1.0 GENERAL

Bechtel Hanford Inc. (BHI) Sample Delivery Group H1486 was composed of three solid (soil) samples designated under SAF No. B01-058 with a Project Designation of: 200-TW-1 & -2 – Soil Sampling.

The samples were received as stated on the Chain-of-Custody documents. Any discrepancies are noted on the Eberline Services Sample Receipt Checklist. The results were transmitted to BHI via e-Fax on November 8 and 14, 2001.

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2.0 ANALYSIS NOTES

2.1 Isotopic Plutonium Analyses

No problems were encountered during the course of the analyses.

2.2 Total Strontium Analyses

No problems were encountered during the course of the analyses.

2.3 Nickel-63 Analyses

No problems were encountered during the course of the analyses.

2.4 Americium-241 Analyses

Due to Pu-239 on the Am-241 planchets for samples B12ML4 and B12ML5, the samples had to be reworked in chemistry to remove the Pu. The results from the reworked samples are reported herein. No other problems were encountered during the course of the analyses.

2.5 Gamma Spectroscopy Analyses

No problems were encountered during the course of the analyses.

2.6 Isotopic Thorium Analyses

No problems were encountered during the course of the analyses.

2.7 Technetium-99 Analyses

No problems were encountered during the course of the analyses.

2.8 Neptunium-237 Analyses

Due to a low yield Np-237 sample B12ML4 was reanalyzed with new QC samples. Sample B12ML4 was batched with Np-237 reanalysis samples from SDG H1486 (7070). No other problems were encountered during the course of the analyses.

2.9 Carbon-14 Analyses

No problems were encountered during the course of the analyses.

2.10 *Isotopic Uranium* Analyses

No problems were encountered during the course of the analyses.

2.11 Total Uranium Analyses

There was contamination in the method blank (0.32 μg/g). The activity was above the RDL (0.1 μg/g) for total uranium, but less than 5-times the MDA (0.28 μg/g). No other problems were encountered during the course of the analyses.

2.12 Tritium Analyses

The H3 matrix spike had a percent recovery (79%) below the 3σ limits (87 to 113%) and was slightly below the laboratory protocol limits (80 to 120%), but within BHI's limits (60 to 140%). No other problems were encountered during the course of the analyses.

Case Narrative Certification Statement

"I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data obtained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."

Melissa Mannion — 11/21/01

Melissa C. Mannion
Program Manager

Date

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

SDG 7073
Contact Melissa C. Mannion

SAMPLE SUMMARY

Client Hanford
Contract No. 630
Case no SDG H1486

CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	LAB SAMPLE ID	SAF NO	CHAIN OF CUSTODY	COLLECTED
B12ML4	B-7/200 E	SOLID		R109001-01	B01-058	B01-058-249	08/26/01 23:45
B12ML5	B-7/200 E	SOLID		R109001-02	B01-058	B01-058-250	08/27/01 01:15
B12ML6	B-7/200 E	SOLID		R109001-03	B01-058	B01-058-251	08/27/01 04:30
Method Blank		SOLID		R108152-04	B01-058		
Method Blank		SOLID		R108152-11	B01-058		
Method Blank		SOLID		R109001-05	B01-058		
Lab Control Sample		SOLID		R108152-03	B01-058		
Lab Control Sample		SOLID		R108152-10	B01-058		
Lab Control Sample		SOLID		R109001-04	B01-058		
Duplicate (R109001-03)	B-7/200 E	SOLID		R109001-06	B01-058		08/27/01 04:30
Spike (R109001-03)	B-7/200 E	SOLID		R109001-07	B01-058		08/27/01 04:30

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

QC SUMMARY

SDG 7073
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG H1486

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	% SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	DAYS SINCE COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
7070		Method Blank	SOLID						R108152-04	7070-004
		Method Blank	SOLID						R108152-11	7070-011
		Lab Control Sample	SOLID						R108152-03	7070-003
		Lab Control Sample	SOLID						R108152-10	7070-010
7073	B01-058-249	B12ML4	SOLID	90.8	275.3 g		08/31/01	5	R109001-01	7073-001
	B01-058-250	B12ML5	SOLID	94.8	273.6 g		08/31/01	4	R109001-02	7073-002
	B01-058-251	B12ML6	SOLID	88.5	280.3 g		08/31/01	4	R109001-03	7073-003
		Method Blank	SOLID						R109001-05	7073-005
		Lab Control Sample	SOLID						R109001-04	7073-004
		Duplicate (R109001-03)	SOLID	88.5	280.3 g		08/31/01	4	R109001-06	7073-006
		Spike (R109001-03)	SOLID	88.5	280.3 g		08/31/01	4	R109001-07	7073-007

Lab id TMANC
Protocol Hanford
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

SDG 7073
Contact Melissa C. Mannion

PREP BATCH SUMMARY

Client Hanford
Contract No. 630
Case no SDG H1486

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED — CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Alpha Spectroscopy												
AM	SOLID	Americium 241 in Soil	7008-081	5.0	3			1	1	1/1		
NP	SOLID	Neptunium in Soil	7008-068	5.0	1			2	2			
			7008-081	5.0	2			1	1	1/1		
PU	SOLID	Plutonium, Isotopic in Solids	7008-081	5.0	3			1	1	1/1		
TH	SOLID	Thorium, Isotopic in Soil	7008-081	5.0	3			1	1	1/1		
U	SOLID	Uranium, Isotopic in Soil	7008-081	5.0	3			1	1	1/1		
Beta Counting												
SR	SOLID	Total Strontium in Soil	7008-081	10.0	3			1	1	1/1		
TC	SOLID	Technetium 99 in Soil	7008-081	10.0	3			1	1	1/1		
Gamma Spectroscopy												
GAM	SOLID	Gamma Scan	7008-081	15.0	3			1	1	1/1		
Kinetic Phosphorimetry												
U_T	SOLID	Uranium, Total in Soil	7008-081	9.0	3			1	1	1/1		
Liquid Scintillation Counting												
C	SOLID	Carbon 14 in Soil	7008-081	10.0	3			1	1	1/1		
H	SOLID	Tritium in Soil	7008-081	10.0	3			1	1	1/1	1/1	X
NI_L	SOLID	Nickel 63 in Soil	7008-081	10.0	3			1	1	1/1		

Duplicates and Matrix Spikes are those with original (Client) sample in this Sample Delivery Group.
Blank and LCS planchets are those in the same preparation batch as some Client, Duplicate or Spike sample.

Lab id TMANC
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

WORK SUMMARY

SDG 7073
Contact Melissa C. Mannion

Client Hanford
Contract No. 630
Case no SDG H1486

CLIENT SAMPLE ID / LOCATION / CUSTODY	SAF No	MATRIX	LAB SAMPLE ID / COLLECTED / RECEIVED	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
B12ML4			R109001-01	7073-001	AM	R1	11/10/01	11/14/01	MCM	Americium 241 in Soil
B-7/200 E		SOLID	08/26/01	7073-001	C		10/18/01	11/08/01	MCM	Carbon 14 in Soil
B01-058-249	B01-058		08/31/01	7073-001	GAM		10/22/01	11/08/01	MCM	Gamma Scan
				7073-001	H		10/22/01	11/08/01	MCM	Tritium in Soil
				7073-001	NI_L		10/22/01	11/08/01	MCM	Nickel 63 in Soil
				7073-001	NP	A1	11/08/01	11/14/01	MCM	Neptunium in Soil
				7073-001	PU		11/03/01	11/08/01	MCM	Plutonium, Isotopic in Solids
				7073-001	SR		10/17/01	11/08/01	MCM	Total Strontium in Soil
				7073-001	TC		10/31/01	11/08/01	MCM	Technetium 99 in Soil
				7073-001	TH		10/18/01	11/08/01	MCM	Thorium, Isotopic in Soil
				7073-001	U		10/19/01	11/08/01	MCM	Uranium, Isotopic in Soil
				7073-001	U_T		10/17/01	11/08/01	MCM	Uranium, Total in Soil
B12ML5			R109001-02	7073-002	AM	R1	11/10/01	11/14/01	MCM	Americium 241 in Soil
B-7/200 E		SOLID	08/27/01	7073-002	C		10/18/01	11/08/01	MCM	Carbon 14 in Soil
B01-058-250	B01-058		08/31/01	7073-002	GAM		10/22/01	11/08/01	MCM	Gamma Scan
				7073-002	H		10/22/01	11/08/01	MCM	Tritium in Soil
				7073-002	NI_L		10/22/01	11/08/01	MCM	Nickel 63 in Soil
				7073-002	NP		10/30/01	11/08/01	MCM	Neptunium in Soil
				7073-002	PU		11/03/01	11/08/01	MCM	Plutonium, Isotopic in Solids
				7073-002	SR		10/17/01	11/08/01	MCM	Total Strontium in Soil
				7073-002	TC		10/29/01	11/08/01	MCM	Technetium 99 in Soil
				7073-002	TH		10/23/01	11/08/01	MCM	Thorium, Isotopic in Soil
				7073-002	U		10/19/01	11/08/01	MCM	Uranium, Isotopic in Soil
				7073-002	U_T		10/17/01	11/08/01	MCM	Uranium, Total in Soil
B12ML6			R109001-03	7073-003	AM		10/25/01	11/08/01	MCM	Americium 241 in Soil
B-7/200 E		SOLID	08/27/01	7073-003	C		10/18/01	11/08/01	MCM	Carbon 14 in Soil
B01-058-251	B01-058		08/31/01	7073-003	GAM		10/22/01	11/08/01	MCM	Gamma Scan
				7073-003	H		10/22/01	11/08/01	MCM	Tritium in Soil
				7073-003	NI_L		10/22/01	11/08/01	MCM	Nickel 63 in Soil
				7073-003	NP		10/30/01	11/08/01	MCM	Neptunium in Soil
				7073-003	PU		11/03/01	11/08/01	MCM	Plutonium, Isotopic in Solids
				7073-003	SR		10/17/01	11/08/01	MCM	Total Strontium in Soil
				7073-003	TC		10/26/01	11/08/01	MCM	Technetium 99 in Soil
				7073-003	TH		10/18/01	11/08/01	MCM	Thorium, Isotopic in Soil
				7073-003	U		10/19/01	11/08/01	MCM	Uranium, Isotopic in Soil
				7073-003	U_T		10/17/01	11/08/01	MCM	Uranium, Total in Soil

Lab id TMANC
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SDG 7073
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG H1486

CLIENT SAMPLE ID / LOCATION / CUSTODY	SAF No	MATRIX	LAB SAMPLE ID / COLLECTED / RECEIVED	PLANCHET	TEST	SUFFIX	ANALYZED	REVIEWED	BY	METHOD
Method Blank	B01-058	SOLID	R108152-04	7070-004	NP		10/26/01	11/07/01	MCM	Neptunium in Soil
Method Blank	B01-058	SOLID	R108152-11	7070-011	NP		11/09/01	11/14/01	MCM	Neptunium in Soil
Method Blank	B01-058	SOLID	R109001-05	7073-005	AM		10/25/01	11/08/01	MCM	Americium 241 in Soil
				7073-005	C		10/18/01	11/08/01	MCM	Carbon 14 in Soil
				7073-005	GAM		10/22/01	11/08/01	MCM	Gamma Scan
				7073-005	H		10/23/01	11/08/01	MCM	Tritium in Soil
				7073-005	NI_L		10/22/01	11/08/01	MCM	Nickel 63 in Soil
				7073-005	NP		11/01/01	11/08/01	MCM	Neptunium in Soil
				7073-005	PU		11/06/01	11/08/01	MCM	Plutonium, Isotopic in Solids
				7073-005	SR		10/17/01	11/08/01	MCM	Total Strontium in Soil
				7073-005	TC		10/27/01	11/08/01	MCM	Technetium 99 in Soil
				7073-005	TH		10/18/01	11/08/01	MCM	Thorium, Isotopic in Soil
				7073-005	U		10/23/01	11/08/01	MCM	Uranium, Isotopic in Soil
				7073-005	U_T		10/17/01	11/08/01	MCM	Uranium, Total in Soil
Lab Control Sample	B01-058	SOLID	R108152-03	7070-003	NP		10/25/01	11/07/01	MCM	Neptunium in Soil
Lab Control Sample	B01-058	SOLID	R108152-10	7070-010	NP		11/09/01	11/14/01	MCM	Neptunium in Soil

Lab id TMANC
Protocol Hanford
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SDG 7073
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG H1486

CLIENT SAMPLE ID / LOCATION / CUSTODY	SAF No	MATRIX	LAB SAMPLE ID / COLLECTED / RECEIVED	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
Lab Control Sample			R109001-04	7073-004	AM		10/25/01	11/08/01	MCM	Americium 241 in Soil
		SOLID		7073-004	C		10/19/01	11/08/01	MCM	Carbon 14 in Soil
	B01-058			7073-004	GAM		10/22/01	11/08/01	MCM	Gamma Scan
				7073-004	H		10/22/01	11/08/01	MCM	Tritium in Soil
				7073-004	NI_L		10/22/01	11/08/01	MCM	Nickel 63 in Soil
				7073-004	NP		11/01/01	11/08/01	MCM	Neptunium in Soil
				7073-004	PU		11/06/01	11/08/01	MCM	Plutonium, Isotopic in Solids
				7073-004	SR		10/17/01	11/08/01	MCM	Total Strontium in Soil
				7073-004	TC		10/31/01	11/08/01	MCM	Technetium 99 in Soil
				7073-004	TH		10/18/01	11/08/01	MCM	Thorium, Isotopic in Soil
				7073-004	U		10/23/01	11/08/01	MCM	Uranium, Isotopic in Soil
				7073-004	U_T		10/17/01	11/08/01	MCM	Uranium, Total in Soil
Duplicate (R109001-03)			R109001-06	7073-006	AM		10/30/01	11/08/01	MCM	Americium 241 in Soil
B-7/200 E		SOLID	08/27/01	7073-006	C		10/19/01	11/08/01	MCM	Carbon 14 in Soil
	B01-058		08/31/01	7073-006	GAM		10/22/01	11/08/01	MCM	Gamma Scan
				7073-006	H		10/23/01	11/08/01	MCM	Tritium in Soil
				7073-006	NI_L		10/22/01	11/08/01	MCM	Nickel 63 in Soil
				7073-006	NP		10/31/01	11/08/01	MCM	Neptunium in Soil
				7073-006	PU		11/08/01	11/14/01	MCM	Plutonium, Isotopic in Solids
				7073-006	SR		10/17/01	11/08/01	MCM	Total Strontium in Soil
				7073-006	TC		10/26/01	11/08/01	MCM	Technetium 99 in Soil
				7073-006	TH		10/18/01	11/08/01	MCM	Thorium, Isotopic in Soil
				7073-006	U		10/19/01	11/08/01	MCM	Uranium, Isotopic in Soil
				7073-006	U_T		10/17/01	11/08/01	MCM	Uranium, Total in Soil
Spike (R109001-03)			R109001-07	7073-007	H		10/23/01	11/08/01	MCM	Tritium in Soil
B-7/200 E		SOLID	08/27/01							
	B01-058		08/31/01							

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SDG 7073
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract No. 630
Case no SDG H1486

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP	SPIKE	TOTAL
AM	B01-058	Americium 241 in Soil	AMCMISO_IE_PLATE_AEA	3			1	1	1		6
C	B01-058	Carbon 14 in Soil	C14_COX_LSC	3			1	1	1		6
GAM	B01-058	Gamma Scan	GAMMA_GS	3			1	1	1		6
H	B01-058	Tritium in Soil	906.0_H3_LSC	3			1	1	1	1	7
NI_L	B01-058	Nickel 63 in Soil	NI63_LSC	3			1	1	1		6
NP	B01-058	Neptunium in Soil	NP237_LLE_PLATE_AEA	3			3	3	1		10
PU	B01-058	Plutonium, Isotopic in Solids	PUISO_PLATE_AEA	3			1	1	1		6
SR	B01-058	Total Strontium in Soil	SRTOT_SEP_PRECIP_GPC	3			1	1	1		6
TC	B01-058	Technetium 99 in Soil	TC99_TR_SEP_LSC	3			1	1	1		6
TH	B01-058	Thorium, Isotopic in Soil	THISO_IE_PLATE_AEA	3			1	1	1		6
U	B01-058	Uranium, Isotopic in Soil	UISO_PLATE_AEA	3			1	1	1		6
U_T	B01-058	Uranium, Total in Soil	UTOT_KPA	3			1	1	1		6
TOTALS				36			14	14	12	1	77

Lab id TMANC
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EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP H1486

R108152-04 **Method Blank**

METHOD BLANK

SDG 7073 Client/Case no Hanford SDG H1486
Contact Melissa C. Mannion Contract No. 630

Lab sample id R108152-04 Client sample id Method Blank
Dept sample id 7070-004 Material/Matrix SOLID
SAF No B01-058

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Tritium	10028-17-8	N.A.			400		H
Carbon 14	14762-75-5	N.A.			50		C
Nickel 63	13981-37-8	N.A.			30		NI_L
Total Strontium	SR-RAD	N.A.			1.0		SR
Technetium 99	14133-76-7	N.A.			15		TC
Thorium 228	14274-82-9	N.A.					TH
Thorium 230	14269-63-7	N.A.			1.0		TH
Thorium 232	TH-232	N.A.			1.0		TH
Total Uranium (ug/g)	7440-61-1	N.A.			0.10		U_T
Uranium 233	U-233/234	N.A.			1.0		U
Uranium 235	15117-96-1	N.A.			1.0		U
Uranium 238	U-238	N.A.			1.0		U
Neptunium 237	13994-20-2	48.0	48	72	1.0	U	NP
Potassium 40	13966-00-2	N.A.					GAM
Cobalt 60	10198-40-0	N.A.			0.050		GAM
Cesium 137	10045-97-3	N.A.			0.10		GAM
Radium 226	13982-63-3	N.A.			0.10		GAM
Radium 228	15262-20-1	N.A.			0.20		GAM
Europium 152	14683-23-9	N.A.			0.10		GAM
Europium 154	15585-10-1	N.A.			0.10		GAM
Europium 155	14391-16-3	N.A.			0.10		GAM
Thorium 228	14274-82-9	N.A.					GAM
Thorium 232	TH-232	N.A.					GAM
Uranium 235	15117-96-1	N.A.					GAM
Uranium 238	U-238	N.A.					GAM
Americium 241	14596-10-2	N.A.					GAM

200-TW-1 & 2 - Soil Sampling

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-DS
Version 3.06
Report date 11/14/01

R108152-04 **Method Blank**

B L A N K , c o n t .

SDG	7073	Client/Case no	Hanford SDG H1486
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R108152-04	Client sample id	Method Blank
Dept sample id	7070-004	Material/Matrix	SOLID
		SAF No	B01-058

QC-BLANK 39877

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
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R108152-11 Method Blank

M E T H O D B L A N K

SDG	7073	Client/Case no	Hanford SDG H1486
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R108152-11	Client sample id	Method Blank
Dept sample id	7070-011	Material/Matrix	SOLID
		SAF No	B01-058

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Neptunium 237	13994-20-2	145	290	440	1.0	U	NP

200-TW-1 & 2 - Soil Sampling

QC-BLANK 40179

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
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EBERLINE SERVICES / RICHMOND

SAMPLE DELIVERY GROUP H1486

R109001-05 Method Blank

METHOD BLANK

SDG 7073 Client/Case no Hanford SDG H1486
Contact Melissa C. Mannion Contract No. 630

Lab sample id R109001-05 Client sample id Method Blank
Dept sample id 7073-005 Material/Matrix SOLID
SAF No B01-058

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Tritium	10028-17-8	0	3.4	6.0	400	UX	H
Carbon 14	14762-75-5	0.782	2.8	4.7	50	U	C
Nickel 63	13981-37-8	64.3	630	1100	30	U	NI_L
Total Strontium	SR-RAD	177	140	210	1.0	U	SR
Americium 241	14596-10-2	-5.39	8.1	10	1.0	U	AM
Technetium 99	14133-76-7	0.015	0.70	2.4	15	U	TC
Thorium 228	14274-82-9	24.3	49	78		U	TH
Thorium 230	14269-63-7	-56.6	49	99	1.0	U	TH
Thorium 232	TH-232	0	16	62	1.0	U	TH
Total Uranium (ug/g)	7440-61-1	0.320	0.13	0.28	0.10		U_T
Uranium 233	U-233/234	0	18	69	1.0	U	U
Uranium 235	15117-96-1	0	22	84	1.0	U	U
Uranium 238	U-238	0	18	69	1.0	U	U
Neptunium 237	13994-20-2	0	80	190	1.0	U	NP
Plutonium 238	13981-16-3	-1.16	7.0	16	1.0	U	PU
Plutonium 239/240	PU-239/240	3.48	7.0	14	1.0	U	PU
Potassium 40	13966-00-2	U		17		U	GAM
Cobalt 60	10198-40-0	U		1.8	0.050	U	GAM
Cesium 137	10045-97-3	U		1.2	0.10	U	GAM
Radium 226	13982-63-3	U		2.1	0.10	U	GAM
Radium 228	15262-20-1	U		5.1	0.20	U	GAM
Europium 152	14683-23-9	U		2.2	0.10	U	GAM
Europium 154	15585-10-1	U		3.3	0.10	U	GAM
Europium 155	14391-16-3	U		1.2	0.10	U	GAM
Thorium 228	14274-82-9	U		1.0		U	GAM
Thorium 232	TH-232	U		5.1		U	GAM
Uranium 235	15117-96-1	U		1.9		U	GAM
Uranium 238	U-238	U		170		U	GAM
Americium 241	14596-10-2	U		0.65		U	GAM

200-TW-1 & 2 - Soil Sampling

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-DS
Version 3.06
Report date 11/14/01

R109001-05 Method Blank

BLANK, cont.

SDG	7073	Client/Case no	Hanford SDG H1486
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R109001-05	Client sample id	Method Blank
Dept sample id	7073-005	Material/Matrix	SOLID
		SAF No	B01-058

QC-BLANK 39952

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

R108152-03 Lab Control Sample

LAB CONTROL SAMPLE

SDG 7073 Client/Case no Hanford SDG H1486

Contact Melissa C. Mannion Case no No. 630

Lab sample id R108152-03 Client sample id Lab Control Sample

Dept sample id 7070-003 Material/Matrix SOLID

SAF No B01-058

ANALYTE	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST	ADDED pCi/g	2σ ERR pCi/g	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Tritium	N.A.			400		H					80-120
Carbon 14	N.A.			50		C					80-120
Nickel 63	N.A.			30		NI_L					80-120
Total Strontium	N.A.			1.0		SR					80-120
Technetium 99	N.A.			15		TC					80-120
Thorium 230	N.A.			1.0		TH					80-120
Total Uranium (ug/g)	N.A.			0.10		U_T					80-120
Uranium 233	N.A.			1.0		U					80-120
Uranium 235	N.A.			1.0		U					80-120
Uranium 238	N.A.			1.0		U					80-120
Neptunium 237	10900	950	54	1.0		NP	11900	480	92	85-115	80-120
Cobalt 60	N.A.			0.050		GAM					80-120
Cesium 137	N.A.			0.10		GAM					80-120

200-TW-1 & 2 - Soil Sampling

QC-LCS 39876

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

R108152-10 Lab Control Sample

LAB CONTROL SAMPLE

SDG 7073 Client/Case no Hanford SDG H1486

Contact Melissa C. Mannion Case no No. 630

Lab sample id R108152-10 Client sample id Lab Control Sample

Dept sample id 7070-010 Material/Matrix SOLID

SAF No 801-058

ANALYTE	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST	ADDED pCi/g	2σ ERR pCi/g	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Neptunium 237	106000	8100	430	1.0		NP	106000	4200	100	85-115	80-120

200-TW-1 & 2 - Soil Sampling

QC-LCS 40178

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

R109001-04 Lab Control Sample

LAB CONTROL SAMPLE

SDG 7073 Client/Case no Hanford SDG H1486

Contact Melissa C. Mannion Case no No. 630

Lab sample id R109001-04 Client sample id Lab Control Sample

Dept sample id 7073-004 Material/Matrix SOLID

SAF No 801-058

ANALYTE	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST	ADDED pCi/g	2σ ERR pCi/g	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Tritium	478	12	5.9	400		H	492	20	97	84-116	80-120
Carbon 14	9820	200	28	50		C	11300	450	87	85-115	80-120
Nickel 63	130000	2300	1000	30		NI_L	132000	5300	98	84-116	80-120
Total Strontium	24500	870	240	1.0		SR	22900	920	107	82-118	80-120
Americium 241	10500	1000	100	1.0		AM	10500	420	100	83-117	80-120
Technetium 99	670	7.5	2.0	15		TC	655	26	102	83-117	80-120
Thorium 230	11900	820	86	1.0		TH	11200	450	106	85-115	80-120
Total Uranium (ug/g)	1860	210	2.8	0.10		U_T	1810	72	103	77-123	80-120
Uranium 233	8430	730	290	1.0		U	9660	390	87	86-114	80-120
Uranium 235	6940	640	50	1.0		U	7850	310	88	85-115	80-120
Uranium 238	9610	810	270	1.0		U	10500	420	92	85-115	80-120
Neptunium 237	10400	1100	200	1.0		NP	11900	480	87	84-116	80-120
Plutonium 238	13400	390	13	1.0		PU	13600	540	99	90-110	80-120
Plutonium 239/240	14600	420	9.3	1.0		PU	14500	580	101	89-111	80-120
Cobalt 60	141	4.5	1.8	0.050		GAM	150	6.0	94	78-122	80-120
Cesium 137	168	3.8	2.0	0.10		GAM	172	6.9	98	77-123	80-120

200-TW-1 & 2 - Soil Sampling

QC-LCS 39951

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

R109001-06 B12ML6

DUPLICATE

SDG 7073 Client/Case no Hanford SDG H1486

Contact Melissa C. Mannion Case no No. 630

DUPLICATE		ORIGINAL			
Lab sample id	R109001-06	Lab sample id	R109001-03	Client sample id	B12ML6
Dept sample id	7073-006	Dept sample id	7073-003	Location/Matrix	B-7/200 E SOLID
		Received	08/31/01	Collected/Weight	08/27/01 04:30 280.3 g
% solids	88.5	% solids	88.5	Custody/SAF No	B01-058-251 B01-058

ANALYTE	DUPLICATE pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALIFIERS	TEST	ORIGINAL pCi/g	2σ ERR (COUNT)	MDA pCi/g	QUALIFIERS	RPD %	3σ PROT TOT LIMIT
Tritium	0.247	0.13	0.20	400	J	H	0.328	0.13	0.20	J	28	98
Carbon 14	1.04	2.3	3.9	50	U	C	1.67	2.4	3.9	U	-	
Nickel 63	1.49	3.2	5.4	30	U	NI_L	-0.545	3.1	5.2	U	-	
Total Strontium	95.4	3.6	1.1	1.0		SR	98.3	3.6	1.1		3	23
Americium 241	0.163	0.16	0.31	1.0	U	AM	0.133	0.27	0.51	U	-	
Technetium 99	-0.302	0.27	1.2	15	U	TC	-0.034	0.27	0.61	U	-	
Thorium 228	0.940	0.33	0.25			TH	0.564	0.27	0.25		50	86
Thorium 230	0.582	0.39	0.40	1.0	J	TH	0.397	0.33	0.44	U	38	157
Thorium 232	0.937	0.33	0.25	1.0	J	TH	0.860	0.33	0.25	J	9	79
Total Uranium (ug/g)	24.1	2.8	0.28	0.10		U_T	24.2	2.9	0.28		0	31
Uranium 233	7.90	1.3	0.39	1.0		U	8.11	1.2	0.33		3	35
Uranium 235	0.246	0.20	0.38	1.0	U	U	0.586	0.30	0.28	J	82	130
Uranium 238	6.80	1.2	0.31	1.0		U	7.50	1.1	0.29		10	36
Neptunium 237	0.070	0.14	0.21	1.0	U	NP	-0.065	0.13	0.50	U	-	
Plutonium 238	0	0.10	0.40	1.0	U	PU	0	0.12	0.46	U	-	
Plutonium 239/240	1.46	0.53	0.40	1.0		PU	1.56	0.61	0.46		7	81
Potassium 40	19.2	9.1	7.4			GAM	U		20	U	4	171
Cobalt 60	U		0.67	0.050	U	GAM	U		0.99	U	-	
Cesium 137	6520	25	5.0	0.10		GAM	5910	32	6.6		10	32
Radium 226	U		7.1	0.10	U	GAM	U		8.9	U	-	
Radium 228	U		3.4	0.20	U	GAM	U		5.1	U	-	
Europium 152	U		17	0.10	U	GAM	U		22	U	-	
Europium 154	U		2.5	0.10	U	GAM	U		3.4	U	-	
Europium 155	U		8.3	0.10	U	GAM	U		8.9	U	-	
Thorium 228	U		7.1		U	GAM	U		9.9	U	-	
Thorium 232	U		3.4		U	GAM	U		5.1	U	-	
Uranium 235	U		14		U	GAM	U		16	U	-	
Uranium 238	U		100		U	GAM	U		170	U	-	

200-TW-1 & 2 - Soil Sampling

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 11/14/01

DUPLICATE, cont.

SDG 7073		Client/Case no Hanford	SDG H1486
Contact Melissa C. Mannion		Case no No. 630	
DUPLICATE	ORIGINAL		
Lab sample id R109001-06	Lab sample id R109001-03	Client sample id B12ML6	
Dept sample id 7073-006	Dept sample id 7073-003	Location/Matrix B-7/200 E	SOLID
	Received 08/31/01	Collected/Weight 08/27/01 04:30	280.3 g
% solids 88.5	% solids 88.5	Custody/SAF No B01-058-251	B01-058

ANALYTE	DUPLICATE pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST	ORIGINAL pCi/g	2σ ERR (COUNT)	MDA pCi/g	QUALI-FIERS	RPD %	3σ PROT TOT LIMIT
Americium 241	U		10		U	GAM	U		4.6	U	-	

200-TW-1 & 2 - Soil Sampling

QC-DUP#3 39953

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

R109001-07 B12ML6

MATRIX SPIKE

SDG	7073			Client/Case no	Hanford SDG H1486
Contact	Melissa C. Mannion			Case no	No. 630
	MATRIX SPIKE		ORIGINAL		
Lab sample id	R109001-07	Lab sample id	R109001-03	Client sample id	B12ML6
Dept sample id	7073-007	Dept sample id	7073-003	Location/Matrix	B-7/200 E SOLID
		Received	08/31/01	*Collected/Weight*	08/27/01 04:30 280.3 g
% solids	88.5	% solids	88.5	Custody/SAF No	B01-058-251 B01-058

ANALYTE	SPIKE pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST	ADDED pCi/g	2σ ERR pCi/g	ORIGINAL pCi/g	2σ ERR (COUNT)	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Tritium	83.2	0.84	0.19	400	JX	H	105	4.2	0.328	0.13	79	87-113	60-140

200-TW-1 & 2 - Soil Sampling

QC-MS#3 39954

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-MS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

R109001-01 **B12ML4**

DATA SHEET

SDG	7073	Client/Case no	Hanford SDG H1486
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R109001-01	Client sample id	B12ML4
Dept sample id	7073-001	Location/Matrix	B-7/200 E SOLID
Received	08/31/01	Collected/Weight	08/26/01 23:45 275.3 g
% solids	90.8	Custody/SAF No	B01-058-249 B01-058

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALIFIERS	TEST
Tritium	10028-17-8	0.872	1.1	1.8	400	U	H
Carbon 14	14762-75-5	3.15	2.5	4.0	50	U	C
Nickel 63	13981-37-8	585	640	1100	30	U	NI_L
Total Strontium	SR-RAD	5710000	10000	230	1.0		SR
Americium 241	14596-10-2	770	260	140	1.0		AM
Technetium 99	14133-76-7	1.56	0.46	1.3	15	J	TC
Thorium 228	14274-82-9	6.78	27	52		U	TH
Thorium 230	14269-63-7	108	81	83	1.0		TH
Thorium 232	TH-232	0	14	52	1.0	U	TH
Total Uranium (ug/g)	7440-61-1	139	15	0.28	0.10	B	U_T
Uranium 233	U-233/234	46.9	40	51	1.0	U	U
Uranium 235	15117-96-1	0	16	62	1.0	U	U
Uranium 238	U-238	26.8	27	51	1.0	U	U
Neptunium 237	13994-20-2	3.71	15	28	1.0	U	NP
Plutonium 238	13981-16-3	140	71	90	1.0		PU
Plutonium 239/240	PU-239/240	25800	2100	89	1.0		PU
Potassium 40	13966-00-2	572	190	130			GAM
Cobalt 60	10198-40-0	U		35	0.050	U	GAM
Cesium 137	10045-97-3	67300	380	130	0.10		GAM
Radium 226	13982-63-3	U		170	0.10	U	GAM
Radium 228	15262-20-1	U		200	0.20	U	GAM
Europium 152	14683-23-9	U		390	0.10	U	GAM
Europium 154	15585-10-1	U		98	0.10	U	GAM
Europium 155	14391-16-3	U		490	0.10	U	GAM
Thorium 228	14274-82-9	U		230		U	GAM
Thorium 232	TH-232	U		200		U	GAM
Uranium 235	15117-96-1	U		670		U	GAM
Uranium 238	U-238	U		5700		U	GAM

200-TW-1 & 2 - Soil Sampling

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	11/14/01

DATA SHEET, cont

SDG	7073	Client/Case no	Hanford SDG H1486
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R109001-01	Client sample id	B12ML4
Dept sample id	7073-001	Location/Matrix	B-7/200 E SOLID
Received	08/31/01	Collected/Weight	08/26/01 23:45 275.3 g
% solids	90.8	Custody/SAF No	B01-058-249 B01-058

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Americium 241	14596-10-2	U		790		U	GAM

200-TW-1 & 2 - Soil Sampling

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

R109001-02 B12ML5

DATA SHEET

SDG	7073	Client/Case no	Hanford SDG H1486
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R109001-02	Client sample id	B12ML5
Dept sample id	7073-002	Location/Matrix	B-7/200 E SOLID
Received	08/31/01	Collected/Weight	08/27/01 01:15 273.6 g
% solids	94.8	Custody/SAF No	B01-058-250 B01-058

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALIFIERS	TEST
Tritium	10028-17-8	0.120	0.24	0.40	400	U	H
Carbon 14	14762-75-5	1.86	2.8	4.6	50	U	C
Nickel 63	13981-37-8	6.40	63	110	30	U	NI_L
Total Strontium	SR-RAD	128000	560	19	1.0		SR
Americium 241	14596-10-2	21.8	15	14	1.0		AM
Technetium 99	14133-76-7	0.098	0.35	1.0	15	U	TC
Thorium 228	14274-82-9	0.767	3.5	6.2		U	TH
Thorium 230	14269-63-7	-3.99	3.8	8.2	1.0	U	TH
Thorium 232	TH-232	0.380	1.1	2.1	1.0	U	TH
Total Uranium (ug/g)	7440-61-1	346	41	2.8	0.10		U_T
Uranium 233	U-233/234	117	19	6.0	1.0		U
Uranium 235	15117-96-1	3.77	3.0	5.8	1.0	U	U
Uranium 238	U-238	108	18	4.8	1.0		U
Neptunium 237	13994-20-2	0	4.2	16	1.0	U	NP
Plutonium 238	13981-16-3	4.12	5.5	11	1.0	U	PU
Plutonium 239/240	PU-239/240	1360	140	10	1.0		PU
Potassium 40	13966-00-2	16.4	7.1	5.0			GAM
Cobalt 60	10198-40-0	U		0.92	0.050	U	GAM
Cesium 137	10045-97-3	6190	19	4.9	0.10		GAM
Radium 226	13982-63-3	U		6.3	0.10	U	GAM
Radium 228	15262-20-1	U		5.8	0.20	U	GAM
Europium 152	14683-23-9	U		15	0.10	U	GAM
Europium 154	15585-10-1	U		3.1	0.10	U	GAM
Europium 155	14391-16-3	U		14	0.10	U	GAM
Thorium 228	14274-82-9	U		7.3		U	GAM
Thorium 232	TH-232	U		5.8		U	GAM
Uranium 235	15117-96-1	U		21		U	GAM
Uranium 238	U-238	140	130	160		U	GAM

200-TW-1 & 2 - Soil Sampling

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	11/14/01

SDG	7073	Client/Case no	Hanford	SDG H1486
Contact	Melissa C. Mannion	Contract	No. 630	
Lab sample id	R109001-02	Client sample id	B12ML5	
Dept sample id	7073-002	Location/Matrix	B-7/200 E	SOLID
Received	08/31/01	Collected/Weight	08/27/01 01:15	273.6 g
% solids	94.8	Custody/SAF No	B01-058-250	B01-058

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Americium 241	14596-10-2	U		19		U	GAM

200-TW-1 & 2 - Soil Sampling

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
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EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

R109001-03 B12ML6

DATA SHEET

SDG 7073	Client/Case no Hanford	SDG H1486	
Contact Melissa C. Mannion	Contract No. 630		
Lab sample id R109001-03	Client sample id B12ML6		
Dept sample id 7073-003	Location/Matrix B-7/200 E	SOLID	
Received 08/31/01	Collected/Weight 08/27/01 04:30	280.3 g	
% solids 88.5	Custody/SAF No B01-058-251	B01-058	

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Tritium	10028-17-8	0.328	0.13	0.20	400	J	H
Carbon 14	14762-75-5	1.67	2.4	3.9	50	U	C
Nickel 63	13981-37-8	-0.545	3.1	5.2	30	U	NI_L
Total Strontium	SR-RAD	98.3	3.6	1.1	1.0		SR
Americium 241	14596-10-2	0.133	0.27	0.51	1.0	U	AM
Technetium 99	14133-76-7	-0.034	0.27	0.61	15	U	TC
Thorium 228	14274-82-9	0.564	0.27	0.25			TH
Thorium 230	14269-63-7	0.397	0.33	0.44	1.0	U	TH
Thorium 232	TH-232	0.860	0.33	0.25	1.0	J	TH
Total Uranium (ug/g)	7440-61-1	24.2	2.9	0.28	0.10		U_T
Uranium 233	U-233/234	8.11	1.2	0.33	1.0		U
Uranium 235	15117-96-1	0.586	0.30	0.28	1.0	J	U
Uranium 238	U-238	7.50	1.1	0.29	1.0		U
Neptunium 237	13994-20-2	-0.065	0.13	0.50	1.0	U	NP
Plutonium 238	13981-16-3	0	0.12	0.46	1.0	U	PU
Plutonium 239/240	PU-239/240	1.56	0.61	0.46	1.0		PU
Potassium 40	13966-00-2	U		20		U	GAM
Cobalt 60	10198-40-0	U		0.99	0.050	U	GAM
Cesium 137	10045-97-3	5910	32	6.6	0.10		GAM
Radium 226	13982-63-3	U		8.9	0.10	U	GAM
Radium 228	15262-20-1	U		5.1	0.20	U	GAM
Europium 152	14683-23-9	U		22	0.10	U	GAM
Europium 154	15585-10-1	U		3.4	0.10	U	GAM
Europium 155	14391-16-3	U		8.9	0.10	U	GAM
Thorium 228	14274-82-9	U		9.9		U	GAM
Thorium 232	TH-232	U		5.1		U	GAM
Uranium 235	15117-96-1	U		16		U	GAM
Uranium 238	U-238	U		170		U	GAM

200-TW-1 & 2 - Soil Sampling

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	11/14/01

SDG	7073	Client/Case no	Hanford SDG H1486
Contact	Melissa C. Mannion	Contract	No. 630
Lab sample id	R109001-03	Client sample id	B12ML6
Dept sample id	7073-003	Location/Matrix	B-7/200 E SOLID
Received	08/31/01	Collected/Weight	08/27/01 04:30 280.3 g
% solids	88.5	Custody/SAF No	B01-058-251 B01-058

ANALYTE	CAS NO	RESULT pCi/g	2σ ERR (COUNT)	MDA pCi/g	RDL pCi/g	QUALI-FIERS	TEST
Americium 241	14596-10-2	U		4.6		U	GAM

200-TW-1 & 2 - Soil Sampling

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

Test AM Matrix SOLID
SDG 7073
Contact Melissa C. Mannion

METHOD SUMMARY

AMERICIUM 241 IN SOIL
ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG H1486

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Americium 241
Preparation batch 7008-081					
B12ML4	R109001-01		R1	7073-001	770
B12ML5	R109001-02		R1	7073-002	21.8
B12ML6	R109001-03			7073-003	U
BLK (QC ID=39952)	R109001-05			7073-005	U
LCS (QC ID=39951)	R109001-04			7073-004	ok
Duplicate (R109001-03)	R109001-06			7073-006	- U
Nominal values and limits from method				RDLs (pCi/g)	1.0
200-TW-1 & 2 - Soil Sampling					

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7008-081	2σ prep error 5.0 %		Reference Lab Notebook 7008 pg. 081													
B12ML4	R109001-01	R1		140	0.0010			61		110			76	10/21/01	11/10	SS-031
B12ML5	R109001-02	R1		14	0.0100			61		110			75	10/21/01	11/10	SS-032
B12ML6	R109001-03			0.51	0.200			86		104			59	10/21/01	10/25	SS-049
BLK (QC ID=39952)	R109001-05			10	0.0010			87		975				10/21/01	10/25	SS-050
LCS (QC ID=39951)	R109001-04			100	0.0010			81		104				10/21/01	10/25	SS-050
Duplicate (R109001-03) (QC ID=39953)	R109001-06			0.31	0.200			90		157			64	10/21/01	10/30	SS-047
Nominal values and limits from method				1.0	0.0010			20-105		100	100		180			

PROCEDURES	REFERENCE	AMCMISO_IE_PLATE_AEA
	CP-060	Soil Preparation, rev 3
	CP-070	Soil Dissolution, < 1.0g Aliquot, rev 4
	CP-940	Plutonium Separation and Purification, rev 3
	CP-960	Americium-Curium Purification, Large Aliquot, rev 4
	CP-008	Heavy Element Electroplating, rev 6

AVERAGES ± 2 SD FOR 6 SAMPLES
MDA 44 ± 120
YIELD 78 ± 26

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

Test NP Matrix SOLID
SDG 7073
Contact Melissa C. Mannion

METHOD SUMMARY

NEPTUNIUM IN SOIL
ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG H1486

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Neptunium 237	
Preparation batch 7008-068						
B12ML4	R109001-01		A1	7073-001	3.71	U
BLK (QC ID=39877)	R108152-04			7070-004	48.0	U
BLK (QC ID=40179)	R108152-11			7070-011	145	U
LCS (QC ID=39876)	R108152-03			7070-003	ok	
LCS (QC ID=40178)	R108152-10			7070-010	ok	
Preparation batch 7008-081						
B12ML5	R109001-02			7073-002	U	
B12ML6	R109001-03			7073-003	U	
BLK (QC ID=39952)	R109001-05			7073-005	U	
LCS (QC ID=39951)	R109001-04			7073-004	ok	
Duplicate (R109001-03)	R109001-06			7073-006	-	U
Nominal values and limits from method 200-TW-1 & 2 - Soil Sampling				RDLs (pCi/g)	1.0	

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

Test NP Matrix SOLID
SDG 7073
Contact Melissa C. Mannion

METHOD SUMMARY

NEPTUNIUM IN SOIL
ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG H1486

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7008-068	2σ prep error 5.0 %	Reference Lab Notebook 7008 pg. 068														
B12ML4	R109001-01	A1		28	0.0010			51		647			74	11/07/01	11/08	SS-032
BLK (QC ID=39877)	R108152-04			72	0.0010			50		104				10/10/01	10/26	SS-031
BLK (QC ID=40179)	R108152-11			440	1.0E-4			65		121				11/07/01	11/09	SS-033
LCS (QC ID=39876)	R108152-03			54	0.0010			43		147				10/10/01	10/25	SS-050
LCS (QC ID=40178)	R108152-10			430	1.0E-4			71		121				11/07/01	11/09	SS-032
Preparation batch 7008-081	2σ prep error 5.0 %	Reference Lab Notebook 7008 pg. 081														
B12ML5	R109001-02			16	0.0100			35		158			64	10/18/01	10/30	SS-049
B12ML6	R109001-03			0.50	0.200			54		158			64	10/18/01	10/30	SS-050
BLK (QC ID=39952)	R109001-05			190	0.0010			58		127				10/18/01	11/01	SS-024
LCS (QC ID=39951)	R109001-04			200	0.0010			46		126				10/18/01	11/01	SS-021
Duplicate (R109001-03) (QC ID=39953)	R109001-06			0.21	0.200			64		125			65	10/18/01	10/31	SS-033
Nominal values and limits from method				1.0	1.0E-4			20-105		100			180			

PROCEDURES	REFERENCE	NP237_LLE_PLATE_AEA
	CP-060	Soil Preparation, rev 3
	CP-070	Soil Dissolution, < 1.0g Aliquot, rev 4
	CP-934	Neptunium from Solids and Water by Extraction Chromatography, rev 2

AVERAGES ± 2 SD FOR 10 SAMPLES			
	MDA	140	± 340
	YIELD	54	± 22

Lab id IMANC
Protocol Hanford
Version Ver 1.0
Form DVO-CMS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

Test PU Matrix SOLID
SDG 7073
Contact Melissa C. Mannion

METHOD SUMMARY

PLUTONIUM, ISOTOPIC IN SOLIDS
ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG H1486

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Plutonium 238		Plutonium 239/240	
Preparation batch 7008-081								
B12ML4	R109001-01			7073-001	140		25800	
B12ML5	R109001-02			7073-002	4.12	U	1360	
B12ML6	R109001-03			7073-003	U		1.56	
BLK (QC ID=39952)	R109001-05			7073-005	U		3.48	U
LCS (QC ID=39951)	R109001-04			7073-004	ok		ok	
Duplicate (R109001-03)	R109001-06			7073-006	-	U	ok	
Nominal values and limits from method				RDLs (pCi/g)	1.0		1.0	
200-TW-1 & 2 - Soil Sampling								

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MAX MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7008-081	2σ prep error 5.0 %	Reference Lab Notebook 7008 pg. 081														
B12ML4	R109001-01			90	0.0010			89		110			69	11/03/01	11/03	SS-043
B12ML5	R109001-02			11	0.0100			76		110			68	11/03/01	11/03	SS-047
B12ML6	R109001-03			0.46	0.200			86		110			68	11/03/01	11/03	SS-048
BLK (QC ID=39952)	R109001-05			16	0.0010			103		1027				11/03/01	11/06	SS-032
LCS (QC ID=39951)	R109001-04			13	0.0010			99		1027				11/03/01	11/06	SS-031
Duplicate (R109001-03) (QC ID=39953)	R109001-06			0.40	0.200			97		122			73	11/03/01	11/08	SS-031
Nominal values and limits from method				1.0	0.0010			20-105		100	100		180			

PROCEDURES	REFERENCE	PUISO_PLATE_AEA
	CP-060	Soil Preparation, rev 3
	CP-940	Plutonium Separation and Purification, rev 3
	CP-008	Heavy Element Electroplating, rev 6

AVERAGES ± 2 SD FOR 6 SAMPLES				
	MDA	22	±	68
	YIELD	92	±	20

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

Test TH Matrix SOLID
SDG 7073
Contact Melisse C. Mannion

METHOD SUMMARY

THORIUM, ISOTOPIC IN SOIL
ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG H1486

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Thorium 228	Thorium 230	Thorium 232
Preparation batch 7008-081							
B12ML4	R109001-01			7073-001	U	108	U
B12ML5	R109001-02			7073-002	U	U	U
B12ML6	R109001-03			7073-003	0.564	U	0.860 J
BLK (QC ID=39952)	*R109001-05*			*7073-005*	*U*	*U*	*U*
LCS (QC ID=39951)	R109001-04			7073-004		ok	
Duplicate (R109001-03)	R109001-06			7073-006	ok	ok J	ok J
Nominal values and limits from method				RDLs (pCi/g)		1.0	1.0
200-TW-1 & 2 - Soil Sampling							

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MAX MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7008-081	2σ prep error 5.0 %			Reference Lab Notebook 7008 pg. 081												
B12ML4	R109001-01			83	0.0010			92		181			53	10/17/01	10/18	SS-044
B12ML5	R109001-02			8.2	0.0100			88		949			57	10/17/01	10/23	SS-021
B12ML6	R109001-03			0.44	0.200			97		180			52	10/17/01	10/18	SS-047
BLK (QC ID=39952)	R109001-05			99	0.0010			80		181				10/17/01	10/18	SS-049
LCS (QC ID=39951)	R109001-04			86	0.0010			89		181				10/17/01	10/18	SS-048
Duplicate (R109001-03) (QC ID=39953)	R109001-06			0.40	0.200			97		181			52	10/17/01	10/18	SS-050
Nominal values and limits from method				1.0	0.0010			20-105		150			180			

PROCEDURES	REFERENCE	THISO_IE_PLATE_AEA
	CP-070	Soil Dissolution, < 1.0g Aliquot, rev 4
	CP-905	Thorium in Water and Dissolved Solid Sample Using TRU and AG 1x8 Resin, rev 1
	CP-008	Heavy Element Electroplating, rev 6

AVERAGES ± 2 SD FOR 6 SAMPLES
MDA 46 ± 95
YIELD 90 ± 13

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

Test U Matrix SOLID
SDG 7073
Contact Melissa C. Mannion

METHOD SUMMARY

URANIUM, ISOTOPIC IN SOIL
ALPHA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG H1486

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	1: Uranium 233	2: Uranium 235	3: Uranium 238	RESULT RATIOS (%) 1÷3	2σ	2÷3	2σ
Preparation batch 7008-081											
B12ML4	R109001-01			7073-001	46.9 U	U	26.8 U				
B12ML5	R109001-02			7073-002	117	3.77 U	108	108	25	3	3
B12ML6	R109001-03			7073-003	8.11	0.586 J	7.50	108	23	8	4
BLK (QC ID=39952)	R109001-05			7073-005	U	U	U				
LCS (QC ID=39951)	R109001-04			7073-004	ok	ok	ok				
Duplicate (R109001-03)	R109001-06			7073-006	ok	ok U	ok	116	28	4	3
Nominal values and limits from method				RDLs (pCi/g)	1.0	1.0	1.0	100		4	
200-TW-1 & 2 - Soil Sampling							Averages	111		5	

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MAX MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7008-081	2σ prep error 5.0 %	Reference Lab Notebook 7008 pg. 081														
B12ML4	R109001-01			62	0.0010			83		202			54	10/15/01	10/19	SS-009
B12ML5	R109001-02			6.0	0.0100			94		202			53	10/15/01	10/19	SS-010
B12ML6	R109001-03			0.33	0.200			96		202			53	10/15/01	10/19	SS-012
BLK (QC ID=39952)	R109001-05			84	0.0010			88		141				10/15/01	10/23	SS-033
LCS (QC ID=39951)	R109001-04			290	0.0010			99		220				10/15/01	10/23	SS-043
Duplicate (R109001-03) (QC ID=39953)	R109001-06			0.39	0.200			101		141			53	10/15/01	10/19	SS-047
Nominal values and limits from method				1.0	0.0010			20-105		100	100		180			

PROCEDURES	REFERENCE	
	UISO_PLATE_AEA	
	CP-911	Uranium in Water and Dissolved Sample by Extraction Chromatography, rev 3
	CP-008	Heavy Element Electroplating, rev 6

AVERAGES ± 2 SD FOR 6 SAMPLES
MDA 74 ± 220
YIELD 94 ± 14

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

Test SR Matrix SOLID
SDG 7073
Contact Melissa C. Mannion

METHOD SUMMARY

TOTAL STRONTIUM IN SOIL
BETA COUNTING

Client Hanford
Contract No. 630
Contract SDG H1486

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Total Strontium	
Preparation batch 7008-081						
B12ML4	R109001-01			7073-001	5710000	
B12ML5	R109001-02			7073-002	128000	
B12ML6	R109001-03			7073-003	98.3	
BLK (QC ID=39952)	R109001-05			7073-005	177	U
LCS (QC ID=39951)	R109001-04			7073-004	ok	
Duplicate (R109001-03)	R109001-06			7073-006	ok	
Nominal values and limits from method				RDLs (pCi/g)	1.0	
200-TW-1 & 2 - Soil Sampling						

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7008-081	2σ prep error 10.0 % Reference Lab Notebook 7008 pg. 081															
B12ML4	R109001-01			230	0.0010			80		200			52	10/17/01	10/17	GRB-208
B12ML5	R109001-02			19	0.0100			82		100			51	10/17/01	10/17	GRB-222
B12ML6	R109001-03			1.1	0.200			81		100			51	10/17/01	10/17	GRB-219
BLK (QC ID=39952)	R109001-05			210	0.0010			79		200				10/17/01	10/17	GRB-219
LCS (QC ID=39951)	R109001-04			240	0.0010			78		100				10/17/01	10/17	GRB-202
Duplicate (R109001-03) (QC ID=39953)	R109001-06			1.1	0.200			83		100			51	10/17/01	10/17	GRB-229
Nominal values and limits from method				1.0	0.0010			30-105		100			180			

PROCEDURES	REFERENCE	
	SRTOT_SEP_PRECIP_GPC	
	CP-502	Strontium in Solids, rev 4
	CP-519	*Strontium Planchet Demounting and Preparation for* 90Y Decontamination, rev 3

AVERAGES ± 2 SD FOR 6 SAMPLES
MDA 120 ± 240
YIELD 80 ± 4

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

Test TC Matrix SOLID
SDG 7073
Contact Melissa C. Mannion

METHOD SUMMARY

TECHNETIUM 99 IN SOIL
BETA COUNTING

Client Hanford
Contract No. 630
Contract SDG H1486

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Technetium 99	
Preparation batch 7008-081						
B12ML4	R109001-01			7073-001	1.56	J
B12ML5	R109001-02			7073-002	U	
B12ML6	R109001-03			7073-003	U	
BLK (QC ID=39952)	R109001-05			7073-005	U	
LCS (QC ID=39951)	R109001-04			7073-004	ok	
Duplicate (R109001-03)	R109001-06			7073-006	-	U

Nominal values and limits from method — RDLs (pCi/g) 15
200-TW-1 & 2 - Soil Sampling

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7008-081	2σ prep error 10.0 %	Reference Lab Notebook 7008 pg. 081														
B12ML4	R109001-01			1.3	0.290			94		100			66	10/16/01	10/31	GRB-223
B12ML5	R109001-02			1.0	0.260			89		200			63	10/16/01	10/29	GRB-220
B12ML6	R109001-03			0.61	0.590			69		191			60	10/16/01	10/26	GRB-222
BLK (QC ID=39952)	R109001-05			2.4	0.200			94		76				10/16/01	10/27	GRB-208
LCS (QC ID=39951)	R109001-04			2.0	0.200			90		100				10/16/01	10/31	GRB-222
Duplicate (R109001-03) (QC ID=39953)	R109001-06			1.2	0.600			73		50			60	10/16/01	10/26	GRB-230
Nominal values and limits from method				15	0.200			20-105		50			180			

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

Test TC Matrix SOLID
SDG 7073
Contact Melissa C. Mannion

METHOD SUMMARY, cont.

TECHNETIUM 99 IN SOIL
BETA COUNTING

Client Hanford
Contract No. 630
Contract SDG H1486

PROCEDURES	REFERENCE	TC99_TR_SEP_LSC
	CP-060	Soil Preparation, rev 3
	CP-021	Preparation of Tc-99m Tracer, rev 1
	CP-002	Q.C. Preparation, rev 3
	CP-003	Tracing, rev 3
	CP-542	Technetium-99 Purification (Soil) by Extraction Chromatography, rev 1
	CP-008	Heavy Element Electroplating, rev 6

AVERAGES ± 2 SD FOR 6 SAMPLES
MDA 1.4 ± 1.3
YIELD 85 ± 22

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

Test GAM Matrix SOLID
SDG 7073
Contact Melissa C. Mannion

METHOD SUMMARY

GAMMA SCAN
GAMMA SPECTROSCOPY

Client Hanford
Contract No. 630
Contract SDG H1486

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Cobalt 60		Cesium 137
Preparation batch 7008-081							
B12ML4	R109001-01			7073-001	U		67300
B12ML5	R109001-02			7073-002	U		6190
B12ML6	R109001-03			7073-003	U		5910
BLK (QC ID=39952)	R109001-05			7073-005	U		U
LCS (QC ID=39951)	R109001-04			7073-004	ok		ok
Duplicate (R109001-03)	R109001-06			7073-006	-	U	ok
Nominal values and limits from method				RDLs (pCi/g)	0.050		0.10
200-TW-1 & 2 - Soil Sampling							

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MAX MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7008-081	2σ prep error 15.0 %	Reference Lab Notebook 7008 pg. 081														
B12ML4	R109001-01			91	7.14					101			57	10/17/01	10/22	SP,01,01
B12ML5	R109001-02			2.5	9.03					107			56	10/17/01	10/22	SP,04,00
B12ML6	R109001-03			3.2	5.74					139			56	10/17/01	10/22	SP,01,00
BLK (QC ID=39952)	R109001-05			2.7	5.74					106				10/17/01	10/22	SP,01,00
LCS (QC ID=39951)	R109001-04			1.8	5.74					139				10/17/01	10/22	SP,04,00
Duplicate (R109001-03) (QC ID=39953)	R109001-06			2.0	5.74					105			56	10/17/01	10/22	SP,04,00
Nominal values and limits from method				0.050	5.74					100			180			

PROCEDURES	REFERENCE	GAMMA_GS
	CP-060	Soil Preparation, rev 3
	CP-100	Ge(Li) Preparation for Commercial Samples, rev 3

AVERAGES ± 2 SD FOR 6 SAMPLES
MDA 17 ± 72
YIELD ____ ± ____

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

Test U_T Matrix SOLID
SDG 7073
Contact Melissa C. Mannion

METHOD SUMMARY

URANIUM, TOTAL IN SOIL
KINETIC PHOSPHORIMETRY

Client Hanford
Contract No. 630
Contract SDG H1486

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Total Uranium (ug/g)
Preparation batch 7008-081					
B12ML4	R109001-01			7073-001	139
B12ML5	R109001-02			7073-002	346
B12ML6	R109001-03			7073-003	24.2
BLK (QC ID=39952)	R109001-05			7073-005	0.320
LCS (QC ID=39951)	R109001-04			7073-004	ok
Duplicate (R109001-03)	R109001-06			7073-006	ok
Nominal values and limits from method				RDLs (ug/g)	0.10
200-TW-1 & 2 - Soil Sampling					

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA ug/g	ALIQ g	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7008-081	2σ prep error 9.0 %	Reference Lab Notebook 7008 pg. 081														
B12ML4	R109001-01			0.28	0.0010								52	10/17/01	10/17	KPA-001
B12ML5	R109001-02			2.8	0.0100								51	10/17/01	10/17	KPA-001
B12ML6	R109001-03			0.28	0.100								51	10/17/01	10/17	KPA-001
BLK (QC ID=39952)	R109001-05			0.28	0.0010									10/17/01	10/17	KPA-001
LCS (QC ID=39951)	R109001-04			2.8	0.0010									10/17/01	10/17	KPA-001
Duplicate (R109001-03) (QC ID=39953)	R109001-06			0.28	0.100								51	10/17/01	10/17	KPA-001
Nominal values and limits from method				0.10	0.0010								180			

PROCEDURES	REFERENCE	UTOT_KPA
	CP-060	Soil Preparation, rev 3
	CP-070	Soil Dissolution, < 1.0g Aliquot, rev 4
	CP-044	Sample Preparation for Total Uranium by Kinetic Phosphorimetry, rev 3
	CP-928	Total Uranium by Kinetic Phosphorimetry, rev 3

AVERAGES ± 2 SD FOR 6 SAMPLES	MDA	1.1 ± 2.6
	YIELD	±

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

Test C Matrix SOLID
SDG 7073
Contact Melissa C. Mannion

METHOD SUMMARY

CARBON 14 IN SOIL
LIQUID SCINTILLATION COUNTING

Client Hanford
Contract No. 630
Contract SDG H1486

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF- FIX	PLANCHET	Carbon 14	
Preparation batch 7008-081						
B12ML4	R109001-01			7073-001	U	
B12ML5	R109001-02			7073-002	U	
B12ML6	R109001-03			7073-003	U	
BLK (QC ID=39952)	R109001-05			7073-005	U	
LCS (QC ID=39951)	R109001-04			7073-004	ok	
Duplicate (R109001-03)	R109001-06			7073-006	-	U
Nominal values and limits from method				RDLs (pCi/g)	50	
200-TW-1 & 2 - Soil Sampling						

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF- FIX	MDA pCi/g	ALIQ g	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR
Preparation batch 7008-081	2σ prep error 10.0 %			Reference Lab Notebook 7008 pg. 081												
B12ML4	R109001-01			4.0	0.235			100	100				53	10/18/01	10/18	LSC-004
B12ML5	R109001-02			4.6	0.201			100	100				52	10/18/01	10/18	LSC-004
B12ML6	R109001-03			3.9	0.241			100	100				52	10/18/01	10/18	LSC-004
BLK (QC ID=39952)	R109001-05			4.7	0.200			100	100					10/18/01	10/18	LSC-004
LCS (QC ID=39951)	R109001-04			28	0.200			100	3					10/18/01	10/19	LSC-004
Duplicate (R109001-03) (QC ID=39953)	R109001-06			3.9	0.247			100	100				53	10/18/01	10/19	LSC-004
Nominal values and limits from method				50	0.200				50				180			

PROCEDURES	REFERENCE	
	C14_COX_LSC	
	CP-060	Soil Preparation, rev 3
	CP-251	Tritium/Carbon-14 Oxidation, rev 3

AVERAGES ± 2 SD			
FOR 6 SAMPLES	MDA	8.2	± 19
	YIELD	100	± 0

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

Test H Matrix SOLID
SDG 7073
Contact Melissa C. Mannion

METHOD SUMMARY

TRITIUM IN SOIL
LIQUID SCINTILLATION COUNTING

Client Hanford
Contract No. 630
Contract SDG H1486

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Tritium	
Preparation batch 7008-081						
B12ML4	R109001-01			7073-001	U	
B12ML5	R109001-02			7073-002	U	
B12ML6	R109001-03			7073-003	0.328	J
BLK (QC ID=39952)	R109001-05			7073-005	U	X
LCS (QC ID=39951)	R109001-04			7073-004	ok	
Duplicate (R109001-03)	R109001-06			7073-006	ok	J
Spike (R109001-03)	R109001-07			7073-007	LOW	JX
Nominal values and limits from method					*RDLs (pCi/g)*	*400*
200-TW-1 & 2 - Soil Sampling						

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7008-081 *2σ prep error 10.0 %* *Reference Lab Notebook 7008 pg. 081*																
B12ML4	R109001-01			1.8	1.08			100		100			57	10/19/01	10/22	LSC-004
B12ML5	R109001-02			0.40	5.02			100		100			56	10/19/01	10/22	LSC-004
B12ML6	R109001-03			0.20	10.2			100		100			56	10/19/01	10/22	LSC-004
BLK (QC ID=39952)	R109001-05			6.0	1.00			33		100				10/19/01	10/23	LSC-004
LCS (QC ID=39951)	R109001-04			5.9	1.00			33		100				10/19/01	10/22	LSC-004
Duplicate (R109001-03) (QC ID=39953)	R109001-06			0.20	10.4			94		100			57	10/19/01	10/23	LSC-004
Spike (R109001-03) (QC ID=39954)	R109001-07			0.19	11.0			100		95			57	10/19/01	10/23	LSC-004
Nominal values and limits from method				400	1.00					25			180			

PROCEDURES	REFERENCE	906.0_H3_LSC
	CP-060	Soil Preparation, rev 3
	CP-216	Tritium in Solid Samples by Azeotropic Distillation, rev 4

AVERAGES ± 2 SD FOR 7 SAMPLES	MDA	2.1	± 5.4
	YIELD	80	± 64

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/14/01

EBERLINE SERVICES/RICHMOND

SAMPLE DELIVERY GROUP H1486

Test NI_L Matrix SOLID
SDG 7073
Contact Melissa C. Mannion

METHOD SUMMARY

NICKEL 63 IN SOIL
LIQUID SCINTILLATION COUNTING

Client Hanford
Contract No. 630
Contract SDG H1486

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Nickel 63	
Preparation batch 7008-081						
B12ML4	R109001-01			7073-001	585	U
B12ML5	R109001-02			7073-002	U	
B12ML6	R109001-03			7073-003	U	
BLK (QC ID=39952)	R109001-05			7073-005	64.3	U
LCS (QC ID=39951)	R109001-04			7073-004	ok	
Duplicate (R109001-03)	R109001-06			7073-006	-	U
Nominal values and limits from method				RDLs (pCi/g)	30	
200-TW-1 & 2 - Soil Sampling						

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/g	ALIQ g	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 7008-081	2σ prep error 10.0 % Reference Lab Notebook 7008 pg. 081															
B12ML4	R109001-01			1100	0.0010			94	100				57	10/19/01	10/22	LSC-006
B12ML5	R109001-02			110	0.0100			96	100				56	10/19/01	10/22	LSC-006
B12ML6	R109001-03			5.2	0.200			94	100				56	10/19/01	10/22	LSC-006
BLK (QC ID=39952)	R109001-05			1100	0.0010			95	100					10/19/01	10/22	LSC-006
LCS (QC ID=39951)	R109001-04			1000	0.0010			95	100					10/19/01	10/22	LSC-006
Duplicate (R109001-03) (QC ID=39953)	R109001-06			5.4	0.200			94	100				56	10/19/01	10/22	LSC-006
Nominal values and limits from method				30	0.0010			30-105	50				180			

PROCEDURES	REFERENCE	NI63_LSC
	CP-060	Soil Preparation, rev 3
	CP-431	Nickel-63 Purification, rev 4

AVERAGES ± 2 SD FOR 6 SAMPLES
MDA 550 ± 1100
YIELD 95 ± 2

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 11/14/01

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B01-058-249	Page 1 of 1
Collector: Thomas G./Watson D.	Company Contact: Todd, M.R. Telephone No.: (509) 372-9631	Project Coordinator: TRENT, SJ	Price Code: 8N Data Turnaround: 45 Days
Project Designation: 200-TW-1 & 2 - Soil Sampling	Sampling Location: B-7A/200 E H1486 (7073)	SAF No.: B01-058	Air Quality ☐
Ice Chest No.: VIKING S/N 09/0005009	Field Logbook No.: EL-1518-1 COA B20TW2A4U4C ~~B20TW26740~~ ST	Method of Shipment: Fed EX	
Shipped To: ~~Severn Trent Incorporated – Richland~~ RT 8.3001 TMA	Offsite Property No.: RSR 106588 8/27/01	Bill of Lading/Air Bill No.: ~~N/A~~	

POSSIBLE SAMPLE HAZARDS/REMARKS

1500 MR/h
800 cpm α
100 MR β
ON CONTACT

Samples stored in Ref. ~~Fridge~~ at the 3728 Shipping Facility on 8/27/01. Collector not available to relinquish samples on 8/30/01 for shipment. RT 8.3001

SAMPLE ANALYSIS

Sample No.	Matrix *	Sample Date	Sample Time	Preservation	Type of Container	No. of Container(s)	Volume	See item (1) in Special Instructions.	Mercury - 7470 - (CV)	Chromium Hex - 7196	See item (2) in Special Instructions.	VOA - 8260A (TCL)	See item (3) in Special Instructions.	See item (4) in Special Instructions.	Activity Scan	
				Cool 4C	aG	1	120mL									
				Cool 4C	aG	1	60mL									
				Cool 4C	PT 8.3001	8	60mL									
				Cool 4C	aG	1	250mL									
				Cool 4C	aG	1	60mL									
				Cool 4C	aG	1	250mL									
				None	aG	1	250mL									
				None	RT 8.3001 aG	8	60mL									
B12ML4	SOIL	8/26/01	2345							X				X	X	B12MK1

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
~~B. Watson/T. Watson~~	~~8/27/01 0915~~	REF in 112	08/27/01 0645
[illegible]	0530 8.30.01	R Thorer	0530 8.30.01
~~R. Thorer~~	~~0530 8.30.01~~	FEDEX	8-30-01
~~Ted Ey~~	~~8-31-01 10:07~~	JR Corso	8-31-01 10:17

SPECIAL INSTRUCTIONS

~~(1) ICP Metals - 6010A (TAL) (Cadmium, Chromium, Copper, Nickel, Silver); ICP Metals - 6010A (Add-on) (Lead).~~
~~(2) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate); Ammonia - 350.1; NO2/NO3 - 353.1; Total Cyanide - 9010; TOC - 9060; pH (Soil) - 9045~~
~~(3) Semi-VOA - 8270A (Add-On) (Tributyl phosphate); TPH-Diesel Range - WTPH-D~~
(4) Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Radium-226, Radium-228); Isotopic Plutonium; Isotopic Thorium (Thorium-232); Americium-241; Carbon-14; Neptunium-237; Nickel-63; Strontium-89,90 – Total Sr; Technetium-99; Total Uranium; Tritium - H3; Isotopic Uranium

RSW 8/29/01

Matrix *
S=Soil
SD=Sediment
SO=Solid
SL=Sludge
W = Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

From: Melissa Mannion

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		B01-058-250	Page 1 of 1
Collector: Thomas G./Watson D.	Company Contact: Todd, M.E.	Telephone No.: (509) 372-9631	Project Coordinator: TRENT, SJ	Price Code: 8N; Air Quality ☐	Data Turnaround: 45 Days
Project Designation: 200-TW-1 & 2 - Soil Sampling	Sampling Location: B-7A/200 E H1486 (7073)		SAF No.: B01-058		
Ice Chest No.: VIKING S/N 0900 050019	Field Logbook No.: EL-1518-1	COA: B2CTW2944C ~~B20TW2674C~~ BT	Method of Shipment: Fed EX		
Shipped To: ~~Severn Trent Incorporated~~ RICHLAND TMA	Offsite Property No.: RSR 106558 8/27/01		Bill of Lading/Air Bill No.: NA		

POSSIBLE SAMPLE HAZARDS/REMARKS: FIELD RADIOLOGICAL INSTRUMENTS INDICATE 100CPM 20MRB 3 ON CONTACT <0.5MR/Y)

Samples stored in Ref.# TW1&2 at the 3728 Shipping Facility on 8/27/01. Collector not available to relinquish samples on 8/30/01 for shipment. RT 8-30 01 SIS

Sample No.	Matrix *	Sample Date	Sample Time	Preservation	Type of Container	No. of Container(s)	Volume	See item (1) in Special Instructions.	Mercury - 7470 - (CV)	Chromium Hex - 7196	See item (2) in Special Instructions.	VOA - 8260A (TCL)	See item (3) in Special Instructions.	See item (4) in Special Instructions.	Activity Scan	
				Cool 4C	aG	1	120mL									
				Cool 4C	aG	1	60mL									
				Cool 4C	~~aG~~ PT	1	~~60mL~~ 125mL									
				Cool 4C	aG	1	250mL									
				Cool 4C	aG	1	60mL									
				Cool 4C	aG	1	250mL									
				None	aG	1	250mL									
				None	~~aG~~ PT	1	60mL									Tie to
B12ML5	SOIL	8/27/01	0115							X				X		B12MK2

CHAIN OF POSSESSION	Sign/Print Names			
Relinquished By/Removed From: OS WATSON	Date/Time: 08/27/01 0645	Received By/Stored In: REF. TW1&2	Date/Time: 08/27/01 0645	
Relinquished By/Removed From: Ref TW1&2	Date/Time: 8.30.01 0330	Received By/Stored In: R.T Thorer	Date/Time: 8.30.01 0330	
Relinquished By/Removed From: R.T Thorer	Date/Time: 8.30.01 0500	Received By/Stored In: FEDEX	Date/Time: 8-30-01	
Relinquished By/Removed From: Fed Ex	Date/Time: 8-31-01 1015	Received By/Stored In: DPRoser / RCurro	Date/Time: 8-31-01 1015	
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:	
Relinquished By/Removed From:	Date/Time:	Received By/Stored In:	Date/Time:	

SPECIAL INSTRUCTIONS

~~(1) ICP Metals - 6010A (TAL) (Cadmium, Chromium, Copper, Nickel, Silver); ICP Metals - 6010A (Add-on) (Lead)~~
~~(2) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate); Ammonia - 350.1; NO2/NO3 - 353.1; Total Cyanide - 9010; TOC - 9060; pH (Soil) - 9045~~
~~(3) Semi-VOA - 8270A (Add-On) (Tributyl phosphate); TPH Diesel Range - WTPH-D~~
(4) Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Radium-226, Radium-228); Isotopic Plutonium; Isotopic Thorium (Thorium-232); Americium-241; Carbon-14; Neptunium-237; Nickel-63; Strontium-89,90 -- Total Sr; Technetium-99; Total Uranium; Tritium - H3; Isotopic Uranium

105 kg MSA

Matrix *: S=Soil; SD=Sediment; SO=Solid; SL=Sludge; W=Water; O=Oil; A=Air; DS=Drum Solids; DL=Drum Liquids; T=Tissue; WI=Wipe; L=Liquid; V=Vegetation; X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

(099)

Bechtel Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

B01-058-251 Page 1 of 1

Collector: Thomas G./Watson D.	Company Contact: Todd, M.E.	Telephone No.: (509) 372-9631	Project Coordinator: TRENT, SJ
Project Designation: 200-TW-1 & 2 - Soil Sampling	Sampling Location: B-7A/200 E H1486 (7073)	SAF No.: B01-058	Price Code: 8N; Air Quality ☐; Data Turnaround: 45 Days
Ice Chest No.: VIKING S/N 09/00 080009	Field Logbook No.: EL-1518-1	COA: B20TW2074C B20TW2-A44C	Method of Shipment: Fed EX
Shipped To: ~~Severn Trent Incorporated - RICHLAND~~ RT 8.29.01 TMA	Offsite Property No.: RSR 106558 8/27/01		Bill of Lading/Air Bill No.: N/A

POSSIBLE SAMPLE HAZARDS/REMARKS
FIELD RADIOLOGICAL INSTRUMENTS INDICATE
20 CPM a
1 MR/h β
< 0.5 MR/h γ
} ON CONTACT

Samples stored in Ref.# 1B at the 3728 Shipping Facility on 8/27/01.
Collector not available to relinquish samples on 8/30/01 for shipment. RT 8.30.01

SAMPLE ANALYSIS

Sample No.	Matrix*	Sample Date	Sample Time	Preservation	Type of Container	No. of Container(s)	Volume	See item (1) in Special Instructions.	Mercury - 7470 - (CV)	Chromium Hex - 7196	See item (2) in Special Instructions.	VOA - 8260A (TCL)	See item (3) in Special Instructions.	See item (4) in Special Instructions.	Activity Scan	
				Cool 4C	G	1	120mL									
				Cool 4C	G	1	60mL		DTW 08/27/01							
				Cool 4C	G	1	60mL			X						
				Cool 4C	G	1	250mL									
				Cool 4C	G	1	60mL									
				Cool 4C	G	1	250mL						DTW 08/27/01			
				None	G	1	250mL									
				None	G	1	60mL									TIC TO
B12ML6	SOIL	8/27/01	0430							X				X	X	B12MK3

CHAIN OF POSSESSION

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
SS WATSON	08/27/01 0745	REF 1B	08/27/01 0745
Ref 1B 3728	8.30.01 0430	RT Thorer	8.30.01 0430
RT Thorer	8.30.01 0800	FEDEX	8-30-01
FedEx	8-31-01 10:30	MR Corso JR Corso	8-31-01 10:15

SPECIAL INSTRUCTIONS

(1) ~~ICP Metals - 6010A (TAL) (Cadmium, Chromium, Copper, Nickel, Silver); ICP Metals - 6010A (Add-on) (Lead)~~
(2) ~~IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate); Ammonia - 350.1; NO2/NO3 - 353.1; Total Cyanide - 9010; TOC - 9060; pH (Soil) - 9045~~
(3) ~~Semi-VOA - 8270A (Add-On) (Tributyl phosphate); TPH-Diesel Range - WTPH-D~~
(4) Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155); Gamma Spec - Add-on (Radium-226, Radium-228); Isotopic Plutonium; Isotopic Thorium (Thorium-232); Americium-241; Carbon-14; Neptunium-237; Nickel-63; Strontium-89,90 -- Total Sr; Technetium-99; Total Uranium; Tritium - H3; Isotopic Uranium

DTW 08/27/01

Matrix
S=Soil
SD=Sediment
SO=Solid
SL=Sludge
W=Water
O=Oil
A=Air
DS=Drum Solids
DL=Drum Liquids
T=Tissue
WI=Wipe
L=Liquid
V=Vegetation
X=Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

ThermoRetec **Analytical Services**
Richmond Laboratory

SAMPLE RECEIPT CHECKLIST

SAMPLE RECEIPT

Client: Bechtel Hanford Date/Time received 8-31-01 10:00

CoC No. B01-058-249, B01-058-250 + B01-058-251

Container I.D. No. Viking S/N0490005B019 Requested TAT (Days) 45 P.O. Received Yes [✓] No [ ]

INSPECTION

1.	Custody seals on shipping container intact?	Yes [✓]	No [ ]	N/A [ ]
2.	Custody seals on shipping container dated & signed?	Yes [✓]	No [ ]	N/A [ ]
3.	Custody seals on sample containers intact?	Yes [✓]	No [ ]	N/A [ ]
4.	Custody seals on sample containers dated & signed?	Yes [✓]	No [ ]	N/A [ ]
5.	Cooler Temperature: _____	Packing material is:	Wet [ ]	Dry [✓]
6.	Number of samples in shipping container: 3			
7.	*Number of containers per sample:* 1	(Or see CoC _____)		
8.	Paperwork agrees with samples?	Yes [✓]	No [ ]	
9.	Samples have: Tape [✓] Hazard labels [ ] Rad labels [✓] Appropriate sample labels [✓]			
10.	Samples are: In good condition [✓] Leaking [ ] Broken Container [ ] Missing [ ]			

11. Describe any anomalies: _____

13. Was P.M. notified of any anomalies? Yes [✓] No [ ] Date 8-31-01

14. Received by [signature] Date: 8-31-01 Time: 1050

Customer Sample No.	cpm	mr/hr	Customer Sample No.	Cpm	mr/hr
B12ML4	7500,000	1.35			
B12ML5	70,000	0.04			
B12ML6	600	0.02			

Ion Chamber Ser. No. 1192 Calibration date 2-5-01

Survey Meter Ser No. 112 Calibration date 8-17-01

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SDR # B01-101
Revision #: 1
Date Initiated: 08/09/01

SAMPLE DISPOSITION RECORD

SAF: B01-058
OU: 200-TW-1/2
Project ID: 200 TW 1&2
Task ID: 1
Sampling Event: 200-TW-1 & 2 - Soil

Laboratory: TMA/RECRA; RCF; Severn Trent, Inc.

Task Manager: M. E. Todd

Sampling Information:
Number of Samples: 23
ID Numbers: B12DC0, B12DC1, B12DB8, B12DB9, B12C88, B12C89, B12C63, B12C64, B12ML4, B12ML5, B12ML6, B12DC0-A, B12DC1-A, B12DB8-A, B12DB9-A, B12C88-A, B12C89-A, B12C89-B, B12C63-A, B12C64-A, B12ML4-A, B12ML5-A, B12ML6-A
Matrix: SOIL
Collection Date: 08/03/01 – 08/27/01

Issue Background:

Class: ☐ Project Data Use ☐ General Laboratory Direction ☐ Validation Direction ☒ Sample Management Direction

Type: Other

Description: Samples Directed to Different Laboratory and Relabeled

Disposition:

Description: The chemical analyses for the listed samples were originally intended to be performed at the Lionville Laboratory. However because of the radioactivity associated with the samples, they were directed to the Severn Trent – St. Louis Laboratory. Samples redirected to the Severn Trent – St. Louis Laboratory were relabeled as follows:

Original Sample Number	New Sample Number
B12DC0	B12DC0-A
B12DC1	B12DC1-A
B12DB8	B12DB8-A
B12DB9	B12DB9-A
B12C88	B12C88-A
B12C63	B12C63-A
B12C64	B12C64-A
B12ML4	B12ML4-A

Original Sample Number	New Sample Number
B12ML5	B12ML5-A
B12ML6	B12ML6-A

C Dayes 1/7/02

C Dayes 1/7/02

In addition, for sample number B12D89, the bottle for Cr-VI analysis was relabeled as B12D89-A and routed to the RCF for radiological screening analyses. This same bottle was subsequently relabeled as B12D89-B and routed to the Severn Trent – Richland Laboratory for Cr-VI analysis.

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Justification: The listed samples did not meet the sample acceptance criteria at the Lionville Laboratory, requiring that they be redirected to the Severn Trent – St. Louis Laboratory for chemical analysis. In addition, relabeling of the samples was necessary because a sample cannot be assigned to more than one laboratory due to SDT referential integrity rules.

Approval Signatures:

S. J. Trent — 1/3/02

Project Coordinator (Print/Sign Name) — Date

M. E. Todd — 1/7/02

Task Manager (Print/Sign Name) — Date