H1130

0054600

1.0 GENERAL

Bechtel Hanford Inc. (BHI) Sample Delivery Group H1130 was composed of ten water samples designated under SAF No. C01-008 with a Project Designation of: 100HR3 IAM (1 &2) GW Monitoring, November 2000.

The samples were received as stated on the Chain-of-Custody documents. Any discrepancies are noted on the Eberline Services Sample Receipt Checklist.

2.0 ANALYSIS NOTES

2.1 Gross Alpha and Gross Beta Analyses

No problems were encountered during the course of the analyses.

2.2 Tritium Analyses

No problems were encountered during the course of the analyses.

2.3 Strontium-90 Analyses (By Yttrium Analysis)

No problems were encountered during the course of the analyses.

2.4 Total Uranium Analyses

No problems were encountered during the course of the analyses.

2.5 Gamma Spectroscopy Analyses

No 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

Melissa C. Mannion
Program Manager

1/04/01

Date

RECEIVED
MAR 28 2001
EDMC

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

SAMPLE SUMMARY

SDG 7556
Contact Melissa C. Mannion

Client Hanford
Contract TRC-SBB-207925
Case no SDG H1130

CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	LAB SAMPLE ID	SAF NO	CHAIN OF CUSTODY	COLLECTED
B10L74	Hanford Site	WATER		R011076-06	C01-008	C01-008-92	11/07/00 10:30
B10L82	Hanford Site	WATER		R011076-07	C01-008	C01-008-128	11/07/00 11:35
B10L86	Hanford Site	WATER		R011076-08	C01-008	C01-008-110	11/07/00 11:57
B10L90	Hanford Site	WATER		R011076-09	C01-008	C01-008-140	11/07/00 10:20
B10L94	Hanford Site	WATER		R011076-10	C01-008	C01-008-141	11/07/00 10:20
B10LC0	Hanford Site	WATER		R011076-01	C01-008	C01-008-132	11/07/00 10:35
B10LF9	Hanford Site	WATER		R011076-02	C01-008	C01-008-102	11/07/00 09:09
B10LM7	Hanford Site	WATER		R011076-03	C01-008	C01-008-144	11/07/00 09:33
B10LN1	Hanford Site	WATER		R011076-04	C01-008	C01-008-145	11/07/00 08:00
B10LT5	Hanford Site	WATER		R011076-05	C01-008	C01-008-76	11/07/00 12:47
Method Blank		WATER		R011076-12	C01-008		
Lab Control Sample		WATER		R011076-11	C01-008		
Duplicate (R011076-09)	Hanford Site	WATER		R011076-13	C01-008		11/07/00 10:20
Spike (R011076-09)	Hanford Site	WATER		R011076-14	C01-008		11/07/00 10:20

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CS
Version 3.06
Report date 01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

QC SUMMARY

SDG 7556
Contact Melissa C. Mannion

Client Hanford
Contract TRC-SBB-207925
Case no SDG H1130

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
7556	C01-008-102	B10LF9	WATER				11/08/00	1	R011076-02	7556-002
	C01-008-110	B10L86	WATER				11/08/00	1	R011076-08	7556-008
	C01-008-128	B10L82	WATER				11/08/00	1	R011076-07	7556-007
	C01-008-132	B10LC0	WATER				11/08/00	1	R011076-01	7556-001
	C01-008-140	B10L90	WATER				11/08/00	1	R011076-09	7556-009
	C01-008-141	B10L94	WATER				11/08/00	1	R011076-10	7556-010
	C01-008-144	B10LM7	WATER				11/08/00	1	R011076-03	7556-003
	C01-008-145	B10LN1	WATER				11/08/00	1	R011076-04	7556-004
	C01-008-76	B10LT5	WATER				11/08/00	1	R011076-05	7556-005
	C01-008-92	B10L74	WATER				11/08/00	1	R011076-06	7556-006
		Method Blank	WATER						R011076-12	7556-012
		Lab Control Sample	WATER						R011076-11	7556-011
		Duplicate (R011076-09)	WATER				11/08/00	1	R011076-13	7556-013
		Spike (R011076-09)	WATER				11/08/00	1	R011076-14	7556-014

Lab id TMANC
Protocol Hanford
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Form DVD-QS
Version 3.06
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TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

PREP BATCH SUMMARY

SDG 7556
Contact Melissa C. Mannion

Client Hanford
Contract TRC-SBB-207925
Case no SDG H1130

TEST	MATRIX	METHOD	PREPARATION BATCH	ERROR 2σ %	PLANCHETS ANALYZED CLIENT	MORE	RE	BLANK	LCS	DUP/ORIG	MS/ORIG	QUALIFIERS
Beta Counting												
TC	WATER	Technetium 99 in Water	6962-084	10.0	4			1	1	1/1		
Y	WATER	Strontium 90 in Water	6962-084	10.0	4			1	1	1/1		
Gas Proportional Counting												
82B	WATER	Gross Beta in Water	6962-084	15.0	10			1	1	1/1		
88A	WATER	Gross Alpha in Water	6962-084	20.0	10			1	1	1/1		
Kinetic Phosphorimetry												
U_T	WATER	Uranium, Total in Water	6962-084	9.0	4			1	1	1/1		
Liquid Scintillation Counting												
H	WATER	Tritium in Water	6962-084	10.0	10			1	1	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
Protocol Hanford
Version Ver 1.0
Form DVD-PBS
Version 3.06
Report date 01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

WORK SUMMARY

SDG 7556
Contact Melissa C. Mannion

Client Hanford
Contract TRC-SBB-207925
Case no SDG H1130

CLIENT SAMPLE ID / LOCATION / CUSTODY	SAF No	MATRIX	LAB SAMPLE ID / COLLECTED / RECEIVED	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
B10L74			R011076-06	7556-006	82B/82		12/28/00	01/04/01	MCM	Gross Beta in Water
Hanford Site		WATER	11/07/00	7556-006	88A/88		12/18/00	01/04/01	MCM	Gross Alpha in Water
C01-008-92	C01-008		11/08/00	7556-006	H		12/08/00	01/04/01	MCM	Tritium in Water
B10L82			R011076-07	7556-007	82B/82		12/28/00	01/04/01	MCM	Gross Beta in Water
Hanford Site		WATER	11/07/00	7556-007	88A/88		12/29/00	01/04/01	MCM	Gross Alpha in Water
C01-008-128	C01-008		11/08/00	7556-007	H		12/08/00	01/04/01	MCM	Tritium in Water
				7556-007	TC		12/21/00	01/04/01	MCM	Technetium 99 in Water
				7556-007	U_T		12/07/00	01/04/01	MCM	Uranium, Total in Water
				7556-007	Y		12/13/00	01/04/01	MCM	Strontium 90 in Water
B10L86			R011076-08	7556-008	82B/82		12/28/00	01/04/01	MCM	Gross Beta in Water
Hanford Site		WATER	11/07/00	7556-008	88A/88		01/04/01	01/04/01	MCM	Gross Alpha in Water
C01-008-110	C01-008		11/08/00	7556-008	H		12/08/00	01/04/01	MCM	Tritium in Water
				7556-008	TC		12/21/00	01/04/01	MCM	Technetium 99 in Water
				7556-008	U_T		12/07/00	01/04/01	MCM	Uranium, Total in Water
				7556-008	Y		12/13/00	01/04/01	MCM	Strontium 90 in Water
B10L90			R011076-09	7556-009	82B/82		12/28/00	01/04/01	MCM	Gross Beta in Water
Hanford Site		WATER	11/07/00	7556-009	88A/88		12/29/00	01/04/01	MCM	Gross Alpha in Water
C01-008-140	C01-008		11/08/00	7556-009	H		12/08/00	01/04/01	MCM	Tritium in Water
				7556-009	TC		12/21/00	01/04/01	MCM	Technetium 99 in Water
				7556-009	U_T		12/07/00	01/04/01	MCM	Uranium, Total in Water
				7556-009	Y		12/13/00	01/04/01	MCM	Strontium 90 in Water
B10L94			R011076-10	7556-010	82B/82		12/27/00	01/04/01	MCM	Gross Beta in Water
Hanford Site		WATER	11/07/00	7556-010	88A/88		12/29/00	01/04/01	MCM	Gross Alpha in Water
C01-008-141	C01-008		11/08/00	7556-010	H		12/08/00	01/04/01	MCM	Tritium in Water
				7556-010	TC		12/21/00	01/04/01	MCM	Technetium 99 in Water
				7556-010	U_T		12/07/00	01/04/01	MCM	Uranium, Total in Water
				7556-010	Y		12/13/00	01/04/01	MCM	Strontium 90 in Water
B10LC0			R011076-01	7556-001	82B/82		12/19/00	01/04/01	MCM	Gross Beta in Water
Hanford Site		WATER	11/07/00	7556-001	88A/88		12/18/00	01/04/01	MCM	Gross Alpha in Water
C01-008-132	C01-008		11/08/00	7556-001	H		12/07/00	01/04/01	MCM	Tritium in Water
B10LF9			R011076-02	7556-002	82B/82		12/19/00	01/04/01	MCM	Gross Beta in Water
Hanford Site		WATER	11/07/00	7556-002	88A/88		12/18/00	01/04/01	MCM	Gross Alpha in Water
C01-008-102	C01-008		11/08/00	7556-002	H		12/07/00	01/04/01	MCM	Tritium in Water

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CWS
Version 3.06
Report date 01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

SDG 7556
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract TRC-SBB-207925
Case no SDG H1130

CLIENT SAMPLE ID / LOCATION / CUSTODY	SAF No	MATRIX	LAB SAMPLE ID / COLLECTED / RECEIVED	PLANCHET	TEST	SUF-FIX	ANALYZED	REVIEWED	BY	METHOD
B10LM7			R011076-03	7556-003	82B/82		12/19/00	01/04/01	MCM	Gross Beta in Water
Hanford Site		WATER	11/07/00	7556-003	88A/88		12/18/00	01/04/01	MCM	Gross Alpha in Water
C01-008-144	C01-008		11/08/00	7556-003	H		12/08/00	01/04/01	MCM	Tritium in Water
B10LN1			R011076-04	7556-004	82B/82		12/22/00	01/04/01	MCM	Gross Beta in Water
Hanford Site		WATER	11/07/00	7556-004	88A/88		12/18/00	01/04/01	MCM	Gross Alpha in Water
C01-008-145	C01-008		11/08/00	7556-004	H		12/08/00	01/04/01	MCM	Tritium in Water
B10LT5			R011076-05	7556-005	82B/82		12/27/00	01/04/01	MCM	Gross Beta in Water
Hanford Site		WATER	11/07/00	7556-005	88A/88		12/18/00	01/04/01	MCM	Gross Alpha in Water
C01-008-76	C01-008		11/08/00	7556-005	H		12/08/00	01/04/01	MCM	Tritium in Water
Method Blank			R011076-12	7556-012	82B/82		12/27/00	01/04/01	MCM	Gross Beta in Water
		WATER		7556-012	88A/88		12/29/00	01/04/01	MCM	Gross Alpha in Water
	C01-008			7556-012	H		12/08/00	01/04/01	MCM	Tritium in Water
				7556-012	TC		12/20/00	01/04/01	MCM	Technetium 99 in Water
				7556-012	U_T		12/07/00	01/04/01	MCM	Uranium, Total in Water
				7556-012	Y		12/13/00	01/04/01	MCM	Strontium 90 in Water
Lab Control Sample			R011076-11	7556-011	82B/82		12/27/00	01/04/01	MCM	Gross Beta in Water
		WATER		7556-011	88A/88		12/29/00	01/04/01	MCM	Gross Alpha in Water
	C01-008			7556-011	H		12/08/00	01/04/01	MCM	Tritium in Water
				7556-011	TC		12/22/00	01/04/01	MCM	Technetium 99 in Water
				7556-011	U_T		12/07/00	01/04/01	MCM	Uranium, Total in Water
				7556-011	Y		12/15/00	01/04/01	MCM	Strontium 90 in Water
Duplicate (R011076-09)			R011076-13	7556-013	82B/82		12/27/00	01/04/01	MCM	Gross Beta in Water
Hanford Site		WATER	11/07/00	7556-013	88A/88		12/29/00	01/04/01	MCM	Gross Alpha in Water
	C01-008		11/08/00	7556-013	H		12/08/00	01/04/01	MCM	Tritium in Water
				7556-013	TC		12/20/00	01/04/01	MCM	Technetium 99 in Water
				7556-013	U_T		12/07/00	01/04/01	MCM	Uranium, Total in Water
				7556-013	Y		12/13/00	01/04/01	MCM	Strontium 90 in Water
Spike (R011076-09)			R011076-14	7556-014	H		12/08/00	01/04/01	MCM	Tritium in Water
Hanford Site		WATER	11/07/00							
	C01-008		11/08/00							

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CWS
Version 3.06
Report date 01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

SDG 7556
Contact Melissa C. Mannion

WORK SUMMARY, cont.

Client Hanford
Contract TRC-SBB-207925
Case no SDG H1130

COUNTS OF TESTS BY SAMPLE TYPE

TEST	SAF No	METHOD	REFERENCE	CLIENT	MORE	RE	BLANK	LCS	DUP	SPIKE	TOTAL
82B/82	C01-008	Gross Beta in Water	900.0_ALPHABETA_GPC	10			1	1	1		13
88A/88	C01-008	Gross Alpha in Water	900.0_ALPHABETA_GPC	10			1	1	1		13
H	C01-008	Tritium in Water	906.0_H3_LSC	10			1	1	1	1	14
TC	C01-008	Technetium 99 in Water	TC99_TR_SEP_LSC	4			1	1	1		7
U_T	C01-008	Uranium, Total in Water	UTOT_KPA	4			1	1	1		7
Y	C01-008	Strontium 90 in Water	SRISO_SEP_PRECIP_GPC	4			1	1	1		7
TOTALS				42			6	6	6	1	61

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CWS
Version 3.06
Report date 01/04/01

TMA/RICHMOND
SAMPLE DELIVERY GROUP H1130

R011076-12

Method Blank

METHOD BLANK

SDG	7556	Client/Case no	Hanford SDG H1130
Contact	Melissa C. Mannion	Contract	TRC-SBB-207925
Lab sample id	R011076-12	Client sample id	Method Blank
Dept sample id	7556-012	Material/Matrix	WATER
		SAF No	C01-008

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	-0.551	0.45	1.2	3.0	U	88A
Gross Beta	12587-47-2	-0.612	1.0	1.8	4.0	U	82B
Tritium	10028-17-8	-4.73	230	390	400	U	H
Strontium 90	10098-97-2	-0.357	0.49	1.2	2.0	U	Y
Technetium 99	14133-76-7	-0.424	5.9	20	15	U	TC
Total Uranium (ug/L)	7440-61-1	-0.020	0.006	0.013	0.10	U	U_T

100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

QC-BLANK 36765

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

R011076-11

Lab Control Sample

LAB CONTROL SAMPLE

SDG 7556
Contact Melissa C. Mannion

Client/Case no Hanford SDG H1130
Case no TRC-SBB-207925

Lab sample id R011076-11
Dept sample id 7556-011

Client sample id Lab Control Sample
Material/Matrix WATER
SAF No C01-008

ANALYTE	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Gross Alpha	63.3	4.6	1.2	3.0		88A	67.0	2.7	94	69-131	70-130
Gross Beta	70.0	3.4	1.8	4.0		82B	73.3	2.9	96	77-123	70-130
Tritium	8680	460	380	400		H	9340	370	93	83-117	80-120
Strontium 90	44.4	2.4	2.3	2.0		Y	44.0	1.8	101	82-118	80-120
Technetium 99	2280	180	15	15		TC	2180	87	105	79-121	80-120
Total Uranium (ug/L)	71.0	8.2	0.13	0.10		U_T	72.0	2.9	99	78-122	80-120

100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

QC-LCS 36764

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-LCS
Version 3.06
Report date 01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

R011076-13 B10L90

DUPLICATE

SDG	7556			Client/Case no	Hanford SDG H1130
Contact	Melissa C. Mannion			Case no	TRC-SBB-207925
	DUPLICATE		ORIGINAL		
Lab sample id	R011076-13	Lab sample id	R011076-09	Client sample id	B10L90
Dept sample id	7556-013	Dept sample id	7556-009	Location/Matrix	Hanford Site WATER
		Received	11/08/00	Collected	11/07/00 10:20
				Custody/SAF No	C01-008-140 C01-008

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI-FIERS	RPD %	3σ TOT	PROT LIMIT
Gross Alpha	0.856	1.2	1.8	3.0	U	88A	1.49	1.3	1.9	U	-		
Gross Beta	6.40	1.9	2.7	4.0		82B	6.36	1.5	1.9		1	65	
Tritium	2320	190	190	400		H	2280	190	190		2	28	
Strontium 90	-0.452	0.59	1.4	2.0	U	Y	-0.559	2.8	1.7	U	-		
Technetium 99	-1.81	4.1	13	15	U	TC	-0.553	3.2	8.5	U	-		
Total Uranium (ug/L)	2.82	0.31	0.013	0.10		U_T	2.77	0.30	0.013		2	30	

100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

QC-DUP#9 36766

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-DUP
Version 3.06
Report date 01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

R011076-14 B10L90

MATRIX SPIKE

SDG	7556			Client/Case no	Hanford SDG H1130
Contact	Melissa C. Mannion			Case no	TRC-SBB-207925
	MATRIX SPIKE		ORIGINAL		
Lab sample id	R011076-14	Lab sample id	R011076-09	Client sample id	B10L90
Dept sample id	7556-014	Dept sample id	7556-009	Location/Matrix	Hanford Site WATER
		Received	11/08/00	Collected	11/07/00 10:20
				Custody/SAF No	C01-008-140 C01-008

ANALYTE	SPIKE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST	ADDED pCi/L	2σ ERR pCi/L	ORIGINAL pCi/L	2σ ERR (COUNT)	REC %	3σ LMTS (TOTAL)	PROTOCOL LIMITS
Tritium	19500	460	200	400		H	18000	720	2280	190	96	82-118	60-140

100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

QC-MS#9 36767

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-MS
Version 3.06
Report date 01/04/01

TMA/RICHMOND
SAMPLE DELIVERY GROUP H1130

R011076-06 B10L74

DATA SHEET

SDG	7556	Client/Case no	Hanford SDG H1130
Contact	Melissa C. Mannion	Contract	TRC-SBB-207925
Lab sample id	R011076-06	Client sample id	B10L74
Dept sample id	7556-006	Location/Matrix	Hanford Site WATER
Received	11/08/00	Collected	11/07/00 10:30
		Custody/SAF No	C01-008-92 C01-008

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.717	1.0	1.7	3.0	U	88A
Gross Beta	12587-47-2	17.0	2.3	2.7	4.0		82B
Tritium	10028-17-8	2260	180	190	400		H

100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/04/01

TMA / RICHMOND

SAMPLE DELIVERY GROUP H1130

R011076-07 B10L82

DATA SHEET

SDG	7556	Client/Case no	Hanford SDG_H1130
Contact	Melissa C. Mannion	Contract	TRC-SBB-207925
Lab sample id	R011076-07	Client sample id	B10L82
Dept sample id	7556-007	Location/Matrix	Hanford Site WATER
Received	11/08/00	Collected	11/07/00 11:35
		Custody/SAF No	C01-008-128 C01-008

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	1.84	1.5	2.1	3.0	U	88A
Gross Beta	12587-47-2	26.6	2.4	2.1	4.0		82B
Tritium	10028-17-8	2900	200	190	400		H
Strontium 90	10098-97-2	0.820	0.57	1.4	2.0	U	Y
Technetium 99	14133-76-7	33.4	5.6	9.9	15		TC
Total Uranium (ug/L)	7440-61-1	5.41	0.60	0.013	0.10		U_T

100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

R011076-08 B10L86

DATA SHEET

SDG	7556	Client/Case no	Hanford	SDG H1130	
Contact	Melissa C. Mannion	Contract	TRC-SBB-207925		
Lab sample id	R011076-08	Client sample id	B10L86		
Dept sample id	7556-008	Location/Matrix	Hanford Site	WATER	
Received	11/08/00	Collected	11/07/00 11:57		
		Custody/SAF No	C01-008-110	C01-008	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	18.1	4.2	3.5	3.0		88A
Gross Beta	12587-47-2	278	6.8	1.9	4.0		82B
Tritium	10028-17-8	2070	180	190	400		H
Strontium 90	10098-97-2	0.359	2.4	1.7	2.0	U	Y
Technetium 99	14133-76-7	471	16	8.1	15		TC
Total Uranium (ug/L)	7440-61-1	43.6	5.1	0.13	0.10		U_T

100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/04/01

TMA / RICHMOND

SAMPLE DELIVERY GROUP H1130

R011076-09 B10L90

DATA SHEET

SDG	7556	Client/Case no	Hanford	SDG_H1130	
Contact	Melissa C. Mannion	Contract	TRC-SBB-207925		
Lab sample id	R011076-09	Client sample id	B10L90		
Dept sample id	7556-009	Location/Matrix	Hanford Site	WATER	
Received	11/08/00	Collected	11/07/00 10:20		
		Custody/SAF No	C01-008-140	C01-008	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	1.49	1.3	1.9	3.0	U	88A
Gross Beta	12587-47-2	6.36	1.5	1.9	4.0		82B
Tritium	10028-17-8	2280	190	190	400		H
Strontium 90	10098-97-2	-0.559	2.8	1.7	2.0	U	Y
Technetium 99	14133-76-7	-0.553	3.2	8.5	15	U	TC
Total Uranium (ug/L)	7440-61-1	2.77	0.30	0.013	0.10		U_T

100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/04/01

TMA / RICHMOND

SAMPLE DELIVERY GROUP H1130

R011076-10 B10L94

DATA SHEET

SDG	7556	Client/Case no	Hanford	SDG H1130	
Contact	Melissa C. Mannion	Contract	TRC-SBB-207925		
Lab sample id	R011076-10	Client sample id	B10L94		
Dept sample id	7556-010	Location/Matrix	Hanford Site	WATER	
Received	11/08/00	Collected	11/07/00 10:20		
		Custody/SAF No	C01-008-141	C01-008	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	1.15	1.5	2.4	3.0	U	88A
Gross Beta	12587-47-2	6.80	1.6	2.1	4.0		82B
Tritium	10028-17-8	2120	180	190	400		H
Strontium 90	10098-97-2	0.246	0.58	1.6	2.0	U	Y
Technetium 99	14133-76-7	-1.26	3.0	8.3	15	U	TC
Total Uranium (ug/L)	7440-61-1	2.77	0.30	0.013	0.10		U_T

100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/04/01

TMA / RICHMOND

SAMPLE DELIVERY GROUP H1130

R011076-01 B10LC0

DATA SHEET

SDG	7556	Client/Case no	Hanford	SDG H1130	
Contact	Melissa C. Mannion	Contract	TRC-SBB-207925		
Lab sample id	R011076-01	Client sample id	B10LC0		
Dept sample id	7556-001	Location/Matrix	Hanford Site	WATER	
Received	11/08/00	Collected	11/07/00 10:35		
		Custody/SAF No	C01-008-132	C01-008	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.679	1.1	1.6	3.0	U	88A
Gross Beta	12587-47-2	6.70	1.9	2.8	4.0		82B
Tritium	10028-17-8	3780	220	190	400		H

100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/04/01

TMA / RICHMOND

SAMPLE DELIVERY GROUP H1130

R011076-02 **B10LF9**

DATA SHEET

SDG	7556	Client/Case no	Hanford	SDG H1130	
Contact	Melissa C. Mannion	Contract	TRC-SBB-207925		
Lab sample id	R011076-02	Client sample id	B10LF9		
Dept sample id	7556-002	Location/Matrix	Hanford Site	WATER	
Received	11/08/00	Collected	11/07/00 09:09		
		Custody/SAF No	C01-008-102	C01-008	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	1.34	1.4	2.0	3.0	U	88A
Gross Beta	12587-47-2	19.5	2.1	2.1	4.0		82B
Tritium	10028-17-8	3450	210	190	400		H

100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/04/01

TMA / RICHMOND

SAMPLE DELIVERY GROUP H1130

R011076-03 B10LM7

DATA SHEET

SDG	7556	Client/Case no	Hanford	SDG H1130	
Contact	Melissa C. Mannion	Contract	TRC-SBB-207925		
Lab sample id	R011076-03	Client sample id	B10LM7		
Dept sample id	7556-003	Location/Matrix	Hanford Site	WATER	
Received	11/08/00	Collected	11/07/00 09:33		
		Custody/SAF No	C01-008-144	C01-008	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	1.06	1.2	1.7	3.0	U	88A
Gross Beta	12587-47-2	26.6	2.5	2.5	4.0		82B
Tritium	10028-17-8	3450	210	200	400		H

100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

R011076-04 **B10LN1**

DATA SHEET

SDG	7556	Client/Case no	Hanford	SDG_H1130	
Contact	Melissa C. Mannion	Contract	TRC-SBB-207925		
Lab sample id	R011076-04	Client sample id	B10LN1		
Dept sample id	7556-004	Location/Matrix	Hanford Site	WATER	
Received	11/08/00	Collected	11/07/00 08:00		
		Custody/SAF No	C01-008-145	C01-008	

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.076	0.51	0.90	3.0	U	88A
Gross Beta	12587-47-2	1.01	1.2	1.9	4.0	U	82B
Tritium	10028-17-8	4.74	110	190	400	U	H

100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

R011076-05 **B10LT5**

DATA SHEET

SDG	7556	Client/Case no	Hanford SDG H1130
Contact	Melissa C. Mannion	Contract	TRC-SBB-207925
Lab sample id	R011076-05	Client sample id	B10LT5
Dept sample id	7556-005	Location/Matrix	Hanford Site WATER
Received	11/08/00	Collected	11/07/00 12:47
		Custody/SAF No	C01-008-76 C01-008

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI-FIERS	TEST
Gross Alpha	12587-46-1	0.091	0.76	1.5	3.0	U	88A
Gross Beta	12587-47-2	5.87	1.9	2.7	4.0		82B
Tritium	10028-17-8	30.6	110	190	400	U	H

100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-DS
Version	3.06
Report date	01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

Test	TC
Matrix	WATER
SDG	7556
Contact	Melissa C. Mannion

METHOD SUMMARY

TECHNETIUM 99 IN WATER

BETA COUNTING

Client	Hanford
Contract	TRC-SBB-207925
Contract	SDG H1130

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Technetium 99	
Preparation batch 6962-084						
B10L82	R011076-07			7556-007	33.4	
B10L86	R011076-08			7556-008	471	
B10L90	R011076-09			7556-009	U	
B10L94	R011076-10			7556-010	U	
BLK (QC ID=36765)	R011076-12			7556-012	U	
LCS (QC ID=36764)	R011076-11			7556-011	ok	
Duplicate (R011076-09)	R011076-13			7556-013	-	U
Nominal values and limits from method				RDLs (pCi/L)	15	
100HR3 IAM (1 & 2) GW Mon.-Nov. 2000						

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 6962-084	2σ prep error 10.0 % Reference Lab Notebook 6962 pg. 084															
B10L82	R011076-07			9.9	0.0500			71		100			44	12/05/00	12/21	GRB-217
B10L86	R011076-08			8.1	0.0500			85		100			44	12/05/00	12/21	GRB-218
B10L90	R011076-09			8.5	0.0500			84		100			44	12/05/00	12/21	GRB-219
B10L94	R011076-10			8.3	0.0500			82		100			44	12/05/00	12/21	GRB-220
BLK (QC ID=36765)	R011076-12			20	0.0500			52		50				12/05/00	12/20	GRB-230
LCS (QC ID=36764)	R011076-11			15	0.0500			70		50				12/05/00	12/22	GRB-202
Duplicate (R011076-09) (QC ID=36766)	R011076-13			13	0.0500			87		50			43	12/05/00	12/20	GRB-231
Nominal values and limits from method				15	0.0500			20-105		50			180			

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-CMS
Version	3.06
Report date	01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

METHOD SUMMARY, cont.

TECHNETIUM 99 IN WATER

BETA COUNTING

Test	TC
Matrix	WATER
SDG	7556
Contact	Melissa C. Mannion

Client	Hanford
Contract	TRC-SBB-207925
Contract	SDG H1130

PROCEDURES	REFERENCE	TC99_TR_SEP_LSC
	CP-021	Preparation of Tc-99m Tracer, rev 0
	CP-002	Q.C. Preparation, rev 2
	CP-003	Tracing, rev 2
	CP-541	Technetium-99 Purification (Water) by Extraction Chromatography, rev 0
	CP-008	Heavy Element Electroplating, rev 3

AVERAGES ± 2 SD	MDA	12	±	8.9
FOR 7 SAMPLES	YIELD	76	±	25

Lab id	TMANC
Protocol	Hanford
Version	Ver 1.0
Form	DVD-CMS
Version	3.06
Report date	01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

Test Y Matrix WATER
SDG 7556
Contact Melissa C. Mannion

METHOD SUMMARY

STRONTIUM 90 IN WATER
BETA COUNTING

Client Hanford
Contract TRC-SBB-207925
Contract SDG H1130

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Strontium 90	
Preparation batch 6962-084						
B10L82	R011076-07			7556-007	U	
B10L86	R011076-08			7556-008	U	
B10L90	R011076-09			7556-009	U	
B10L94	R011076-10			7556-010	U	
BLK (QC ID=36765)	R011076-12			7556-012	U	
LCS (QC ID=36764)	R011076-11			7556-011	ok	
Duplicate (R011076-09)	R011076-13			7556-013	-	U
Nominal values and limits from method 100HR3 IAM (1 & 2) GW Mon.-Nov. 2000				RDLs (pCi/L)	2.0	

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 6962-084 2σ prep error 10.0 % Reference Lab Notebook 6962 pg. 084																
B10L82	R011076-07			1.4	0.500			70		100			36	12/12/00	12/13	GRB-207
B10L86	R011076-08			1.7	0.500			75		60			36	12/12/00	12/13	GRB-202
B10L90	R011076-09			1.7	0.500			65		100			36	12/12/00	12/13	GRB-208
B10L94	R011076-10			1.6	0.500			72		100			36	12/12/00	12/13	GRB-208
BLK (QC ID=36765)	R011076-12			1.2	0.500			72		100				12/12/00	12/13	GRB-207
LCS (QC ID=36764)	R011076-11			2.3	0.500			64		100				12/12/00	12/15	GRB-232
Duplicate (R011076-09) (QC ID=36766)	R011076-13			1.4	0.500			70		100			36	12/12/00	12/13	GRB-208
Nominal values and limits from method				2.0	0.500			20-105		100			180			

PROCEDURES	REFERENCE	SRISO_SEP_PRECIP_GPC
	CP-040	Environmental Water Dissolution, rev 3
	CP-520	Yttrium Purification, rev 2

AVERAGES ± 2 SD FOR 7 SAMPLES
MDA 1.6 ± 0.71
YIELD 70 ± 8

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 01/04/01

Test 82B Matrix WATER
SDG 7556
Contact Melissa C. Mannion

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

METHOD SUMMARY

GROSS BETA IN WATER

GAS PROPORTIONAL COUNTING

Client Hanford
Contract TRC-SBB-207925
Contract SDG H1130

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	1: Gross Beta	2: Sum, Beta Emitters	RESULT RATIO (%) 2÷1	2σ
Preparation batch 6962-084								
B10L74	R011076-06	82		7556-006	17.0			
B10L82	R011076-07	82		7556-007	26.6			
B10L86	R011076-08	82		7556-008	278			
B10L90	R011076-09	82		7556-009	6.36			
B10L94	R011076-10	82		7556-010	6.80			
B10LC0	R011076-01	82		7556-001	6.70			
B10LF9	R011076-02	82		7556-002	19.5			
B10LM7	R011076-03	82		7556-003	26.6			
B10LN1	R011076-04	82		7556-004	U			
B10LT5	R011076-05	82		7556-005	5.87			
BLK (QC ID=36765)	R011076-12	82		7556-012	U			
LCS (QC ID=36764)	R011076-11	82		7556-011	ok			
Duplicate (R011076-09)	R011076-13	82		7556-013	ok			

Nominal values and limits from method RDLs (pCi/L) 4.0
100HR3 IAM (1 & 2) GW Mon.-Nov. 2000 Average

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

Test 82B Matrix WATER
SDG 7556
Contact Melissa C. Mannion

METHOD SUMMARY

GROSS BETA IN WATER
GAS PROPORTIONAL COUNTING

Client Hanford
Contract TRC-SBB-207925
Contract SDG H1130

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 6962-084	2σ prep error 15.0 %				Reference Lab Notebook 6962 pg. 084											
B10L74	R011076-06	82		2.7	0.300			61		100			51	12/05/00	12/28	GRB-114
B10L82	R011076-07	82		2.1	0.300			84		100			51	12/05/00	12/28	GRB-115
B10L86	R011076-08	82		1.9	0.300			135		100			51	12/05/00	12/28	GRB-105
B10L90	R011076-09	82		1.9	0.300			74		100			51	12/05/00	12/28	GRB-107
B10L94	R011076-10	82		2.1	0.300			77		100			50	12/05/00	12/27	GRB-115
B10LC0	R011076-01	82		2.8	0.300			86		100			42	12/05/00	12/19	GRB-114
B10LF9	R011076-02	82		2.1	0.300			80		100			42	12/05/00	12/19	GRB-115
B10LM7	R011076-03	82		2.5	0.300			90		100			42	12/05/00	12/19	GRB-112
B10LN1	R011076-04	82		1.9	0.300			1		100			45	12/05/00	12/22	GRB-115
B10LT5	R011076-05	82		2.7	0.300			54		100			50	12/05/00	12/27	GRB-114
BLK (QC ID=36765)	R011076-12	82		1.8	0.300			24		100				12/05/00	12/27	GRB-107
LCS (QC ID=36764)	R011076-11	82		1.8	0.300			24		100				12/05/00	12/27	GRB-105
Duplicate (R011076-09) (QC ID=36766)	R011076-13	82		2.7	0.300			72		100			50	12/05/00	12/27	GRB-114
Nominal values and limits from method				4.0	0.300			5-250		100			180			

PROCEDURES REFERENCE 900.0_ALPHABETA_GPC
CP-120 Gross Alpha and Gross Beta in Water, rev 3

AVERAGES ± 2 SD FOR 13 SAMPLES
MDA 2.2 ± 0.78
RESIDUE 66 ± 69

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

Test 88A Matrix WATER
SDG 7556
Contact Melissa C. Mannion

METHOD SUMMARY

GROSS ALPHA IN WATER
GAS PROPORTIONAL COUNTING

Client Hanford
Contract TRC-SBB-207925
Contract SDG H1130

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Gross Alpha	
Preparation batch 6962-084						
B10L74	R011076-06	88		7556-006	U	
B10L82	R011076-07	88		7556-007	U	
B10L86	R011076-08	88		7556-008	18.1	
B10L90	R011076-09	88		7556-009	U	
B10L94	R011076-10	88		7556-010	U	
B10LC0	R011076-01	88		7556-001	U	
B10LF9	R011076-02	88		7556-002	U	
B10LM7	R011076-03	88		7556-003	U	
B10LN1	R011076-04	88		7556-004	U	
B10LT5	R011076-05	88		7556-005	U	
BLK (QC ID=36765)	R011076-12	88		7556-012	U	
LCS (QC ID=36764)	R011076-11	88		7556-011	ok	
Duplicate (R011076-09)	R011076-13	88		7556-013	-	U

Nominal values and limits from method RDLs (pCi/L) 3.0
100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 01/04/01

Test 88A Matrix WATER
SDG 7556
Contact Melissa C. Mannion

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

METHOD SUMMARY

GROSS ALPHA IN WATER
GAS PROPORTIONAL COUNTING

Client Hanford
Contract TRC-SBB-207925
Contract SDG H1130

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	RESID mg	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 6962-084	2σ prep error 20.0 %				Reference Lab Notebook 6962 pg. 084											
B10L74	R011076-06	88		1.7	0.300			81		100			41	12/05/00	12/18	GRB-112
B10L82	R011076-07	88		2.1	0.300			106		100			52	12/05/00	12/29	GRB-111
B10L86	R011076-08	88		3.5	0.300			146		100			58	12/05/00	01/04	GRB-113
B10L90	R011076-09	88		1.9	0.300			96		100			52	12/05/00	12/29	GRB-113
B10L94	R011076-10	88		2.4	0.300			93		100			52	12/05/00	12/29	GRB-115
B10LC0	R011076-01	88		1.6	0.300			100		100			41	12/05/00	12/18	GRB-105
B10LF9	R011076-02	88		2.0	0.300			99		100			41	12/05/00	12/18	GRB-107
B10LM7	R011076-03	88		1.7	0.300			106		100			41	12/05/00	12/18	GRB-105
B10LN1	R011076-04	88		0.90	0.300			1		100			41	12/05/00	12/18	GRB-107
B10LT5	R011076-05	88		1.5	0.300			60		100			41	12/05/00	12/18	GRB-110
BLK (QC ID=36765)	R011076-12	88		1.2	0.300			23		100				12/05/00	12/29	GRB-105
LCS (QC ID=36764)	R011076-11	88		1.2	0.300			23		100				12/05/00	12/29	GRB-116
Duplicate (R011076-09) (QC ID=36766)	R011076-13	88		1.8	0.300			87		100			52	12/05/00	12/29	GRB-106
Nominal values and limits from method				3.0	0.300			5-250		100			180			

PROCEDURES REFERENCE 900.0_ALPHABETA_GPC
CP-120 Gross Alpha and Gross Beta in Water, rev 3

AVERAGES ± 2 SD FOR 13 SAMPLES
MDA 1.8 ± 1.3
RESIDUE 79 ± 82

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

Test U_T Matrix WATER
SDG 7556
Contact Melissa C. Mannion

METHOD SUMMARY

URANIUM, TOTAL IN WATER
KINETIC PHOSPHORIMETRY

Client Hanford
Contract TRC-SBB-207925
Contract SDG H1130

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Total Uranium (ug/L)
Preparation batch 6962-084					
B10L82	R011076-07			7556-007	5.41
B10L86	R011076-08			7556-008	43.6
B10L90	R011076-09			7556-009	2.77
B10L94	R011076-10			7556-010	2.77
BLK (QC ID=36765)	R011076-12			7556-012	U
LCS (QC ID=36764)	R011076-11			7556-011	ok
Duplicate (R011076-09)	R011076-13			7556-013	ok
Nominal values and limits from method 100HR3 IAM (1 & 2) GW Mon.-Nov. 2000				RDLs (ug/L)	0.10

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA ug/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 6962-084 2σ prep error 9.0 % Reference Lab Notebook 6962 pg. 084																
B10L82	R011076-07			0.013	0.0200								30	12/07/00	12/07	KPA-001
B10L86	R011076-08			0.13	0.0200								30	12/07/00	12/07	KPA-001
B10L90	R011076-09			0.013	0.0200								30	12/07/00	12/07	KPA-001
B10L94	R011076-10			0.013	0.0200								30	12/07/00	12/07	KPA-001
BLK (QC ID=36765)	R011076-12			0.013	0.0200									12/07/00	12/07	KPA-001
LCS (QC ID=36764)	R011076-11			0.13	0.0200									12/07/00	12/07	KPA-001
Duplicate (R011076-09) (QC ID=36766)	R011076-13			0.013	0.0200								30	12/07/00	12/07	KPA-001
Nominal values and limits from method				0.10	0.0200								180			

PROCEDURES	REFERENCE	UTOT_KPA
	CP-040	Environmental Water Dissolution, rev 3
	CP-044	Sample Preparation for Total Uranium by Kinetic Phosphorimetry, rev 2
	CP-928	Total Uranium by Kinetic Phosphorimetry, rev 2

AVERAGES ± 2 SD FOR 7 SAMPLES
MDA 0.046 ± 0.11
YIELD ____ ± ____

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 01/04/01

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

Test H Matrix WATER
SDG 7556
Contact Melissa C. Mannion

METHOD SUMMARY

TRITIUM IN WATER
LIQUID SCINTILLATION COUNTING

Client Hanford
Contract TRC-SBB-207925
Contract SDG H1130

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	PLANCHET	Tritium
Preparation batch 6962-084					
B10L74	R011076-06			7556-006	2260
B10L82	R011076-07			7556-007	2900
B10L86	R011076-08			7556-008	2070
B10L90	R011076-09			7556-009	2280
B10L94	R011076-10			7556-010	2120
B10LC0	R011076-01			7556-001	3780
B10LF9	R011076-02			7556-002	3450
B10LM7	R011076-03			7556-003	3450
B10LN1	R011076-04			7556-004	U
B10LT5	R011076-05			7556-005	U
BLK (QC ID=36765)	R011076-12			7556-012	U
LCS (QC ID=36764)	R011076-11			7556-011	ok
Duplicate (R011076-09)	R011076-13			7556-013	ok
Spike (R011076-09)	R011076-14			7556-014	ok

Nominal values and limits from method RDLs (pCi/L) 400
100HR3 IAM (1 & 2) GW Mon.-Nov. 2000

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 01/04/01

Test H Matrix WATER
SDG 7556
Contact Melissa C. Mannion

TMA/RICHMOND

SAMPLE DELIVERY GROUP H1130

METHOD SUMMARY

TRITIUM IN WATER

LIQUID SCINTILLATION COUNTING

Client Hanford
Contract TRC-SBB-207925
Contract SDG H1130

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF-FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU-TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL-YZED	DETECTOR
Preparation batch 6962-084	2σ prep error 10.0 %				Reference Lab Notebook 6962 pg. 084											
B10L74	R011076-06			190	0.0500			20		100			31	12/07/00	12/08	LSC-005
B10L82	R011076-07			190	0.0500			20		100			31	12/07/00	12/08	LSC-005
B10L86	R011076-08			190	0.0500			20		100			31	12/07/00	12/08	LSC-005
B10L90	R011076-09			190	0.0500			20		100			31	12/07/00	12/08	LSC-005
B10L94	R011076-10			190	0.0500			20		100			31	12/07/00	12/08	LSC-005
B10LC0	R011076-01			190	0.0500			20		100			30	12/07/00	12/07	LSC-005
B10LF9	R011076-02			190	0.0500			20		100			30	12/07/00	12/07	LSC-005
B10LM7	R011076-03			200	0.0500			20		100			31	12/07/00	12/08	LSC-005
B10LN1	R011076-04			190	0.0500			20		100			31	12/07/00	12/08	LSC-005
B10LT5	R011076-05			190	0.0500			20		100			31	12/07/00	12/08	LSC-005
BLK (QC ID=36765)	R011076-12			390	0.0500			10		100				12/07/00	12/08	LSC-005
LCS (QC ID=36764)	R011076-11			380	0.0500			10		100				12/07/00	12/08	LSC-005
Duplicate (R011076-09) (QC ID=36766)	R011076-13			190	0.0500			20		100			31	12/07/00	12/08	LSC-005
Spike (R011076-09) (QC ID=36767)	R011076-14			200	0.0500			18		100			31	12/07/00	12/08	LSC-005
Nominal values and limits from method				400	0.0500					25			180			

PROCEDURES REFERENCE 906.0_H3_LSC
CP-210 Tritium in Water Samples by Distillation, rev 3

AVERAGES ± 2 SD MDA 220 ± 140
FOR 14 SAMPLES YIELD 18 ± 7

Lab id TMANC
Protocol Hanford
Version Ver 1.0
Form DVD-CMS
Version 3.06
Report date 01/04/01

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-008-132

Page 1 of 1

Collector: R.T SICKLE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE H1130 (7556)	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING NOVEMBER 2000	Logbook No.: WM-SHWS H 36	Ice Chest No.: 67 SMC 260 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4235 7954 0371
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10LB9 (F)		W	11-7-00	1035	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LC0		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LC0		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10LC0		W			1x20-mL P	Activity Scan	None
B10LC0		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10LC0		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10LC0		W			1x250-mL P	Tritium - H3	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
R.T SICKLE			NOV 07 2000	FEDX			11/07/00
FED-EXP2058			11/08/00	E. Pegurs			11/08/00 10:1m

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-008-102

Page 1 of 1

Collector: D. P. CONNOLLY	Contact/Requester: JH KESSNER H1130 (7556)	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER 2000	Logbook No.: WM-SAWS-H 39	Ice Chest No.: SML-242 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4255 7954 0382
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10LF8 (F)		W	11/7/00	0909	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LF9		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LF9		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10LF9		W			1x20-mL P	Activity Scan	None
B10LF9		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10LF9		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10LF9		W			1x250-mL P	Tritium - H3	None

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
D. P. CONNOLLY	11-7-00 1430	Fed Ex	11/07/00
Fed-Express	11/08/00	E. Pegram	11/08/00

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-008-144

Page 1 of 1

Collector KB HUSE	Contact/Requester JH KESSNER H1130 (7556)	Telephone No. (509) 375-4688 MSIN FAX
SAF No. C01-008	Sampling Origin HANFORD SITE	Purchase Order/Charge Code
Project Title 100HR3 IAM (1&2) GW MONITORING, NOVEMBER 2000	Logbook No. WMSHWS-H37	Ice Chest No. 69 SML-161 Temp.
Shipped To (Lab) TMA/RECRA	Method of Shipment GOVT VEHICLE	Bill of Lading/Air Bill No. 4235-7954-0393
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10LM6 (F)		W	11/7/00	0933	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LM7		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LM7		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10LM7		W			1x20-mL P	Activity Scan	None
B10LM7		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10LM7		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10LM7		W			1x250-mL P	Tritium - H3	None

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
KB HUSE / KB Huse	NOV 07 2000 14:50	FedEX	11-2-00
Fed Ex	11-8-00 10:00	JR Corso JR Corso	11-8-00 10:00

Matrix *

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

FINAL SAMPLE DISPOSITION — Disposal Method (e.g., Return to customer, per lab procedure, used in process) — Disposed By — Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-008-145

Page 1 of 1

Collector: KB HULSE	Contact/Requester: JH KESSNER H1130 (7556)	Telephone No.: (509) 875-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER, 2000	Logbook No.: WM-SMWS-H37	Ice Chest No.: 69 SML-161 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4235-7954-0393
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

MM 11/8/00

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10LN0 (F)		W	11/7/00	0800	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LN1		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LN1		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10LN1		W			1x20-mL P	Activity Scan	None
B10LN1		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10LN1		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10LN1		W			1x250-mL P	Tritium - H3	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
KB HULSE			NOV 07 2000 1430	Fed EX			11-7-00
Fed Ex			11-8-00 10:00	JR Corso		JR Corso	11-8-00 10:00

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	C.O.C. # C01-008-76
		Page 1 of 1

Collector KB HUGHES	Contact/Requester JH KESSNER H1130 (7556)	Telephone No. (509) 375-4688 MSIN FAX
SAF No. C01-008	Sampling Origin HANFORD SITE	Purchase Order/Charge Code
Project Title 100HR3 IAM (1&2) GW MONITORING, NOVEMBER, 2000	Logbook No. WM-34WS-1137	Ice Chest No. 69 SML-161 Temp.
Shipped To (Lab) TMA/RECRA	Method of Shipment GOVT. VEHICLE	Bill of Lading/Air Bill No. 4235-7954-0393
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10LT4 (F)		W	11/7/00	1247	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LT5		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LT5		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10LT5		W			1x20-mL P	Activity Scan	None
B10LT5		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10LT5		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10LT5		W			1x250-mL P	Tritium - H3	None

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
KB HUGHES / [signature]	11-7-00 1430	FEDEX	11-7-00
[signature]	11-8-00 10:00	[signature]	11-8-00 10:00

Matrix *

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

FINAL SAMPLE DISPOSITION Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-008-92

Page 1 of 1

Collector: D. P. CONNOLLY	Contact/Requester: JH KESSNER H1130 (7556)	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER 2000	Logbook No.: WM-SAWS-H39	Ice Chest No.: SML-242 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4235-7954-0382
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L73 (F)		W	11/7/00	1030	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L74		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L74		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10L74		W			1x20-mL P	Activity Scan	None
B10L74		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10L74		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10L74		W			1x250-mL P	Tritium - H3	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	D. P. CONNOLLY		11-7-00 1430	Fed EX			11/07/00
Relinquished By			Date/Time	Received By			Date/Time
FED EXPRESS			11/08/00	E. Segura			11/08/00 1012
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

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

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-008-128

Page 1 of 1

Collector: R.T SICKLE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE H1130 (7556)	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER, 2000	Logbook No.: WM-SAWS H 38	Ice Chest No.: 67 SML 260 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4235-7954-0371
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L81 (F)		W	11-7-00	1135	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L82		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L82		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10L82		W			1x20-mL P	Activity Scan	None
B10L82		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10L82		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10L82		W			2x1000-mL G/P	Strontium-89,90 – Sr-90	HNO3 to pH <2
B10L82		W			1x1000-mL G/P	Technetium-99	HCl to pH <2
B10L82		W			1x250-mL P	Tritium - H3	None
B10L82		W			1x100-mL G/P	Total Uranium	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
R.T SICKLE			NOV 07 2000	FEDX			11/07/00
FED-Express			11/08/00 10 Am	E. Segura			11/08/00 10 Am

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-008-110

Collector: D. P. CONNOLLY	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE H1130 (7556)	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER, 2000	Logbook No.: WM-SAW2-439	Ice Chest No.: SMC 242 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4235-7954-0382
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L85 (F) ✓		W	11/7/00	1157	1x500-mL G/P	ICP Metals - 6010A RCRA GW ✓	HNO3 to pH <2
B10L86 ✓		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW ✓	HNO3 to pH <2
B10L86 ✓		W			1x500-mL P	IC Anions - 300.0 ✓	Cool 4C
B10L86 ✓		W			1x20-mL P	Activity Scan ✓	None
B10L86 ✓		W			2x1000-mL G/P	Gross Alpha ✓	HNO3 to pH <2
B10L86 ✓		W			2x1000-mL G/P	Gross Beta ✓	HNO3 to pH <2
B10L86 ✓		W			2x1000-mL G/P	*Strontium-89,90 – Sr-90	HNO3 to pH <2
B10L86 ✓		W			1x1000-mL G/P	Technetium-99 ✓	HCl to pH <2
B10L86 ✓		W			1x250-mL P	Tritium - H3 ✓	None
B10L86 ✓		W			1x100-mL G/P	Total Uranium ✓	HNO3 to pH <2

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
D. P. CONNOLLY [signature]	11-7-00 1430	Fed Ex	11/07/00
Fed. Express	11/08/00 10AM	E. Segura	11/08/00

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-008-140

Page 1 of 1

Collector: KB HULSE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE H1130 (7556)	Purchase Order/Charge Code: 159 11/7/00
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER, 2000	Logbook No.: WM SAWS-H37	Ice Chest No.: 68 BML-161 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4235 7954 0408
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L89 (F)		W	11/7/00	1020	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L90		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L90		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10L90		W			1x20-mL P	Activity Scan	None
B10L90		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10L90		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10L90		W			2x1000-mL G/P	Strontium-89,90 – Sr-90	HNO3 to pH <2
B10L90		W			1x1000-mL G/P	Technetium-99	HCl to pH <2
B10L90		W			1x250-mL P	Tritium - H3	None
B10L90		W			1x100-mL G/P	Total Uranium	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
KB HULSE			NOV 07 2000 1430	FEDEX			11-7-00
Fed Ex			11-8-00 10:00	J.R. Corso			11-8-00 10:00

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # C01-008-141

Page 1 of 1

Collector: KB HULSE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE H1130 (7556)	Purchase Order/Charge Code: 459 11/1/00
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER, 2000	Logbook No.: WM-SMWS-H37	Ice Chest No.: 68 SML-161 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4235 7954 0408
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L93 (F)		W	11/7/00	1020	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L94		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L94		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10L94		W			1x20-mL P	Activity Scan	None
B10L94		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10L94		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10L94		W			2x1000-mL G/P	Strontium-89,90 – Sr-90	HNO3 to pH <2
B10L94		W			1x1000-mL G/P	Technetium-99	HCl to pH <2
B10L94		W			1x250-mL P	Tritium - H3	None
B10L94		W			1x100-mL G/P	Total Uranium	HNO3 to pH <2

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
KB HULSE / KB Hulse	11-07-00 1430	FEDEX	11-7-00
Fed Ex	11-8-00 10:4	JR Corso / JR Corso	11-8-2000 10:4

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

ThermoRetec
Richmond Laboratory

Analytical Services

ICE CHEST RECEIPT LOG

Use one form per shipment. Refer to Thermometer Correction Log for correction factor.

Customer: (WMTS) BECHTEL HANFORD (PNNL) Date:

Ice chest # or description	SML-260					
Thermometer: time in	10:25					
Thermometer: time out	11:10					
Thermometer reading	4°C					
Thermometer number	6536					
Correction factor	NONE					
Actual temperature*	—					
Custody seals on ice chest intact?	NO					
Custody seals dated ?	—					
Custody seals signed?	—					
Custody seals on samples?	Yes					
Ice chest scanned for activity?	Yes					

* Temperature is in degrees centigrade.

Technician:_____

Comments:_____

ThermoRetec
Richmond Laboratory

Analytical Services

ICE CHEST RECEIPT LOG

Use one form per shipment. Refer to Thermometer Correction Log for correction factor.

Customer: (WMTS) BECHTEL HANFORD (PNNL) Date: 11/08/00 10:AM

Ice chest # or description	SML-242					
Thermometer: time in	10:20					
Thermometer: time out	10:55					
Thermometer reading	4°C					
Thermometer number	2132					
Correction factor	NONE					
Actual temperature*	—					
Custody seals on ice chest intact?	NO					
Custody seals dated ?	—					
Custody seals signed?	—					
Custody seals on samples?	Yes					
Ice chest scanned for activity?	Yes					

* Temperature is in degrees centigrade.

Technician:_____

Comments:_____

ThermoRetec
Richmond Laboratory

Analytical Services

ICE CHEST RECEIPT LOG

Use one form per shipment. Refer to Thermometer Correction Log for correction factor.

Customer: Bechtel Hanford (PNNL) Date: 11-13-02

Ice chest # or description	SML 459					
Thermometer: time in	11:15					
Thermometer: time out	11:45					
Thermometer reading	2°C					
Thermometer number	2132					
Correction factor	—					
Actual temperature*	—					
Custody seals on ice chest intact?	yes					
Custody seals dated ?	yes					
Custody seals signed?	yes					
Custody seals on samples?	yes					
Ice chest scanned for activity?	yes					

* Temperature is in degrees centigrade.

Technician:_____

Comments:_____

ThermoRetec
Richmond Laboratory

Analytical Services

ICE CHEST RECEIPT LOG

Use one form per shipment. Refer to Thermometer Correction Log for correction factor.

Customer: Battelle Hanford (PNNL) Date: 11-8-00

Ice chest # or description	SML 161					
Thermometer: time in	11:20					
Thermometer: time out	11:45					
Thermometer reading	4°C					
Thermometer number	6536					
Correction factor	—					
Actual temperature*	—					
Custody seals on ice chest intact?	yes					
Custody seals dated ?	yes					
Custody seals signed?	yes					
Custody seals on samples?	yes					
Ice chest scanned for activity?	yes					

* Temperature is in degrees centigrade.

Technician:_____

Comments:_____

ThermoRetec
Richmond Laboratory

Analytical Services

SAMPLE RECEIPT CHECKLIST

SAMPLE RECEIPT

Client: Bechtel Hanford (PNNL) Date/Time received 11-8-00 10:00

CoC No. C01-008-76, 92, 102, 110, 128, 132, 140, 146, 144, 145
SML-459

Container I.D. No. SML-161, 242, 260 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: 10
7. Number of containers per sample: _____ (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: Some samples were under water and all the labels are wet. C01-008-145 - Time missing on CoC for sample B1DLN1.
13. Was P.M. notified of any anomalies? Yes [✓] No [ ] Date 11-8-00
14. Received by [signature] / [signature] Date: 11-8-00 Time: 10:00

Customer Sample No.	cpm	mr/hr	Customer Sample No.	Cpm	mr/hr

Ion Chamber Ser. No. _____ Calibration date _____

Survey Meter Ser No. _____ Calibration date _____

JAN 2001
RECEIVED

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B10LT4						
SILVER, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
SILVER, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
SILVER, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MAGNESIUM, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	001	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	001 REP	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	001 MS	W	99L1810	11/07/00	12/13/00	12/20/00
B10LT5						
SILVER, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SODIUM, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	002	W	99L1810	11/07/00	12/13/00	12/20/00
B10L73						
SILVER, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	003	W	99L1810	11/07/00	12/13/00	12/20/00
B10L74						
SILVER, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00

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INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	004	W	99L1810	11/07/00	12/13/00	12/20/00
B10LF8						
SILVER, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	005	W	99L1810	11/07/00	12/13/00	12/20/00
B10LF9						
SILVER, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ALUMINUM, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	006	W	99L1810	11/07/00	12/13/00	12/20/00
B10L85						
SILVER, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00

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INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
VANADIUM, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	007	W	99L1810	11/07/00	12/13/00	12/20/00
B10L86						
SILVER, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	008	W	99L1810	11/07/00	12/13/00	12/20/00
B10L81						
SILVER, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00

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INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MAGNESIUM, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	009	W	99L1810	11/07/00	12/13/00	12/20/00
B10L82						
SILVER, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	010	W	99L1810	11/07/00	12/13/00	12/20/00
B10LB9						
SILVER, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00

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INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CADMIUM, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	011	W	99L1810	11/07/00	12/13/00	12/20/00
B10LC0						
SILVER, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	012	W	99L1810	11/07/00	12/13/00	12/20/00
B10L89						
SILVER, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00

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INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ALUMINUM, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	013	W	99L1810	11/07/00	12/13/00	12/20/00
B10L90						
SILVER, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
VANADIUM, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	014	W	99L1810	11/07/00	12/13/00	12/20/00
B10L93						
SILVER, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
VANADIUM, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	015	W	99L1810	11/07/00	12/13/00	12/20/00
B10L94						
SILVER, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MAGNESIUM, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/22/00
VANADIUM, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	016	W	99L1810	11/07/00	12/13/00	12/20/00
B10LM6						
SILVER, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/22/00
VANADIUM, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	017	W	99L1810	11/07/00	12/13/00	12/20/00
B10LM7						
SILVER, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CADMIUM, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/22/00
VANADIUM, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	018	W	99L1810	11/07/00	12/13/00	12/20/00
B10LN0						
SILVER, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
ALUMINUM, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/22/00
VANADIUM, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	019	W	99L1810	11/07/00	12/13/00	12/20/00
B10LN1						
SILVER, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
ALUMINUM, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
BARIUM, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
BERYLLIUM, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
CALCIUM, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
CADMIUM, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
COBALT, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
CHROMIUM, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
COPPER, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
IRON, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
POTASSIUM, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
MAGNESIUM, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
MANGANESE, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
SODIUM, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
NICKEL, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
ANTIMONY, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
STRONTIUM, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/22/00
VANADIUM, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00
ZINC, TOTAL	020	W	99L1810	11/07/00	12/13/00	12/20/00

LAB QC:

SILVER LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
SILVER, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
ALUMINUM LABORTORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
ALUMINUM, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
BARIUM LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
BARIUM, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
BERYLLIUM LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
BERYLLIUM, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
CALCIUM LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
CALCIUM, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
CADMIUM LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
CADMIUM, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
COBALT LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
COBALT, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
CHROMIUM LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
CHROMIUM, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
COPPER LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
COPPER, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
IRON LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
IRON, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
POTASSIUM LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
POTASSIUM, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
MAGNESIUM LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
MAGNESIUM, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
MANGANESE LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
MANGANESE, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
SODIUM LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
SODIUM, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
NICKEL LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
NICKEL, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
ANTIMONY LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
ANTIMONY, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
STRONTIUM LCS STANDA	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
STRONTIUM, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
VANADIUM LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
VANADIUM, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00
ZINC LABORATORY	LC1 BS	W	99L1810	N/A	12/13/00	12/20/00
ZINC, TOTAL	MB1	W	99L1810	N/A	12/13/00	12/20/00

RECRA
ENVIRONMENTAL
INC.
Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client: TNU-HANFORD C01-008
RFW#: 0011L228
SDG/SAF#: H1130/C01-008

W.O.#: 10985-001-001-9999-00
Date Received: 11-10-00

METALS CASE NARRATIVE

1. This narrative covers the analyses of 20 water samples.

2. The samples were prepared and analyzed in accordance with methods checked on the attached glossary.

3. All analyses were performed within the required holding times.

4. The cooler temperature has been recorded on the Chain of Custody.

5. All Initial and Continuing Calibration Verifications (ICV/CCVs) were within the 90-110% control limits (80-120% for Mercury).

6. All Initial and Continuing Calibration Blanks (ICB/CCBs) were within control limits (less than the PQL).

7. All preparation/method blanks (MB) were within method criteria {less than the Practical Quantitation Limit (3X the IDL), MB value less than 5% of the RCRA limit, or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

8. All ICP Interference Check Standards were within control limits.

9. All laboratory control samples (LCS) were within the 80-120% control limits. Refer to form 7.

10. All matrix spike (MS) recoveries were within the 75-125% control limits. Refer to the Inorganics Accuracy Report.

11. The duplicate analyses for 2 analytes were outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 53 pages.

12. For the purposes of this report, the data has been reported to the Instrument Detection Limit (IDL). Values between the IDL and the Practical Quantitation Limit (PQL) are acquired in a region of less-certain quantification.

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

J. Michael Taylor
VP, Laboratory General Manager
Lionville Laboratory

01-04-01
Date

gmb/m11-228

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Recra Lot#: 0011L228

Leaching Procedure: __1310 __1311 __1312 __Other:_____

CLP Metals __ Digestion and __ Analysis Methods: __ILM03.0 __ILM04.0

Metals Digestion Methods: ✓3005A __3010A __3015 __3020A __3050B __3051 __200.7 __SS17
__Other: _____

Metals Analysis Methods

	SW846		EPA		STD MTD	EPA OSWR	USATHAMA
Aluminum	✓6010B		__200.7				__99
Antimony	✓6010B	__7041 [5]	__200.7	__204.2			__99
Arsenic	__6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	✓6010B		__200.7				__99
Beryllium	✓6010B		__200.7				__99
Bismuth	__6010B [1]		__200.7 [1]			__1620	__99
Boron	__6010B		__200.7				__99
Cadmium	✓6010B	__7131A [5]	__200.7	__213.2			__99
Calcium	✓6010B		__200.7				__99
Chromium	✓6010B	__7191 [5]	__200.7	__218.2			__SS17
Cobalt	✓6010B		__200.7				__99
Copper	✓6010B	__7211 [5]	__200.7	__220.2			__99
Iron	✓6010B		__200.7				__99
Lead	__6010B	__7421 [5]	__200.7	__239.2	__3113B		__99
Lithium	__6010B	__7430 [4]	__200.7			__1620	__99
Magnesium	✓6010B		__200.7				__99
Manganese	✓6010B		__200.7				__99
Mercury	__7470A [3]	__7471A [3]	__245.1 [2]	__245.5 [2]			__99
Molybdenum	✓6010B		__200.7				__99
Nickel	✓6010B		__200.7				__99
Potassium	✓6010B	__7610 [4]	__200.7	__258.1 [4]			__99
Rare Earths	__6010B [1]		__200.7 [1]			__1620	__99
Selenium	__6010B	__7740 [5]	__200.7	__270.2	__3113B		__99
Silicon	__6010B [1]		__200.7			__1620	__99
Silica	__6010B		__200.7			__1620	__99
Silver	✓6010B	__7761 [5]	__200.7	__272.2			__99
Sodium	✓6010B	__7770 [4]	__200.7	__273.1 [4]			__99
Strontium	✓6010B		__200.7				__99
Thallium	__6010B	__7841 [5]	__200.7	__279.2	__200.9		__99
Tin	__6010B		__200.7				__99
Titanium	__6010B		__200.7				__99
Uranium	__6010B [1]		__200.7 [1]			__1620	__99
Vanadium	✓6010B		__200.7				__99
Zinc	✓6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Other:_____ Method:_____

L-WI-033/M-11/99

METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LCS = Laboratory Control Sample.
NC = Not calculated.

ANALYTICAL METAL METHODS

1. Not included in the method element list.

2. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, 0.1 grams of sample is taken to a final volume of 50 mL (including all reagents).

3. Modified Hg: Hg1 and Hg2 require less total volume of digestate due to the autosampler analysis. Sample volumes and reagents for mercury determinations in water and soil have been proportionately scaled down to adapt to this semi-automated technique. The sample volume used for water analysis is 33 mL. For soils, three 0.1 gram of sample is taken to a final volume of 50 mL (including all reagents).

4. Flame AA.

5. Graphite Furnace AA.

RFW 21-21L-033/N-10/96

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B10LT4	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	25.1		UG/L	19.1	1.0
		Barium, Total	28.6		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	30400		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	147		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	15.0		UG/L	3.8	1.0
		Potassium, Total	4400		UG/L	303	1.0
		Magnesium, Total	10800		UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	4040		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	226		UG/L	5.5	1.0
		Vanadium, Total	21.1		UG/L	4.8	1.0
		Zinc, Total	3.6		UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	B10LT5	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	34.5		UG/L	19.1	1.0
		Barium, Total	28.6		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	30700		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	156		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	65.4		UG/L	3.8	1.0
		Potassium, Total	4190		UG/L	303	1.0
		Magnesium, Total	10700		UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	4060		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	182		UG/L	5.5	1.0
		Vanadium, Total	20.7		UG/L	4.8	1.0
		Zinc, Total	19.1		UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-003	B10L73	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	23.7		UG/L	19.1	1.0
		Barium, Total	25.5		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	58500		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	7.4		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	19.7		UG/L	3.8	1.0
		Potassium, Total	3680		UG/L	303	1.0
		Magnesium, Total	7700		UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	10200		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	239		UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	2.7	u	UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-004	B10L74	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	68.9		UG/L	19.1	1.0
		Barium, Total	25.1		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	56600		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	12.5		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	70.6		UG/L	3.8	1.0
		Potassium, Total	3620		UG/L	303	1.0
		Magnesium, Total	7520		UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	9740		UG/L	22.9	1.0
		Nickel, Total	13.4		UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	268		UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	2.7	u	UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	B10LF8	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	52.2		UG/L	19.1	1.0
		Barium, Total	38.9		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	70800		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	27.4		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	28.4		UG/L	3.8	1.0
		Potassium, Total	4680		UG/L	303	1.0
		Magnesium, Total	11300		UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	14100		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	303		UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	4.3		UG/L	2.7	1.0

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INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-006	B10LF9	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	86.3		UG/L	19.1	1.0
		Barium, Total	38.4		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	66200		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	32.0		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	127		UG/L	3.8	1.0
		Potassium, Total	4660		UG/L	303	1.0
		Magnesium, Total	11300		UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	13800		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	281		UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	7.0		UG/L	2.7	1.0

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INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-007	B10L85	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	30.9		UG/L	19.1	1.0
		Barium, Total	57.2		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	52300		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	103		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	54.2		UG/L	3.8	1.0
		Potassium, Total	5250		UG/L	303	1.0
		Magnesium, Total	9150		UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	69100		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	256		UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	7.8		UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-008	B10L86	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	40.4		UG/L	19.1	1.0
		Barium, Total	60.8		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	52100		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	131		UG/L	4.9	1.0
		Copper, Total	2.7		UG/L	2.6	1.0
		Iron, Total	948		UG/L	3.8	1.0
		Potassium, Total	5270		UG/L	303	1.0
		Magnesium, Total	9230		UG/L	27.4	1.0
		Manganese, Total	17.7		UG/L	2.3	1.0
		Sodium, Total	67700		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	251		UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	24.2		UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-009	B10L81	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	23.8		UG/L	19.1	1.0
		Barium, Total	63.0		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	66700		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	78.0		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	20.9		UG/L	3.8	1.0
		Potassium, Total	5590		UG/L	303	1.0
		Magnesium, Total	12300		UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	17300		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	291		UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	5.9		UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-010	B10L82	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	19.1	u	UG/L	19.1	1.0
		Barium, Total	61.2		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	64200		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	80.3		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	232		UG/L	3.8	1.0
		Potassium, Total	5270		UG/L	303	1.0
		Magnesium, Total	11900		UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	17100		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	294		UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	2.7	u	UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-011	B10LB9	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	32.5		UG/L	19.1	1.0
		Barium, Total	35.6		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	58300		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	18.2		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	17.8		UG/L	3.8	1.0
		Potassium, Total	5670		UG/L	303	1.0
		Magnesium, Total	12400		UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	21300		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	264		UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	4.0		UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-012	B10LC0	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	133		UG/L	19.1	1.0
		Barium, Total	38.1		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	58600		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	28.5		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	448		UG/L	3.8	1.0
		Potassium, Total	5680		UG/L	303	1.0
		Magnesium, Total	12900		UG/L	27.4	1.0
		Manganese, Total	22.6		UG/L	2.3	1.0
		Sodium, Total	22000		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	262		UG/L	5.5	1.0
		Vanadium, Total	5.4		UG/L	4.8	1.0
		Zinc, Total	13.2		UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-013	B10L89	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	19.1	u	UG/L	19.1	1.0
		Barium, Total	59.1		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	56400		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	56.7		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	72.2		UG/L	3.8	1.0
		Potassium, Total	4890		UG/L	303	1.0
		Magnesium, Total	11800		UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	10800		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	268		UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	56.0		UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-014	B10L90	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	128		UG/L	19.1	1.0
		Barium, Total	59.2		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	57700		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	71.1		UG/L	4.9	1.0
		Copper, Total	3.1		UG/L	2.6	1.0
		Iron, Total	419		UG/L	3.8	1.0
		Potassium, Total	4950		UG/L	303	1.0
		Magnesium, Total	11600		UG/L	27.4	1.0
		Manganese, Total	18.9		UG/L	2.3	1.0
		Sodium, Total	10500		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	18.9		UG/L	17.0	1.0
		Strontium, Total	258		UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	73.7		UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-015	B10L93	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	52.3		UG/L	19.1	1.0
		Barium, Total	60.0		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	62800		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	65.4		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	96.2		UG/L	3.8	1.0
		Potassium, Total	5210		UG/L	303	1.0
		Magnesium, Total	12300		UG/L	27.4	1.0
		Manganese, Total	10.3		UG/L	2.3	1.0
		Sodium, Total	11000		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	292		UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	66.9		UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-016	B10L94	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	175		UG/L	19.1	1.0
		Barium, Total	55.8		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	60000		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	6.3		UG/L	5.6	1.0
		Chromium, Total	81.5		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	562		UG/L	3.8	1.0
		Potassium, Total	4780		UG/L	303	1.0
		Magnesium, Total	11300		UG/L	27.4	1.0
		Manganese, Total	21.1		UG/L	2.3	1.0
		Sodium, Total	9950		UG/L	22.9	1.0
		Nickel, Total	14.4		UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	282		UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	77.4		UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-017	B10LM6	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	19.1		UG/L	19.1	1.0
		Barium, Total	38.7		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	64800		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	38.3		UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	21.9		UG/L	3.8	1.0
		Potassium, Total	5780		UG/L	303	1.0
		Magnesium, Total	11900		UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	18800		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	302		UG/L	5.5	1.0
		Vanadium, Total	5.4		UG/L	4.8	1.0
		Zinc, Total	2.7	u	UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-018	B10LM7	Silver, Total	2.6		UG/L	2.5	1.0
		Aluminum, Total	83.1		UG/L	19.1	1.0
		Barium, Total	39.6		UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	65700		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	51.0		UG/L	4.9	1.0
		Copper, Total	2.8		UG/L	2.6	1.0
		Iron, Total	183		UG/L	3.8	1.0
		Potassium, Total	5370		UG/L	303	1.0
		Magnesium, Total	12300		UG/L	27.4	1.0
		Manganese, Total	3.5		UG/L	2.3	1.0
		Sodium, Total	19300		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	303		UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	7.8		UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-019	B10LN0	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	41.1		UG/L	19.1	1.0
		Barium, Total	3.0	u	UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	49.0		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	4.9	u	UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	12.5		UG/L	3.8	1.0
		Potassium, Total	303	u	UG/L	303	1.0
		Magnesium, Total	27.4	u	UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	139		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	5.5	u	UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	2.7	u	UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-020	B10LN1	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	19.1	u	UG/L	19.1	1.0
		Barium, Total	3.0	u	UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	59.7		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	4.9	u	UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	5.7		UG/L	3.8	1.0
		Potassium, Total	303	u	UG/L	303	1.0
		Magnesium, Total	27.4	u	UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	165		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	5.5	u	UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	9.2		UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS METHOD BLANK DATA SUMMARY PAGE 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	99L1810-MB1	Silver, Total	2.5	u	UG/L	2.5	1.0
		Aluminum, Total	19.1	u	UG/L	19.1	1.0
		Barium, Total	3.0	u	UG/L	3.0	1.0
		Beryllium, Total	0.60	u	UG/L	0.60	1.0
		Calcium, Total	39.8		UG/L	15.4	1.0
		Cadmium, Total	3.4	u	UG/L	3.4	1.0
		Cobalt, Total	5.6	u	UG/L	5.6	1.0
		Chromium, Total	4.9	u	UG/L	4.9	1.0
		Copper, Total	2.6	u	UG/L	2.6	1.0
		Iron, Total	8.7		UG/L	3.8	1.0
		Potassium, Total	303	u	UG/L	303	1.0
		Magnesium, Total	27.4	u	UG/L	27.4	1.0
		Manganese, Total	2.3	u	UG/L	2.3	1.0
		Sodium, Total	34.7		UG/L	22.9	1.0
		Nickel, Total	12.5	u	UG/L	12.5	1.0
		Antimony, Total	17.0	u	UG/L	17.0	1.0
		Strontium, Total	5.5	u	UG/L	5.5	1.0
		Vanadium, Total	4.8	u	UG/L	4.8	1.0
		Zinc, Total	4.7		UG/L	2.7	1.0

Recra LabNet - Lionville

INORGANICS ACCURACY REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	B10LT4	Silver, Total	46.4	2.5 u	50.0	92.8	1.0
		Aluminum, Total	1940	25.1	2000	95.9	1.0
		Barium, Total	1920	28.6	2000	94.6	1.0
		Beryllium, Total	47.0	0.60u	50.0	94.0	1.0
		Calcium, Total	55100	30400	25000	98.8	1.0
		Cadmium, Total	47.7	3.4 u	50.0	95.4	1.0
		Cobalt, Total	469	5.6 u	500	93.9	1.0
		Chromium, Total	331	147	200	92.3	1.0
		Copper, Total	232	2.6 u	250	93.0	1.0
		Iron, Total	952	15.0	1000	93.7	1.0
		Potassium, Total	28300	4400	25000	95.6	1.0
		Magnesium, Total	34700	10800	25000	95.8	1.0
		Manganese, Total	478	2.3 u	500	95.5	1.0
		Sodium, Total	28100	4040	25000	96.2	1.0
		Nickel, Total	474	12.5 u	500	94.8	1.0
		Antimony, Total	490	17.0 u	500	98.0	1.0
		Strontium, Total	1180	226	1000	95.5	1.0
		Vanadium, Total	486	21.1	500	93.0	1.0
		Zinc, Total	464	3.6	500	92.2	1.0

Recra LabNet - Lionville

INORGANICS PRECISION REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	B10LT4	Silver, Total	2.5 u	2.5 u	NC	1.0
		Aluminum, Total	25.1	21.1	17.3	1.0
		Barium, Total	28.6	29.1	1.7	1.0
		Beryllium, Total	0.60u	0.60u	NC	1.0
		Calcium, Total	30400	30800	1.2	1.0
		Cadmium, Total	3.4 u	3.4 u	NC	1.0
		Cobalt, Total	5.6 u	5.6 u	NC	1.0
		Chromium, Total	147	148	0.81	1.0
		Copper, Total	2.6 u	2.6 u	NC	1.0
		Iron, Total	15.0	8.1	59.7	1.0
		Potassium, Total	4400	4440	1.0	1.0
		Magnesium, Total	10800	10800	0.74	1.0
		Manganese, Total	2.3 u	2.3 u	NC	1.0
		Sodium, Total	4040	4060	0.66	1.0
		Nickel, Total	12.5 u	12.5 u	NC	1.0
		Antimony, Total	17.0 u	17.0 u	NC	1.0
		Strontium, Total	226	207	8.4	1.0
		Vanadium, Total	21.1	20.9	0.95	1.0
		Zinc, Total	3.6	2.7 u	~~NC~~ 200	1.0

1/04/01

Recra LabNet - Lionville

INORGANICS LABORATORY CONTROL STANDARDS REPORT 01/04/01

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	99L1810-LC1	Silver, LCS	476	500	UG/L	95.3
		Aluminum, LCS	5020	5000	UG/L	100.5
		Barium, LCS	4810	5000	UG/L	96.3
		Beryllium, LCS	239	250	UG/L	95.6
		Calcium, LCS	24200	25000	UG/L	96.7
		Cadmium, LCS	240	250	UG/L	96.1
		Cobalt, LCS	2420	2500	UG/L	96.6
		Chromium, LCS	475	500	UG/L	95.0
		Copper, LCS	1190	1250	UG/L	95.3
		Iron, LCS	4950	5000	UG/L	99.0
		Potassium, LCS	23700	25000	UG/L	94.8
		Magnesium, LCS	24100	25000	UG/L	96.5
		Manganese, LCS	720	750	UG/L	96.0
		Sodium, LCS	24200	25000	UG/L	97.0
		Nickel, LCS	1960	2000	UG/L	98.0
		Antimony, LCS	2860	3000	UG/L	95.3
		Strontium, LCS	4620	5000	UG/L	92.3
		Vanadium, LCS	2390	2500	UG/L	95.4
		Zinc, LCS	957	1000	UG/L	95.7

RECRA LabNet Use Only

0011L228

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: FWU-HANFORD C01-008

Est. Final Proj. Sampling Date:

Project #: 10985-001-001-9999-00

Project Contact/Phone #:

RECRA Project Manager: OJ

QC: Spec Del: Std TAT: 30 day

Date Rec'd: 11-10-00 Date Due: 12-10-00

Account #:

		A	B
Refrigerator #		S	S
#/Type Container	Liquid	1PL	1PL
	Solid		
Volume	Liquid	500	500
	Solid		
Preservatives		HNO3	—

ANALYSES REQUESTED → ORGANIC: VOA, BNA, Pest/PCB, Herb; INORG: Metal, CN, TC, AN

RECRA LabNet Use Only: Metal (1) ICP; TC (1) DI

MATRIX CODES: S - Soil; SE - Sediment; SO - Solid; SL - Sludge; W - Water; O - Oil; A - Air; DS - Drum Solids; DL - Drum Liquids; L - EP/TCLP Leachate; Wi - Wipe; X - Other; F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	Metal	TC
001	B10LT4			W	11-7-00	1247	1	
002	L5						1	1
003	73					1030	1	
004	74						1	1
005	F8					0909	1	
006	F9						1	1
007	85					1157	1	
008	86						1	1
009	81					1135	1	
010	82						1	1

Special Instructions: Saf C01-008

Run Matrix QC

DATE/REVISIONS:

Mrt (1) 1. Al, Ag, Ba, Be, Ca, Cd, Cr, Co, Cu, Fe, K, Mg,

1 2. Mn, Ni, Na, Sb, Sr, V, Zn

IC (1) 3. Cl, Br, Fl, NO2, NO3, PO4, SO4

4.

5.

6.

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	11/10/00	1005

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL REWRITTEN		

RECRA LabNet Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___ Airbill # See Below

2) Ambient or Chilled

3) Received in Good Condition (Y) or N

4) Labels Indicate Properly Preserved (Y) or N

5) Received Within Holding Times (Y) or N (NO2, NO3)

COC Tape was: 1) Present on Outer Package (Y) or N; 2) Unbroken on Outer Package (Y) or N; 3) Present on Sample (Y) or N; 4) Unbroken on Sample (Y) or N

COC Record Present Upon Sample Rec't (Y) or N

Cooler Temp. 5.6 °C

Discrepancies Between Samples Labels and COC Record? Y or (N)

NOTES:

F7K189P30581

RECRA LabNet Use Only

00111228

Custody Transfer Record/Lab Work Request

Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: TMU- Hanford C01-008

Est. Final Proj. Sampling Date:

Project #:

Project Contact/Phone #:

RECRA Project Manager:

QC: Del: TAT:

Date Rec'd: Date Due:

Account #:

		A	B
Refrigerator #		5	5
#/Type Container	Liquid	1L	1L
	Solid		
Volume	Liquid	500	500
	Solid		
Preservatives		HNO3	
ANALYSES REQUESTED	ORGANIC: VOA		
	ORGANIC: BNA		
	ORGANIC: Pest/PCB		
	ORGANIC: Herb		
	INORG: Metal	Metal	
	INORG: CN		
	INORG: TC Anions		TC Anions

RECRA LabNet Use Only

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	Metal	TC Anions
011	B10L B9			W	11/10/00	1035	1	
012	C0					1	1	1
013	B9					1020	1	
014	90					1	1	1
015	93					1020	1	
016	94					1	1	1
017	M6					0933	1	
018	M7					1	1	1
019	N0					0800	1	
020	N1					1	1	1

Special Instructions:

DATE/REVISIONS:

1.
2.
3.
4.
5.
6.

RECRA LabNet Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Cooler Temp ___ °C

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	11/10/00	1005

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SDG H1130

C.O.C. # C01-008-92

Page 1 of 1

Collector: D. P. CONNOLLY	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING NOVEMBER 2000	Logbook No.: WM-SAWS-H39	Ice Chest No.: SML-242 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4235-7954-0382
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L73 (F)		W	11/7/00	1030	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L74		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L74		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10L74		W			1x20-mL P	Activity Scan	None
B10L74		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10L74		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10L74		W			1x250-mL P	Tritium - H3	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. P. CONNOLLY			11-7-00	Fed EX			11/07/00
FED EX P12088			11/08/00	E. Segura			11/08/00
JR Corso			11-9-00 16:00	Fed Ex			11-9-00
Fed Ex			11/10/00 1005	[illegible]			11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

45

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SDG H1130

C.O.C. # C01-008-102

Page 1 of 1

Collector: D. P. CONNOLLY	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING NOVEMBER 2000	Logbook No.: WM-SAWS-H 39	Ice Chest No.: SML-242 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4255 7954 0382
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10LF8 (F)		W	11/7/00	0909	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LF9		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LF9		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10LF9		W			3x20-mL P	Activity Scan	None
B10LF9		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10LF9		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10LF9		W			1x250-mL P	Tritium - H3	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	D. P. CONNOLLY		11-7-00 1430	Fed Ex			11/07/00
Fed-Express			11/08/00	E. Pegmer			11/08/00
J R Corso			11-9-00 16:00	Fed Ex			11-9-00
Fed Ex			11/10/00 1005	V. Hernandez			11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

40

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SDG 41130

C.O.C. # C01-008-110

Page 1 of 1

Collector: D. P. CONNOLLY	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING NOVEMBER 2000	Logbook No.: WM-SAWS-439	Ice Chest No.: SMC 242 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT VEHICLE	Bill of Lading/Air Bill No.: 4235-7954-0382
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L85 (F)		W	11/7/00	1157	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L86		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L86		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10L86		W			1x20-mL P	Activity Scan	None
B10L86		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10L86		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10L86		W			2x1000-mL G/P	*Strontium-89,90 – Sr-90	HNO3 to pH <2
B10L86		W			1x1000-mL G/P	Technetium-99	HCl to pH <2
B10L86		W			1x250-mL P	Tritium - H3	None
B10L86		W			1x100-mL G/P	Total Uranium	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	D. P. CONNOLLY		11-7-00 1430	Fed Ex			11/07/00
Fed-Ex Express			11/08/00 1040	E. Segure			11/08/00
JR Porso			11-9-00 16:00	Fed Ex			11-9-00
Fed Ex			11/10/00 1005	C. Hennessy			11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SOG 41130

C.O.C. # C01-008-128

Page 1 of 1

Collector: R.T SICKLE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING NOVEMBER, 2000	Logbook No.: WM-SAWS H 38	Ice Chest No.: 67 SML 260 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4235-7954/-0371
Protocol: CERCLA	Date Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L81 (F)		W	11-7-00	1135	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L82		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L82		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10L82		W			1x20-mL P	Activity Scan	None
B10L82		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10L82		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10L82		W			2x1000-mL G/P	Strontium-89,90 -- Sr-90	HNO3 to pH <2
B10L82		W			1x1000-mL G/P	Technetium-99	HCl to pH <2
B10L82		W			1x250-mL P	Tritium - H3	None
B10L82		W			1x100-mL G/P	Total Uranium	HNO3 to pH <2

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
R.T SICKLE	NOV 07 2000	FED X	11/07/00
FED-Express	11/08/00 10 Am	E. Noguera	11/08/00 10 Am
JR Corso	11-9-00 16:00	Fed Ex	11-9-00
Fed Ex	11/10/00 1005	H. Hernandez	11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SDW H1130

C.O.C. # C01-008-132

Page 1 of 1

Collector: R.T SICKLE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER, 2000	Logbook No.: WIM-SHL-S H 36	Ice Chest No.: 67 SML 260 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT VEHICLE	Bill of Lading/Air Bill No.: 4235 7954 0371
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
•• ••

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10LB9 (F)		W	11-7-00	1035	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LC0		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LC0		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10LC0		W			1x20-mL P	Activity Scan	None
B10LC0		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10LC0		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10LC0		W			1x250-mL P	Tritium - H3	None

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
R.T SICKLE	NOV 07 2000	FEDX	11/07/00
FED. EXP12058	11/08/00	E. Pegrum	11/08/00 10:Am
JR Corso JRCorso	11-9-00 16:00	Fed Ex	11-9-00
Fed Ex	11/10/00 1005	C. Hennig	11/10/00 1005

Matrix *

S = Soil		DS = Drum Soli	
SE = Sediment		DL = Drum Liqu	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab prodedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SDG H1130

C.O.C. # C01-008-140

Page 1 of 1

Collector: KB HULSE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code: 1159 pm 11/7/00
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER 2000	Logbook No.: WM SHWS-H37	Ice Chest No.: 68 BML-161 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT VEHICLE	Bill of Lading/Air Bill No.: 4235 7954 0408
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L89 (F)		W	11/7/00	1020	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L90		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L90		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10L90		W			1x20-mL P	Activity Scan	None
B10L90		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10L90		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10L90		W			2x1000-mL G/P	Strontium-89,90 -- Sr-90	HNO3 to pH <2
B10L90		W			1x1000-mL G/P	Technetium-99	HCl to pH <2
B10L90		W			1x250-mL P	Tritium - H3	None
B10L90		W			1x100-mL G/P	Total Uranium	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
KB HULSE			NOV 07 2000 1430	FEDEX			11-7-00
Fed Ex			11-8-00 10:00	JR Corso			11-8-00 10:00
JR Corso			11-9-00 16:00	Fed Ex			11-9-00
Fed Ex			11/10/00 1005	V. Hernandez			11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SDG 61130

C.O.C. # C01-008-141

Page 1 of 1

Collector: KB HULSE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code: 45A 11/2/00
Project Title: 100HR3 IAM (1&2) GW MONITORING NOVEMBER 2000	Logbook No.: TWM-SHWS-H37	Ice Chest No.: 68 SMC-HEI Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4235 7954 0408
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L93 (F)		W	11/7/00	1020	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L94		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L94		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10L94		W			1x20-mL P	Activity Scan	None
B10L94		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10L94		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10L94		W			2x1000-mL G/P	Strontium-89,90 – Sr-90	HNO3 to pH <2
B10L94		W			1x1000-mL G/P	Technetium-99	HCl to pH <2
B10L94		W			1x250-mL P	Tritium - H3	None
B10L94		W			1x100-mL G/P	Total Uranium	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
KB HULSE		KB Hulse	11-07-00 1430	FEDEX			11-7-00
Fed Ex			11-8-00 10:10	JR Corso		JR Corso	11-8-00 10:10
JR Corso		JR Corso	11-9-00 16:00	Fed Ex			11-9-00
Fed Ex			11/10/00 1005	Vicki Hernandez			11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SOG H1130

C.O.C. # C01-008-144

Page 1 of 1

Collector: KB HULSE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER, 2000	Logbook No.: WMSHWS-H37	Ice Chest No.: 69 MC-161 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4235-7954-0393
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10LM6 (F)		W	11/7/00	0933	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LM7		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LM7		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10LM7		W			1x20-mL P	Activity Scan	None
B10LM7		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10LM7		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10LM7		W			1x250-mL P	Tritium - H3	None

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
KB HULSE / KB Hulse	NOV 07 2000 14:30	FEDEX	11-7-00
Fed Ex	11-8-00 10:00	JR Corso / JR Corso	11-8-00 10:00
JR Corso / JR Corso	11-9-00 16:00	Fed Ex	11-9-00
Fed Ex	11/10/00 1005	V. Hewitt	11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

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PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SDG H1130

C.O.C. # C01-008-145

Page 1 of 1

Collector: KB HULSE	Contact/Requester: JH KESSNER	Telephone No.: (509) 875-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING NOVEMBER 2000	Logbook No.: WH-SMWS-H37	Ice Chest No.: 69 SMC-161 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT VEHICLE	Bill of Lading/Air Bill No.: 4235-7954-0393
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10LN0 (F)		W	11/7/00	0800	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LN1		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LN1		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10LN1		W			1x20-mL P	Activity Scan	None
B10LN1		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10LN1		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10LN1		W			1x250-mL P	Tritium - H3	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
KB HULSE			NOV 07 2000 1430	Fed EX			11-7-00
Fed Ex			11-8-00 10:00	JR Corso		JR Corso	11-8-00 10:00
JR Corso		JR Corso	11-9-00 16:00	Fed Ex			11-9-00
Fed Ex			11/10/00 1005	V. Hernandez			11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By Date/Time

ORIGINAL Dayes

SDR # B01-007
Revision #: 0
Date Initiated: 11/09/00

SAMPLE DISPOSITION RECORD

SAF: C01-008
OU: 100-HR-3
Project ID: HR3NOV00
Task ID: 1
Sampling Event: HR3NOV00

Laboratory: TMA/RECRA

Task Manager: J.V. Borghese

Sampling Information:
Number of Samples: 2
ID Numbers: B10LN1, B10LN2
Matrix: WATER
Collection Date: 11/07/00

Issue Background:

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

Type: Chain of Custody Problem

Description: No Sampling Time Indicated on Chain of Custody

Disposition:

Description: The chain of custody listed no sampling time for the listed samples. The samplers where contacted to determine if a sampling time could be extracted from their sampling logbooks. The sampling time for the listed samples was determined to be '08:00'.

Justification: Chains of custody and other sampling records are incomplete without a sampling date and time indicated for each sample listed on a chain of custody.

Approval Signatures:

S. J. Trent — 11/28/00
Project Coordinator (Print/Sign Name) — Date

J.V. Borghese — 11/30/00
Task Manager (Print/Sign Name) — Date

BHI-EE-109 (02/99)

JAN 2001
RECEIVED

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B10LT5						
BROMIDE BY IC	002	W	00LIC075	11/07/00	11/28/00	11/28/00
BROMIDE BY IC	002 REP	W	00LIC075	11/07/00	11/28/00	11/28/00
BROMIDE BY IC	002 MS	W	00LIC075	11/07/00	11/28/00	11/28/00
CHLORIDE BY IC	002	W	00LIC075	11/07/00	11/28/00	11/28/00
CHLORIDE BY IC	002 REP	W	00LIC075	11/07/00	11/28/00	11/28/00
CHLORIDE BY IC	002 MS	W	00LIC075	11/07/00	11/28/00	11/28/00
FLUORIDE BY IC	002	W	00LIC075	11/07/00	11/28/00	11/28/00
FLUORIDE BY IC	002 REP	W	00LIC075	11/07/00	11/28/00	11/28/00
FLUORIDE BY IC	002 MS	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRITE BY IC	002	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRITE BY IC	002 REP	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRITE BY IC	002 MS	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRATE BY IC	002	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRATE BY IC	002 REP	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRATE BY IC	002 MS	W	00LIC075	11/07/00	11/28/00	11/28/00
PHOSPHATE BY IC	002	W	00LIC075	11/07/00	11/28/00	11/28/00
PHOSPHATE BY IC	002 REP	W	00LIC075	11/07/00	11/28/00	11/28/00
PHOSPHATE BY IC	002 MS	W	00LIC075	11/07/00	11/28/00	11/28/00
SULFATE BY IC	002	W	00LIC075	11/07/00	11/28/00	11/28/00
SULFATE BY IC	002 REP	W	00LIC075	11/07/00	11/28/00	11/28/00
SULFATE BY IC	002 MS	W	00LIC075	11/07/00	11/28/00	11/28/00
B10L74						
BROMIDE BY IC	004	W	00LIC075	11/07/00	11/28/00	11/28/00
CHLORIDE BY IC	004	W	00LIC075	11/07/00	11/28/00	11/28/00
FLUORIDE BY IC	004	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRITE BY IC	004	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRATE BY IC	004	W	00LIC075	11/07/00	11/28/00	11/28/00
PHOSPHATE BY IC	004	W	00LIC075	11/07/00	11/28/00	11/28/00
SULFATE BY IC	004	W	00LIC075	11/07/00	11/28/00	11/28/00
B10LF9						
BROMIDE BY IC	006	W	00LIC075	11/07/00	11/28/00	11/28/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHLORIDE BY IC	006	W	00LIC075	11/07/00	11/28/00	11/28/00
FLUORIDE BY IC	006	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRITE BY IC	006	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRATE BY IC	006	W	00LIC075	11/07/00	11/28/00	11/28/00
PHOSPHATE BY IC	006	W	00LIC075	11/07/00	11/28/00	11/28/00
SULFATE BY IC	006	W	00LIC075	11/07/00	11/28/00	11/28/00
B10L86						
BROMIDE BY IC	008	W	00LIC075	11/07/00	11/28/00	11/28/00
CHLORIDE BY IC	008	W	00LIC075	11/07/00	11/28/00	11/28/00
FLUORIDE BY IC	008	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRITE BY IC	008	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRATE BY IC	008	W	00LIC075	11/07/00	11/28/00	11/28/00
PHOSPHATE BY IC	008	W	00LIC075	11/07/00	11/28/00	11/28/00
SULFATE BY IC	008	W	00LIC075	11/07/00	11/28/00	11/28/00
B10L82						
BROMIDE BY IC	010	W	00LIC075	11/07/00	11/28/00	11/28/00
CHLORIDE BY IC	010	W	00LIC075	11/07/00	11/28/00	11/28/00
FLUORIDE BY IC	010	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRITE BY IC	010	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRATE BY IC	010	W	00LIC075	11/07/00	11/28/00	11/28/00
PHOSPHATE BY IC	010	W	00LIC075	11/07/00	11/28/00	11/28/00
SULFATE BY IC	010	W	00LIC075	11/07/00	11/28/00	11/28/00
B10LC0						
BROMIDE BY IC	012	W	00LIC075	11/07/00	11/28/00	11/28/00
CHLORIDE BY IC	012	W	00LIC075	11/07/00	11/28/00	11/28/00
FLUORIDE BY IC	012	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRITE BY IC	012	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRATE BY IC	012	W	00LIC075	11/07/00	11/28/00	11/28/00
PHOSPHATE BY IC	012	W	00LIC075	11/07/00	11/28/00	11/28/00
SULFATE BY IC	012	W	00LIC075	11/07/00	11/28/00	11/28/00
B10L90						
BROMIDE BY IC	014	W	00LIC075	11/07/00	11/28/00	11/28/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHLORIDE BY IC	014	W	00LIC075	11/07/00	11/28/00	11/28/00
FLUORIDE BY IC	014	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRITE BY IC	014	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRATE BY IC	014	W	00LIC075	11/07/00	11/28/00	11/28/00
PHOSPHATE BY IC	014	W	00LIC075	11/07/00	11/28/00	11/28/00
SULFATE BY IC	014	W	00LIC075	11/07/00	11/28/00	11/28/00
B10L94						
BROMIDE BY IC	016	W	00LIC075	11/07/00	11/28/00	11/28/00
CHLORIDE BY IC	016	W	00LIC075	11/07/00	11/28/00	11/28/00
FLUORIDE BY IC	016	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRITE BY IC	016	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRATE BY IC	016	W	00LIC075	11/07/00	11/28/00	11/28/00
PHOSPHATE BY IC	016	W	00LIC075	11/07/00	11/28/00	11/28/00
SULFATE BY IC	016	W	00LIC075	11/07/00	11/28/00	11/28/00
B10LM7						
BROMIDE BY IC	018	W	00LIC075	11/07/00	11/28/00	11/28/00
CHLORIDE BY IC	018	W	00LIC075	11/07/00	11/28/00	11/28/00
FLUORIDE BY IC	018	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRITE BY IC	018	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRATE BY IC	018	W	00LIC075	11/07/00	11/28/00	11/28/00
PHOSPHATE BY IC	018	W	00LIC075	11/07/00	11/28/00	11/28/00
SULFATE BY IC	018	W	00LIC075	11/07/00	11/28/00	11/28/00
B10LN1						
BROMIDE BY IC	020	W	00LIC075	11/07/00	11/28/00	11/28/00
CHLORIDE BY IC	020	W	00LIC075	11/07/00	11/28/00	11/28/00
FLUORIDE BY IC	020	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRITE BY IC	020	W	00LIC075	11/07/00	11/28/00	11/28/00
NITRATE BY IC	020	W	00LIC075	11/07/00	11/28/00	11/28/00
PHOSPHATE BY IC	020	W	00LIC075	11/07/00	11/28/00	11/28/00
SULFATE BY IC	020	W	00LIC075	11/07/00	11/28/00	11/28/00

LAB QC:

BROMIDE BY IC	MB1	W	00LIC075	N/A	11/28/00	11/28/00

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD C01-008 H1130

DATE RECEIVED: 11/10/00 RFW LOT # :0011L228

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BROMIDE BY IC	MB1 BS	W	00LIC075	N/A	11/28/00	11/28/00
CHLORIDE BY IC	MB1	W	00LIC075	N/A	11/28/00	11/28/00
CHLORIDE BY IC	MB1 BS	W	00LIC075	N/A	11/28/00	11/28/00
FLUORIDE BY IC	MB1	W	00LIC075	N/A	11/28/00	11/28/00
FLUORIDE BY IC	MB1 BS	W	00LIC075	N/A	11/28/00	11/28/00
NITRITE BY IC	MB1	W	00LIC075	N/A	11/28/00	11/28/00
NITRITE BY IC	MB1 BS	W	00LIC075	N/A	11/28/00	11/28/00
NITRATE BY IC	MB1	W	00LIC075	N/A	11/28/00	11/28/00
NITRATE BY IC	MB1 BS	W	00LIC075	N/A	11/28/00	11/28/00
PHOSPHATE BY IC	MB1	W	00LIC075	N/A	11/28/00	11/28/00
PHOSPHATE BY IC	MB1 BS	W	00LIC075	N/A	11/28/00	11/28/00
SULFATE BY IC	MB1	W	00LIC075	N/A	11/28/00	11/28/00
SULFATE BY IC	MB1 BS	W	00LIC075	N/A	11/28/00	11/28/00

RECRA
ENVIRONMENTAL
INC.

Chemical and Environmental Measurement Information

Recra LabNet Philadelphia
Analytical Report

Client : TNU-HANFORD C01-008 H1130
RFW# : 0011L228

W.O. # : 10985-001-001-9999-00
Date Received: 11-10-00

INORGANIC CASE NARRATIVE

1. This narrative covers the analyses of 10 water samples.

2. The samples were prepared and analyzed in accordance with the method checked on the attached glossary.

3. Sample holding times as required by the method and/or contract were met with the exception of Nitrate, Nitrite and Phosphate which were received past hold.

4. The cooler temperature was recorded on the chain-of-custody.

5. The method blanks were within method criteria.

6. The Laboratory Control Samples (LCS) were within the laboratory control limits.

7. The matrix spike recoveries were within the 75-125% control limits.

8. The replicate analyses were within the 20% Relative Percent Difference (RPD) control limit.

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

for

J. Michael Taylor
VP, Laboratory General Manager
Lionville Laboratory

12-29-00
Date

njp\i11-228

The results presented in this report relate only to the analytical testing and conditions of the samples at receipt and during storage. All pages of this report are integral parts of the analytical data. Therefore, this report should only be reproduced in its entirety of 25 pages.

208 Welsh Pool Road • Lionville, PA 19341-1333 • (610) 280-3000 • Fax (610) 280-3041

Recra LabNet Philadelphia

WET CHEMISTRY

METHODS GLOSSARY FOR WATER SAMPLE ANALYSIS

	EPA /600	SW846	OTHER
Acidity	___ 305.1		
___Alkalinity ___Bicarbonate ___Carbonate	___ 310.1		
BOD	___ 405.1		___ 5210B (b)
Ion Chormatography:			
✓ Bromide ✓ Chloride ✓ Fluoride	✓ 300.0	___ 9056	
✓ Nitrate ✓ Nitrite ✓ Phosphate	✓ 300.0	___ 9056	
✓ Sulfate ___Formate ___Acetate ___Oxalate	✓ 300.0	___ 9056	
Chloride	___ 325.2	___ 9251	
Chorine, Residual	___ 330.5 (mod)		
Cyanide, Amenable to Chorination	___ 335.2	___ 9010B	
Cyanide, Total	___ 335.2	___ 9010B ___ 9014	___ ILMO4.0 (e)
Cyanide, Weak Acid Dissociable		___	___ 412 (a) ___ 4500CN-I (b
COD	___ 410.4(mod)		___ 5220C (b)
Color	___ 110.2		
Corrosivity by Coupon		___ 1110(mod)	
Chromium VI		___ 7196A	___ 3500Cr-D (b)
Fluoride	___ 340.2		___ 4500-FC
Hardness, Calcium	___ 215.2		
Hardness, Total	___ 130.2		
Iodide			___ ASTM D19P202 (1)
Surfactant	___ 425.1		
___Nitrate-Nitrite ___Nitrate ___Nitrite	___ 353.2		
Ammonia	___ 350.3		
Total___ Kjeldahl ___ Organic Nitrogen	___ 351.4		
Total___ Organic ___ Inorganic Carbon	___ 415.1	___ 9060	
Oil & Grease	___ 413.1	___ 9070	
___ pH ____ pH; paper	___ 150.1	___ 9040B ___ 9041A	
Petroleum Hydrocarbons, Total Recoverable	___ 418.1		
Phenol	___ 420.1 ___ 420.2	___ 9065 ___ 9066	
___Ortho ___Total Phosphate	___ 365.2		___ 4500-P B ___ C
Salinity			___ 210A (a) ___ 2520 (b)
Settleable Solids	___ 160.5		
Sulfide	___ 376.1 ___ 376.2	___ 9030B/9034 (acid soluble)	
Reactive ___Cyanide ___Sulfide		___ Section 7.3 (___9014___9030B)	
Silica	___ 370.1		
Sulfite	___ 377.1		
Sulfate	___ 375.4	___ 9038	
Specific Conductance	___ 120.1	___ 9050A	
Specific Gravity			___ D5057-90 ___ 213E (a)
Synthetic Precipitation Leach	___ 1312		
Total ___Dissolved ___Suspended ___Solids	160 ___.1 ___.2 ___.3		
Total Organic Halides	___ 450.1	___ 9020B	
Turbidity	___ 180.1		
Volatile Solids:			
___Total ___Dissolved ___Suspended	___ 160.4		

Other: **Method:**

Recra LabNet Philadelphia
METHOD REFERENCES AND DATA QUALIFIERS

DATA QUALIFIERS

U = Indicates that the parameter was not detected at or above the reported limit. The associated numerical value is the sample detection limit.

* = Indicates that the original sample result is greater than 4x the spike amount added.

ABBREVIATIONS

MB = Method or Preparation Blank.
MS = Matrix Spike.
MSD = Matrix Spike Duplicate.
REP = Sample Replicate
LC = Laboratory Control Sample.
NC = Not calculated.

A suffix of -R, -S, or -T following these codes indicate a replicate, spike or sample duplicate analysis respectively.

ANALYTICAL WET CHEMISTRY METHODS

1. ASTM Standard Methods.

2. USEPA Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020).

3. Test Methods for Evaluating Solid Waste (USEPA SW-846).

a. Standard Methods for the Examination of Water and Waste, 16 ed, (1983).

b. Standard Methods for the Examination of Water and Waste, 17 ed, (1989)/18ed (1992).

c. Method of Soil Analysis, Part 1, Physical and Mineralogical Methods, 2nd ed, (1986).

d. Method of Soil Analysis, Part 2, Chemical and Microbiological Properties, Am. Soc. Agron., Madison, WI (1965).

e. USEPA Contract Laboratory Program, Statement of Work for Inorganic Analysis.

f. Code of Federal Regulations.

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 12/06/00

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-002	B10LT5	Bromide by IC	0.25 u	MG/L	0.25	1.0
		Chloride by IC	2.7	MG/L	0.25	1.0
		Fluoride by IC	0.50 u	MG/L	0.50	1.0
		Nitrite by IC	0.25 u	MG/L	0.25	1.0
		Nitrate by IC	5.4	MG/L	0.25	1.0
		Phosphate by IC	0.25 u	MG/L	0.25	1.0
		Sulfate by IC	23.6	MG/L	1.2	5.0
-004	B10L74	Bromide by IC	0.50 u	MG/L	0.50	2.0
		Chloride by IC	18.0	MG/L	0.50	2.0
		Fluoride by IC	1.0 u	MG/L	1.0	2.0
		Nitrite by IC	0.50 u	MG/L	0.50	2.0
		Nitrate by IC	23	MG/L	1.2	5.0
		Phosphate by IC	0.50 u	MG/L	0.50	2.0
		Sulfate by IC	32.4	MG/L	1.2	5.0
-006	B10LF9	Bromide by IC	0.50 u	MG/L	0.50	2.0
		Chloride by IC	20.1	MG/L	2.5	10.0
		Fluoride by IC	1.0 u	MG/L	1.0	2.0
		Nitrite by IC	0.50 u	MG/L	0.50	2.0
		Nitrate by IC	38	MG/L	2.5	10
		Phosphate by IC	0.50 u	MG/L	0.50	2.0
		Sulfate by IC	53.8	MG/L	2.5	10.0
-008	B10L86	Bromide by IC	5.0 u	MG/L	5.0	20.0
		Chloride by IC	13.2	MG/L	0.50	2.0
		Fluoride by IC	1.0 u	MG/L	1.0	2.0
		Nitrite by IC	0.50 u	MG/L	0.50	2.0
		Nitrate by IC	150	MG/L	5.0	20
		Phosphate by IC	0.50 u	MG/L	0.50	2.0
		Sulfate by IC	60.4	MG/L	2.5	10.0
-010	B10L82	Bromide by IC	0.50 u	MG/L	0.50	2.0
		Chloride by IC	17.6	MG/L	0.50	2.0
		Fluoride by IC	1.0 u	MG/L	1.0	2.0
		Nitrite by IC	0.50 u	MG/L	0.50	2.0
		Nitrate by IC	44	MG/L	2.5	10
		Phosphate by IC	0.50 u	MG/L	0.50	2.0
		Sulfate by IC	63.8	MG/L	2.5	10.0
-012	B10LC0	Bromide by IC	0.50 u	MG/L	0.50	2.0

Recra LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 12/06/00

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-012	B10LC0	Chloride by IC	23.1	MG/L	1.2	5.0
		Fluoride by IC	1.0 u	MG/L	1.0	2.0
		Nitrite by IC	0.50 u	MG/L	0.50	2.0
		Nitrate by IC	41	MG/L	1.2	5.0
		Phosphate by IC	0.50 u	MG/L	0.50	2.0
		Sulfate by IC	67.9	MG/L	2.5	10.0
-014	B10L90	Bromide by IC	0.50 u	MG/L	0.50	2.0
		Chloride by IC	14.7	MG/L	0.50	2.0
		Fluoride by IC	1.0 u	MG/L	1.0	2.0
		Nitrite by IC	0.50 u	MG/L	0.50	2.0
		Nitrate by IC	35	MG/L	2.5	10
		Phosphate by IC	0.50 u	MG/L	0.50	2.0
		Sulfate by IC	56.0	MG/L	2.5	10.0
-016	B10L94	Bromide by IC	0.50 u	MG/L	0.50	2.0
		Chloride by IC	14.7	MG/L	0.50	2.0
		Fluoride by IC	1.0 u	MG/L	1.0	2.0
		Nitrite by IC	0.50 u	MG/L	0.50	2.0
		Nitrate by IC	35	MG/L	2.5	10
		Phosphate by IC	0.50 u	MG/L	0.50	2.0
		Sulfate by IC	56.5	MG/L	2.5	10.0
-018	B10LM7	Bromide by IC	0.50 u	MG/L	0.50	2.0
		Chloride by IC	20.6	MG/L	2.5	10.0
		Fluoride by IC	1.0 u	MG/L	1.0	2.0
		Nitrite by IC	0.50 u	MG/L	0.50	2.0
		Nitrate by IC	44	MG/L	2.5	10
		Phosphate by IC	0.50 u	MG/L	0.50	2.0
		Sulfate by IC	65.8	MG/L	2.5	10.0
-020	B10LN1	Bromide by IC	0.25 u	MG/L	0.25	1.0
		Chloride by IC	0.25 u	MG/L	0.25	1.0
		Fluoride by IC	0.50 u	MG/L	0.50	1.0
		Nitrite by IC	0.25 u	MG/L	0.25	1.0
		Nitrate by IC	0.25 u	MG/L	0.25	1.0
		Phosphate by IC	0.25 u	MG/L	0.25	1.0
		Sulfate by IC	0.25 u	MG/L	0.25	1.0

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INORGANICS METHOD BLANK DATA SUMMARY PAGE 12/06/00

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	00LIC075-MB1	Bromide by IC	0.25 u	MG/L	0.25	1.0
		Chloride by IC	0.25 u	MG/L	0.25	1.0
		Fluoride by IC	0.50 u	MG/L	0.50	1.0
		Nitrite by IC	0.25 u	MG/L	0.25	1.0
		Nitrate by IC	0.25 u	MG/L	0.25	1.0
		Phosphate by IC	0.25 u	MG/L	0.25	1.0
		Sulfate by IC	0.25 u	MG/L	0.25	1.0

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INORGANICS ACCURACY REPORT 12/06/00

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-002	B10LT5	Bromide by IC	9.8	0.00	10.0	97.8	2.0
		Chloride by IC	12.6	2.7	10.0	98.6	2.0
		Fluoride by IC	21.1	0.00	20.0	105.3	2.0
		Nitrite by IC	10	0.25u	10	100.7	2.0
		Nitrate by IC	16	5.4	10	103.9	2.0
		Phosphate by IC	9.6	0.25u	10.0	96.5	2.0
		Sulfate by IC	74.1	23.6	50.0	101.0	10.0
BLANK10	00LIC075-MB1	Bromide by IC	4.8	0.25u	5.0	96.8	1.0
		Chloride by IC	4.9	0.25u	5.0	98.0	1.0
		Fluoride by IC	10.7	0.50u	10.0	107.0	1.0
		Nitrite by IC	5.0	0.25u	5.0	99.2	1.0
		Nitrate by IC	4.9	0.25u	5.0	98.1	1.0
		Phosphate by IC	5.0	0.25u	5.0	99.5	1.0
		Sulfate by IC	4.8	0.25u	5.0	96.7	1.0

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INORGANICS PRECISION REPORT 12/06/00

CLIENT: TNUHANFORD C01-008 H1130 RECRA LOT #: 0011L228

WORK ORDER: 10985-001-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-002REP	B10LT5	Bromide by IC	0.25u	0.25u	NC	1.0
		Chloride by IC	2.7	2.8	1.8	1.0
		Fluoride by IC	0.50u	0.50u	NC	1.0
		Nitrite by IC	0.25u	0.25u	NC	1.0
		Nitrate by IC	5.4	5.3	0.43	1.0
		Phosphate by IC	0.25u	0.25u	NC	1.0
		Sulfate by IC	23.6	23.5	0.54	5.0

RECRA LabNet Use Only

0011L228

Custody Transfer Record/Lab Work Request

Page 1 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: Nu-Hanford C01-008

Est. Final Proj. Sampling Date:

Project #: 10985-001-001-9999-00

Project Contact/Phone #:

RECRA Project Manager: Al

QC: Spec Del: Std TAT: 30 day

Date Rec'd: 11-10-00 Date Due: 12-10-00

Account #:

Refrigerator #:

#/Type Container: Liquid / Solid

Volume: Liquid / Solid

Preservatives

ANALYSES REQUESTED

	A	B
#/Type Container	S	S
	1PL	1PL
Volume	500	500
Preservatives	HNO3	—
ORGANIC: VOA		
ORGANIC: BNA		
ORGANIC: Pest/PCB		
ORGANIC: Herb		
INORG: Metal		TC
INORG: CN		AN
RECRA LabNet Use Only	Met (1)	IC (1)

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	A Met	B IC
001	BIOLT4			W	11-7-00	1347	1	
002	15						1	1
003	73					1030	1	
004	74						1	1
005	F8					0909	1	
006	F9						1	1
007	85					1157	1	
008	86						1	1
009	81					1135	1	
010	82						1	1

Special Instructions: Saf C01-008

Run Matrix QC

DATE/REVISIONS:

Met (1) 1. Al, Ag, Ba, Be, Ca, Cd, Cr, Co, Cu, Fe, K, Mg,

1 2. Mn, Ni, Na, Sb, Sr, V, Zn

IC (1) 3. Cl, Br, F1, NO2, NO3, PO4, SO4

4.

5.

6.

RECRA LabNet Use Only

Samples were: 1) Shipped ✓ or Hand Delivered ___

Airbill # Saf Bebo

2) Ambient or Chilled

3) Received in Good Condition (Y) or N

4) Labels Indicate Properly Preserved (Y) or N

5) Received Within Holding Times (Y) or N NO2 NO3 PO4

COC Tape was: 1) Present on Outer Package (Y) or N

2) Unbroken on Outer Package (Y) or N

3) Present on Sample (Y) or N

4) Unbroken on Sample (Y) or N

COC Record Present Upon Sample Rec'd (Y) or N

Cooler Temp. 5-6 °C

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	11/10/00	1005

Relinquished by	Received by	Date	Time
COMPOSITE WASTE	ORIGINAL		

Discrepancies Between Samples Labels and COC Record? Y or (N)

NOTES:

RECRA LabNet Use Only

00111228

Custody Transfer Record/Lab Work Request

Page 2 of 2

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

RECRA LabNet

Client: TMU- Hanford C01-008

Est. Final Proj. Sampling Date:

Project #:

Project Contact/Phone #:

RECRA Project Manager:

QC: Del: TAT:

Date Rec'd: Date Due:

Account #:

Refrigerator #											A 5		B 5					
#/Type Container	Liquid										1L		1L					
	Solid																	
Volume	Liquid										500		500					
	Solid																	
Preservatives											HNO3							
ANALYSES REQUESTED		ORGANIC									INORG							
		VOA	BNA	Pest/PCB	Herb						Metal	CN	TC					
		RECRA LabNet Use Only																
											Met (1)		Det (1)					

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	Metal	Det
011	B10L B9			W	11/10/00	1035	1	
012	C0					1	1	1
013	B9					1020	1	
014	90					1	1	1
015	93					1020	1	
016	94					1	1	1
017	M6					0933	1	
018	M7					1	1	1
019	M8					0800	1	
020	N1					1	1	1

Special Instructions:

DATE/REVISIONS:

1.
2.
3.
4.
5.
6.

RECRA LabNet Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ___
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec'd Y or N

Cooler Temp. ___ °C

Relinquished by	Received by	Date	Time
[illegible]	[illegible]	11/10/00	1005

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

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PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SDG H1130

C.O.C. # C01-008-92

Page 1 of 1

Collector: D. P. CONNOLLY	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER, 2000	Logbook No.: WM-SAWS-H39	Ice Chest No.: SML-242 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4235-7954-0382
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L73 (F)		W	11/7/00	1030	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L74		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L74		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10L74		W			1x20-mL P	Activity Scan	None
B10L74		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10L74		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10L74		W			1x250-mL P	Tritium - H3	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	D.P. CONNOLLY		11-7-00	Fed EX			11/07/00
FED EX P12083			11/08/00	E. Segurro			11/08/00 10Am
JR Corso			11-9-00 16:00	Fed Ex			11-9-00
Fed Ex			11/10/00 1005				11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SDG H1130

C.O.C. # C01-008-102

Page 1 of 1

Collector: D. P. CONNOLLY	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER, 2000	Logbook No.: WM-SAWS-H39	Ice Chest No.: SML-242 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4255 7954 0382
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10LF8 (F)		W	11/7/00	0909	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LF9		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LF9		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10LF9		W			1x20-mL P	Activity Scan	None
B10LF9		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10LF9		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10LF9		W			1x250-mL P	Tritium - H3	None

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
D. P. CONNOLLY / [signature]	11-7-00 1430	Fed Ex	11/07/00
FED-Express	11/08/00	E. Pegsur	11/05/00
JR Corso / [signature]	11-9-00 16:00	Fed Ex	11-9-00
Fed Ex	11/10/00 1005	V. Hernandez	11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) | Disposed By | Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SDG H1130

C.O.C. # C01-008-110

Page 1 of 1

Collector: D. P. CONNOLLY	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER 2000	Logbook No.: WIN-SAWS-H39	Ice Chest No.: SMC 142 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4235-7954-0382
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L85 (F)		W	11/7/00	1157	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L86		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L86		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10L86		W			1x20-mL P	Activity Scan	None
B10L86		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10L86		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10L86		W			2x1000-mL G/P	*Strontium-89,90 -- Sr-90	HNO3 to pH <2
B10L86		W			1x1000-mL G/P	Technetium-99	HCl to pH <2
B10L86		W			1x250-mL P	Tritium - H3	None
B10L86		W			1x100-mL G/P	Total Uranium	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	D. P. CONNOLLY	D Conn	11-7-00 1430	Fed Ex			11/07/00
Fed Ex Express			11/08/00 1000	E. Segura			11/08/00
JR Corso		JR Corso	11-9-00 1610	Fed Ex			11-9-00
Fed Ex			11/10/00 1005	C. Hernandez			11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SDG 41130

C.O.C. # C01-008-128

Page 1 of 1

Collector: R.T SICKLE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER, 2000	Logbook No.: WM-SAWS H 38	Ice Chest No.: 67 SML 260 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 4235-7954-0371
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L81 (F)		W	11-7-00	1135	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L82		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L82		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10L82		W			1x20-mL P	Activity Scan	None
B10L82		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10L82		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10L82		W			2x1000-mL G/P	Strontium-89,90 -- Sr-90	HNO3 to pH <2
B10L82		W			1x1000-mL G/P	Technetium-99	HCl to pH <2
B10L82		W			1x250-mL P	Tritium - H3	None
B10L82		W			1x100-mL G/P	Total Uranium	HNO3 to pH <2

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
R.T SICKLE	NOV 07 2000	FEDX	11/07/00
FED-Express	11/08/00 10Am	E. Negrin	11/08/00 10.Am
JR Corso JRCorso	11-9-00 16:00	Fed Ex	11-9-00
Fed Ex	11/10/00 1005	K. Hernandez	11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) | Disposed By | Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Chem SDG H1130

C.O.C. # C01-008-132

Page 1 of 1

Collector: R.T SICKLE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING NOVEMBER, 2000	Logbook No.: WIM-SHLS H 36	Ice Chest No.: 67 SMC 260 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT VEHICLE	Bill of Lading/Air Bill No.: 4235 7954 0371
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
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SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10LB9 (F)		W	11-7-00	1035	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LC0		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LC0		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10LC0		W			1x20-mL P	Activity Scan	None
B10LC0		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10LC0		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10LC0		W			1x250-mL P	Tritium - H3	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
R.T SICKLE			NOV 07 2000	FEDX			11/07/00
FED-EXP12058			11/08/00	E.	Pegrow		11/08/00 10:1m
JR Corso	JRCorso		11-9-00 16:00	Fed Ex			11-9-00
Fed Ex			11/10/00 1005	C. Hernandez			11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SDG H1130

C.O.C. # C01-008-140

Page 1 of 1

Collector: KB HULSE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN: FAX:
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code: 159 PEH 11/7/00
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER, 2000	Logbook No.: WM SAWS-H37	Ice Chest No.: 68 BML-161 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT VEHICLE	Bill of Lading/Air Bill No.: 4235 7954 0408
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L89 (F)		W	11/7/00	1020	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L90		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L90		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10L90		W			1x20-mL P	Activity Scan	None
B10L90		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10L90		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10L90		W			2x1000-mL G/P	Strontium-89,90 -- Sr-90	HNO3 to pH <2
B10L90		W			1x1000-mL G/P	Technetium-99	HCl to pH <2
B10L90		W			1x250-mL P	Tritium - H3	None
B10L90		W			1x100-mL G/P	Total Uranium	HNO3 to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
KB HULSE			NOV 07 2000 1430	FEDEX			11-7-00
Fed Ex			11-8-00 10:00	JR Corso			11-8-00 10:00
JR Corso			11-9-00 16:00	Fed Ex			11-9-00
Fed Ex			11/10/00 1005	V. Hernandez			11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SDG 41130

C.O.C. # C01-008-141

Page 1 of 1

Collector: KB HULSE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code: 4SA 11/7/00
Project Title: 100HR3 IAM (1&2) GW MONITORING NOVEMBER 2000	Logbook No.: WM-SAWS-437	Ice Chest No.: 68 SML-161 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT VEHICLE	Bill of Lading/Air Bill No.: 4235 7454 0408
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
•• ••

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10L93 (F)		W	11/7/00	1020	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L94		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10L94		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10L94		W			1x20-mL P	Activity Scan	None
B10L94		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10L94		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10L94		W			2x1000-mL G/P	Strontium-89,90 -- Sr-90	HNO3 to pH <2
B10L94		W			1x1000-mL G/P	Technetium-99	HCl to pH <2
B10L94		W			1x250-mL P	Tritium - H3	None
B10L94		W			1x100-mL G/P	Total Uranium	HNO3 to pH <2

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
KB HULSE	11-07-00 1430	FEDEX	11-7-00
Fed Ex	11-8-00 10:10	JR Corso	11-8-2000 16:00
JR Corso	11-9-00 16:00	Fed Ex	11-9-00
Fed Ex	11/10/00 1005	Vicki Hernandez	11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SOG H1130

C.O.C. # C01-008-144

Page 1 of 1

Collector: KB HULSE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING, NOVEMBER, 2000	Logbook No.: WMSHWS-H37	Ice Chest No.: 69 SMC-161 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT VEHICLE	Bill of Lading/Air Bill No.: 4235-7954-0393
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10LM6 (F)		W	11/7/00	0933	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LM7		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LM7		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10LM7		W			1x20-mL P	Activity Scan	None
B10LM7		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10LM7		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10LM7		W			1x250-mL P	Tritium - H3	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
KB HULSE			NOV 07 2000 14:30	FedEx			11-7-00
Fed Ex			11-8-00 10:00	JR Corso		JR Corso	11-8-00 10:00
JR Corso		JR Corso	11-9-00 16:00	Fed Ex			11-9-00
Fed Ex			11/10/00 1005				11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By

Date/Time

PNNL	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST CHEM SDG H1130	C.O.C. # C01-008-145 Page 1 of 1

Collector: KB HULSE	Contact/Requester: JH KESSNER	Telephone No.: (509) 375-4688 MSIN FAX
SAF No.: C01-008	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: 100HR3 IAM (1&2) GW MONITORING NOVEMBER, 2000	Logbook No.: WM-SMW3-H37	Ice Chest No.: 69 SMC-161 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT VEHICLE	Bill of Lading/Air Bill No.: 4235-7954-0393
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10LN0 (F)		W	11/7/00	0800	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LN1		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LN1		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10LN1		W			1x20-mL P	Activity Scan	None
B10LN1		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10LN1		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10LN1		W			1x250-mL P	Tritium - H3	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
KB HULSE			NOV 07 2000 1430	Fed EX			11-7-00
Fed Ex			11-8-00 10:00	JR Corso			11-8-00 10:00
JR Corso			11-9-00 16:00	Fed Ex			11-9-00
Fed Ex			11/10/00 1005	V. Hennessy			11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) Disposed By Date/Time

PNNL

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

CHEM SDG H1130

C.O.C. # C01-008-76

Page 1 of 1

Collector KB HULSE	Contact/Requester JH KESSNER	Telephone No. (509) 375-4688 MSIN FAX
SAF No. C01-008	Sampling Origin HANFORD SITE	Purchase Order/Charge Code
Project Title 100HR3 IAM (1&2) GW MONITORING, NOVEMBER, 2000	Logbook No. WM-34WS-1137	Ice Chest No. 69 3ML-161 Temp.
Shipped To (Lab) TMA/RECRA	Method of Shipment GOVT. VEHICLE	Bill of Lading/Air Bill No. 4235-7954-0393
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Fax TMA log-in to JH Kessner (372-9487) & DL Stewart (372-1704).

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B10LT4 (F)		W	11/7/00	1247	1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LT5		W			1x500-mL G/P	ICP Metals - 6010A RCRA GW	HNO3 to pH <2
B10LT5		W			1x500-mL P	IC Anions - 300.0	Cool 4C
B10LT5		W			1x20-mL P	Activity Scan	None
B10LT5		W			2x1000-mL G/P	Gross Alpha	HNO3 to pH <2
B10LT5		W			2x1000-mL G/P	Gross Beta	HNO3 to pH <2
B10LT5		W			1x250-mL P	Tritium - H3	None

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
KB HULSE	11-7-00 1430	FEDEX	11-7-00
Fed Ex	11-8-00 10:00	JR Corso	11-8-00 10:00
JR Corso	11-9-00 16:00	Fed Ex	11-9-00
Fed Ex	11/10/00 1005	J. Hanson	11/10/00 1005

Matrix *

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

FINAL SAMPLE DISPOSITION — Disposal Method (e.g., Return to customer, per lab procedure, used in process) — Disposed By — Date/Time

Thermo NUtech

CHAIN OF CUSTODY

11/08/00 15:26:14

ORD # R0-11-079

WORK ID: SAF C01-008 SDG H1130

RCVD: 11/08/00 DUE: 12/23/00

KEEP: 12/23/01 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS		
01A	B10LB9(F)	RECRA	DISPOS	E011	
02A	B10LC0	RECRA	DISPOS	E011	E260
02B	B10LC0 MS	RECRA	E011	E260	
02C	B10LC0 DUP	RECRA	E011	E260	
03A	B10LF8(F)	RECRA	DISPOS	E011	
04A	B10LF9	RECRA	DISPOS	E011	E260
05A	B10LM6(F)	RECRA	DISPOS	E011	
06A	B10LM7	RECRA	DISPOS	E011	E260
07A	B10LN0(F)	RECRA	DISPOS	E011	
08A	B10LN1	RECRA	DISPOS	E011	E260
09A	B10LT4(F)	RECRA	DISPOS	E011	
10A	B10LT5	RECRA	DISPOS	E011	E260
11A	B10L73(F)	RECRA	DISPOS	E011	
12A	B10L74	RECRA	DISPOS	E011	E260
13A	B10L81(F)	RECRA	DISPOS	E011	
14A	B10L82	RECRA	DISPOS	E011	E260
15A	B10L85(F)	RECRA	DISPOS	E011	
16A	B10L86	RECRA	DISPOS	E011	E260
17A	B10L89(F)	RECRA	DISPOS	E011	
18A	B10L90	RECRA	DISPOS	E011	E260
19A	B10L93(F)	RECRA	DISPOS	E011	
20A	B10L94	RECRA	DISPOS	E011	E260

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
[illegible]	11-9-00	FedEx	11-9-00		