15)	
B1PR06 (7711-16)	
B1PR08 (7711-18)	
B1PR09 (7711-19)	
B1PR11 (7711-21)	
B1PR12 (7711-22)	
B1PR13 (7711-23)	

5 Samples Received by
Rt [illegible] 3.6.08 0800
Note: Sample IDs were unreadable due to packing. Will verify sample ID's upon breadown of samples.
HPT surveyed by
[illegible]
Doserate of Bag with 5 samples
13.5 mrem/hr shallow

Only original sample material may be shipped back to Hanford.

20080229

Container 2 (ATL / 222-S)

PAGE 1 Eberline Srvces CHAIN OF CUSTODY ORD # R8-02-161

02/25/08 11:22:27 WORK ID: SAF# F07-063 SDG# H3598

RCVD: 02/25/08 DUE: 03/03/08 KEEP: 03/03/09 DISP: S

SDG # H3598 (7711)

DASH	SAMPLE IDENTIFICATION	STORED	TESTS
02A-S	B1PPY2	HANFORD	RETURN
10A-S	B1PR00	HANFORD	RETURN
17A-S	B1PR07	HANFORD	RETURN
20A-S	B1PR10	HANFORD	RETURN
24A-S	B1PR14	HANFORD	RETURN

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
Alex Kelleusaul	3/04/08	FLUOR HANFORD	3/04/08	[illegible]	3.6.08 0800

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F07-063-026 PAGE 1 OF 1

COLLECTOR
NCO Sampler

SAMPLING LOCATION
C5915, I-2 13.5' - 14.0'

ICE CHEST NO.
GWO-07-002

SHIPPED TO
Eberline Services

COMPANY CONTACT
TRENT, SJ

TELEPHONE NO.
373-5869

PROJECT DESIGNATION
216-B-26 Trench DPT Samples - Treatability Test Phase I

FIELD LOGBOOK NO.

COA
122728ES10

OFFSITE PROPERTY NO.
~~N/A~~ (1) See RSR H0004000

PROJECT COORDINATOR
TRENT, SJ

SAF NO.
F07-063

METHOD OF SHIPMENT
~~GOVERNMENT VEHICLE~~ (1) Fed Ex

BILL OF LADING/AIR BILL NO.
~~N/A~~ (1) See RSR H0004000

PRICE CODE 8G

AIR QUALITY

DATA TURNAROUND
15 Days / 30 Days

(1) MAB 11/14/07

MATRIX*
A=Air
DL=Drum
Liquids
DS=Drum
Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
~~Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order~~ 5400.5 (1990/1993) (1)

SPECIAL HANDLING AND/OR STORAGE
Radioactive tie to B1PPV8

PRESERVATION None

TYPE OF CONTAINER G/P

NO. OF CONTAINER(S) 1

VOLUME ~~50ml~~ 250 mL MW 10-22-07

SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SDG# 3598
GRP.# 7711-02

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1PPY2	SOIL	~~10-18-07~~ 10-22-07	~~1440~~ 0810

LOT# 013924
~~LOT# 009189~~ 00 10-22-07

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME
Mitei White Mitei White	10-22-07 0810
B-26 SAMPLE STORAGE	11-13-07/1400
DW WOBB/Dwight Wobb	11-13-07/1500
MO-745 RM 3	NOV 14 2007 0815
M.A. Baechler M.A. Baechler	NOV 14 2007 0815
FEDEX	
Alex Kelmsall	3/04/08 16:00

SIGN/ PRINT NAMES

RECEIVED BY/STORED IN	DATE/TIME
B-26 Sample Storage	10-22-07 0810
DW WOBB ~~MO 745 FRIDGE #3~~	11-13-07/1400
MO 745 FRIDGE #3	11-13-07 1500
M.A. Baechler M.A. Baechler	NOV 14 2007 0815
Fed Ex	
[illegible]	11/15/07 09:30
FEDEX	

SPECIAL INSTRUCTIONS
(1)Gamma Spectroscopy {Cesium-137} Strontium-89,90 -- Total Sr;

New LAB ID # S08M000014
" GROUP # 20080229
RA Stark 3.10.08

LABORATORY SECTION RECEIVED BY RA Stark

FINAL SAMPLE DISPOSITION DISPOSAL METHOD

TITLE Sr Chem tech (Sample Custodian) DATE/TIME 3.6.08 0800

DISPOSED BY DATE/TIME

A-6003-618(01/06)

20080229

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F07-063-034 PAGE 1 OF 1

COLLECTOR: NCO Sampler JK Bailey Mitch White	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ
SAMPLING LOCATION: C5918, I-1 12' - 12.5'	PROJECT DESIGNATION: 216-B-26 Trench DPT Samples - Treatability Test Phase I		SAF NO.: F07-063
ICE CHEST NO.: GWO-07-002	FIELD LOGBOOK NO.	COA: 122728ES10	METHOD OF SHIPMENT: ~~GOVERNMENT VEHICLE~~ (1) Fed Ex (1) MAB 11/8/07
SHIPPED TO: Eberline Services	OFFSITE PROPERTY NO.: ~~N/A~~ (1) See RSR H0004000		BILL OF LADING/AIR BILL NO.: ~~N/A~~ (1) See RSR H0004000

PRICE CODE: 8G

AIR QUALITY:

DATA TURNAROUND: 15 Days / 30 Days

MATRIX*
A=Air
DL=Drum Liquids
DS=Drum Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: ~~Contains~~ Radioactive Material at concentrations that are not ~~regulated~~ for transportation per 49 CFR but are not releasable ~~per DOE~~ Order 5400.5 (1990/1993) (1)

SPECIAL HANDLING AND/OR STORAGE: Radioactive tie to B1PPW

PRESERVATION

TYPE OF CONTAINER: G/P

NO. OF CONTAINER(S): 1

VOLUME: ~~60mL~~ 250 JKB 10-5-07

SAMPLE ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SDG# H3598
GRP.# 7711 - 10

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1PR00	SOIL	10-9-07	1310 ✓

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
JK Bailey [signature]	10-9-07 1310	B-26 Sample Cabinet	10-9-07 1310
B26 Sample Cab.	10/29/7-1245	J. Mowler [signature]	10/29/7-1245
J. Mowler [signature]	10/29/7-1500	MO745 Ref 3	10/29/7-1500
MO-745 Ref 3	NOV 14 2007 0815	M.A. Baechler M.A. Baechler	NOV 14 2007 0815
M.A. Baechler M.A. Baechler	NOV 14 2007 0815	Fed Ex	
FED EX		[signature]	11/15/07 09:30
Alex Kelmsaul	3/04/08 16:00	FED EX	

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS

(1)Gamma Spectroscopy {Cesium-137} Strontium-89,90 -- Total Sr;

NEW LAB ID# S09M000015
" " GROUP# 20080229
Rt Stab 3.10.08

LABORATORY SECTION: RECEIVED BY Rt Stab

TITLE: Sr Chemtech (Sample Custodian) DATE/TIME: 3.6.08 0800

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD

DISPOSED BY: DATE/TIME

A-6003-618(01/06)

20080229

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F07-063-041 PAGE 1 OF 1

COLLECTOR: NCO Sampler DW WEBB	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ
SAMPLING LOCATION: C5920, I-2 12.5' - 13'	PROJECT DESIGNATION: 216-B-26 Trench DPT Samples - Treatability Test Phase I		SAF NO.: F07-063
ICE CHEST NO.: GWO-07-002	FIELD LOGBOOK NO.	COA: 122728ES10	METHOD OF SHIPMENT: ~~GOVERNMENT VEHICLE~~ (1) Fed Ex
SHIPPED TO: Eberline Services	OFFSITE PROPERTY NO: ~~N/A~~ (1) See RSR H0004000		BILL OF LADING/AIR BILL NO.: ~~N/A~~ (1) See RSR H0004000

PRICE CODE: 8G

AIR QUALITY

DATA TURNAROUND: 15 Days / 30 Days

(1) MAB 11/14/07

MATRIX*
A=Air
DL=Drum
Liquids
DS=Drum
Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993) (1)

SPECIAL HANDLING AND/OR STORAGE
Radioactive tie to B1PPX3

PRESERVATION	None
TYPE OF CONTAINER	G/P
NO. OF CONTAINER(S)	1
VOLUME	~~60mL~~ 250 JKO 10-5-07
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SDG# H3598

GRP.# 7711-17

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	
B1PR07	SOIL	10-8-07	1255	X

CHAIN OF POSSESSION

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
DW WEBB/ [signature]	10-11-07 / 1440	B-26 SAMPLE CAB	10-11-07 / 1440
B-26 SAMPLE CAB	11-13-07 / 1400	DW WEBB/ DW Webb	11-13-07 / 1400
DW WEBB/ DW Webb	11-13-07 / 1500	MO745 FRIDGE #3	11-13-07 / 1500
MO-745 KY3	NOV 14 2007 0815	M. A. Baechler / M.A. Baechler	NOV 14 2007 0815
M. A. Baechler / M.A. Baechler	NOV 14 2007 0815	Fed Ex	
FED EX		[signature]	11/15/07 09:30
Alex Kelleisand	3/04/08 16:00	FED EX	

SIGN/ PRINT NAMES

SPECIAL INSTRUCTIONS
(1)Gamma Spectroscopy {Cesium-137} Strontium-89,90 -- Total Sr;

NEW LAB ID# S08M000016
" " GROUP# 20080229
Rt [signature] 3.10.08

LABORATORY SECTION — RECEIVED BY: Rt [signature] / — TITLE: Sr Chem tech (sample custodian) — DATE/TIME: 3.6.08 0800

FINAL SAMPLE DISPOSITION — DISPOSAL METHOD — DISPOSED BY — DATE/TIME

A-6003-618(01/06)

20080229

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F07-063-044 PAGE 1 OF 1

COLLECTOR: NCO Sampler JK Bailey	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ
PRICE CODE: 8G	DATA TURNAROUND: 15 Days / 30 Days		
SAMPLING LOCATION: C5921, I-2 11.9' - 12.4'	PROJECT DESIGNATION: 216-B-26 Trench DPT Samples - Treatability Test Phase I		SAF NO.: F07-063
AIR QUALITY:			
ICE CHEST NO.: GWO-07-002	FIELD LOGBOOK NO.:	COA: 122728ES10	METHOD OF SHIPMENT: ~~GOVERNMENT VEHICLE~~ (1) Fed Ex (1) MAB 11/8/07
SHIPPED TO: Eberline Services	OFFSITE PROPERTY NO.: ~~N/A~~ (1) See RSR H0004000		BILL OF LADING/AIR BILL NO.: ~~N/A~~ (1) See RSR H0004000

MATRIX*
A=Air
DL=Drum
Liquids
DS=Drum
Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS
Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993) (1)

SPECIAL HANDLING AND/OR STORAGE
Radioactive tie to B1PPX6

PRESERVATION	
TYPE OF CONTAINER	G/P
NO. OF CONTAINER(S)	1
VOLUME	~~60mL~~ 250 JUBILEE
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SDG# H3598
GRP. # 7711-20

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1PR10	SOIL	10-4-07	1405 ✓

Lot # 13924

CHAIN OF POSSESSION

SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
JK Bailey	10-4-07 1415	B-26 Sample Cabinet	10-4-07 1415
B26 Samp. Cab.	10/29/7-1245	J. Newton	10/29/7-1245
J. Newton	10/29/7-1500	M0745 Rm 3	10/29/7-1500
M0-745 Rm 3	NOV 14 2007 0815	M. A. Baechler	NOV 14 2007 0815
M. A. Baechler	NOV 14 2007 0815	Fed Ex	
FED EX			11/15/07 09:30
Alex Kelleraud	3/04/08 16:00	FED EX	

SPECIAL INSTRUCTIONS
(1)Gamma Spectroscopy {Cesium-137} Strontium-89,90 -- Total Sr;

New Lab ID# S08M000017
" " Group # 20080229
Rt Stab 3.10.08

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
	Rt Stab	sr Chem tech (Sample Custodian)	3.6.08 0800

FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(01/06)

20080229

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F07-063-048 PAGE 1 OF 1

COLLECTOR: Mitzi White
NCO Sampler

SAMPLING LOCATION: C5922, I-3 11.5' - 12'

ICE CHEST NO.: GWO-07-002

SHIPPED TO: Eberline Services

COMPANY CONTACT: TRENT, SJ
TELEPHONE NO.: 373-5869

PROJECT DESIGNATION: 216-B-26 Trench DPT Samples - Treatability Test Phase 1

FIELD LOGBOOK NO.:
COA: 122728ES10

OFFSITE PROPERTY NO.: ~~N/A~~ (1) See RSR H0004000

PROJECT COORDINATOR: TRENT, SJ

SAF NO.: F07-063

METHOD OF SHIPMENT: ~~GOVERNMENT VEHICLE~~ (1) Fed Ex (1) MAB 11/8/07

BILL OF LADING/AIR BILL NO.: ~~N/A~~ (1) See RSR H0004000

PRICE CODE: 8G

DATA TURNAROUND: 15 Days / 30 Days

AIR QUALITY:

MATRIX*
A=Air
DL=Drum
Liquids
DS=Drum
Solids
L=Liquid
O=Oil
S=Soil
SE=Sediment
T=Tissue
V=Vegitation
W=Water
WI=Wipe
X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: ~~Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not releasable per DOE Order 5400.5 (1990/1993)~~ (1)

SPECIAL HANDLING AND/OR STORAGE: Radioactive tie to B1PPY0

PRESERVATION:

TYPE OF CONTAINER: G/P

NO. OF CONTAINER(S): 1

VOLUME: ~~60mL~~ 250 mL 10-15-07

SAMPLE ANALYSIS: SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SDG# H3598
GRP. # 1711-24

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1PR14	SOIL	10-4-07	0845

Lot # 13924

CHAIN OF POSSESSION / SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Mitzi White Mitzi White	10-4-07 0845	B-26 Sample Storage	10-4-07 0845
B26 Sample Stg	10/29/7 1245	J. Meuter	10/29/7 1245
J. Meuter	10/29/7 1500	MO-745 KW-3	10/29/7 1500
MO-745 KW-3	NOV 14 2007 0815	M. A. Baechler	NOV 14 2007 0815
M. A. Baechler M. A. Baechler	NOV 14 2007 0815	Fed Ex	
Fed Ex			
Alex Kelemenuf	3/04/08 16:00	FED EX	

LABORATORY SECTION: RECEIVED BY: Rt Stark

FINAL SAMPLE DISPOSITION: DISPOSAL METHOD:

TITLE: Sr Chem Tech (Sample Custodian)
DISPOSED BY:
DATE/TIME: 3.6.08 0800

SPECIAL INSTRUCTIONS
(1)Gamma Spectroscopy {Cesium-137} Strontium-89,90 -- Total Sr;

New Lab ID# S08M000018
" " Group# 20080229
Rt Stark 3.10.08

A-6003-618(01/06)

27

20080229