0062646

SAF-B03-018
ERDF Groundwater Well Samples
FINAL DATA PACKAGE

E:MAIL RESULTS TO:

Tom Lazarski N/A
INITIAL/DATE

MAIL COMPLETE COPY OF DATA PACKAGE TO:

Tom Lazarski H9-03 [signature] 7/22/04
INITIAL/DATE

Rich Weiss H9-01 [signature]
INITIAL/DATE

COMMENTS: (PLEASE INCLUDE THE FOLLOWING ON THE FAX COVER SHEET)

SDG H2534 SAF-B03-018

Rad only X Chem only Rad & Chem

X Complete Partial

Add-on TCLP metals

RECEIVED
SEP 13 2004
EDMC

RECEIVED
JUL 2004

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-018 H2534

DATE RECEIVED: 03/24/04 LVL LOT # :0403L123

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B18KR0						
ARSENIC, SOLUBLE	001	W	04L0234	03/18/04	04/07/04	04/08/04
ARSENIC, SOLUBLE	001 REP	W	04L0234	03/18/04	04/07/04	04/08/04
ARSENIC, SOLUBLE	001 MS	W	04L0234	03/18/04	04/07/04	04/08/04
BARIUM, SOLUBLE	001	W	04L0234	03/18/04	04/07/04	04/08/04
BARIUM, SOLUBLE	001 REP	W	04L0234	03/18/04	04/07/04	04/08/04
BARIUM, SOLUBLE	001 MS	W	04L0234	03/18/04	04/07/04	04/08/04
CHROMIUM, SOLUBLE	001	W	04L0234	03/18/04	04/07/04	04/08/04
CHROMIUM, SOLUBLE	001 REP	W	04L0234	03/18/04	04/07/04	04/08/04
CHROMIUM, SOLUBLE	001 MS	W	04L0234	03/18/04	04/07/04	04/08/04
LEAD, SOLUBLE	001	W	04L0234	03/18/04	04/07/04	04/08/04
LEAD, SOLUBLE	001 REP	W	04L0234	03/18/04	04/07/04	04/08/04
LEAD, SOLUBLE	001 MS	W	04L0234	03/18/04	04/07/04	04/08/04
SELENIUM, SOLUBLE	001	W	04L0234	03/18/04	04/07/04	04/08/04
SELENIUM, SOLUBLE	001 REP	W	04L0234	03/18/04	04/07/04	04/08/04
SELENIUM, SOLUBLE	001 MS	W	04L0234	03/18/04	04/07/04	04/08/04
TIN, SOLUBLE	001	W	04L0234	03/18/04	04/07/04	04/08/04
TIN, SOLUBLE	001 REP	W	04L0234	03/18/04	04/07/04	04/08/04
TIN, SOLUBLE	001 MS	W	04L0234	03/18/04	04/07/04	04/08/04
VANADIUM, SOLUBLE	001	W	04L0234	03/18/04	04/07/04	04/08/04
VANADIUM, SOLUBLE	001 REP	W	04L0234	03/18/04	04/07/04	04/08/04
VANADIUM, SOLUBLE	001 MS	W	04L0234	03/18/04	04/07/04	04/08/04
ZINC, SOLUBLE	001	W	04L0234	03/18/04	04/07/04	04/08/04
ZINC, SOLUBLE	001 REP	W	04L0234	03/18/04	04/07/04	04/08/04
ZINC, SOLUBLE	001 MS	W	04L0234	03/18/04	04/07/04	04/08/04
B18KR1						
ARSENIC, TOTAL	002	W	04L0234	03/18/04	04/07/04	04/08/04
BARIUM, TOTAL	002	W	04L0234	03/18/04	04/07/04	04/08/04
CHROMIUM, TOTAL	002	W	04L0234	03/18/04	04/07/04	04/08/04
LEAD, TOTAL	002	W	04L0234	03/18/04	04/07/04	04/08/04
SELENIUM, TOTAL	002	W	04L0234	03/18/04	04/07/04	04/08/04
TIN, TOTAL	002	W	04L0234	03/18/04	04/07/04	04/08/04
VANADIUM, TOTAL	002	W	04L0234	03/18/04	04/07/04	04/08/04
ZINC, TOTAL	002	W	04L0234	03/18/04	04/07/04	04/08/04

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-018 H2534

DATE RECEIVED: 03/24/04 LVL LOT # :0403L123

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B18KP6						
ARSENIC, SOLUBLE	004	W	04L0234	03/18/04	04/07/04	04/08/04
BARIUM, SOLUBLE	004	W	04L0234	03/18/04	04/07/04	04/08/04
CHROMIUM, SOLUBLE	004	W	04L0234	03/18/04	04/07/04	04/08/04
LEAD, SOLUBLE	004	W	04L0234	03/18/04	04/07/04	04/08/04
SELENIUM, SOLUBLE	004	W	04L0234	03/18/04	04/07/04	04/08/04
TIN, SOLUBLE	004	W	04L0234	03/18/04	04/07/04	04/08/04
VANADIUM, SOLUBLE	004	W	04L0234	03/18/04	04/07/04	04/08/04
ZINC, SOLUBLE	004	W	04L0234	03/18/04	04/07/04	04/08/04
B18KP7						
ARSENIC, TOTAL	005	W	04L0234	03/18/04	04/07/04	04/08/04
BARIUM, TOTAL	005	W	04L0234	03/18/04	04/07/04	04/08/04
CHROMIUM, TOTAL	005	W	04L0234	03/18/04	04/07/04	04/08/04
LEAD, TOTAL	005	W	04L0234	03/18/04	04/07/04	04/08/04
SELENIUM, TOTAL	005	W	04L0234	03/18/04	04/07/04	04/08/04
TIN, TOTAL	005	W	04L0234	03/18/04	04/07/04	04/08/04
VANADIUM, TOTAL	005	W	04L0234	03/18/04	04/07/04	04/08/04
ZINC, TOTAL	005	W	04L0234	03/18/04	04/07/04	04/08/04
B18KP8						
ARSENIC, SOLUBLE	007	W	04L0234	03/19/04	04/07/04	04/08/04
BARIUM, SOLUBLE	007	W	04L0234	03/19/04	04/07/04	04/08/04
CHROMIUM, SOLUBLE	007	W	04L0234	03/19/04	04/07/04	04/08/04
LEAD, SOLUBLE	007	W	04L0234	03/19/04	04/07/04	04/08/04
SELENIUM, SOLUBLE	007	W	04L0234	03/19/04	04/07/04	04/08/04
TIN, SOLUBLE	007	W	04L0234	03/19/04	04/07/04	04/08/04
VANADIUM, SOLUBLE	007	W	04L0234	03/19/04	04/07/04	04/08/04
ZINC, SOLUBLE	007	W	04L0234	03/19/04	04/07/04	04/08/04
B18KP9						
ARSENIC, TOTAL	008	W	04L0234	03/19/04	04/07/04	04/08/04
BARIUM, TOTAL	008	W	04L0234	03/19/04	04/07/04	04/08/04

Lionville Laboratory, Inc.
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B03-018 H2534

DATE RECEIVED: 03/24/04 LVL LOT # :0403L123

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM, TOTAL	008	W	04L0234	03/19/04	04/07/04	04/08/04
LEAD, TOTAL	008	W	04L0234	03/19/04	04/07/04	04/08/04
SELENIUM, TOTAL	008	W	04L0234	03/19/04	04/07/04	04/08/04
TIN, TOTAL	008	W	04L0234	03/19/04	04/07/04	04/08/04
VANADIUM, TOTAL	008	W	04L0234	03/19/04	04/07/04	04/08/04
ZINC, TOTAL	008	W	04L0234	03/19/04	04/07/04	04/08/04

LAB QC:

ARSENIC LABORATORY	LC1 BS	W	04L0234	N/A	04/07/04	04/08/04
ARSENIC, TOTAL	MB1	W	04L0234	N/A	04/07/04	04/08/04
BARIUM LABORATORY	LC1 BS	W	04L0234	N/A	04/07/04	04/08/04
BARIUM, TOTAL	MB1	W	04L0234	N/A	04/07/04	04/08/04
CHROMIUM LABORATORY	LC1 BS	W	04L0234	N/A	04/07/04	04/08/04
CHROMIUM, TOTAL	MB1	W	04L0234	N/A	04/07/04	04/08/04
LEAD LABORATORY	LC1 BS	W	04L0234	N/A	04/07/04	04/08/04
LEAD, TOTAL	MB1	W	04L0234	N/A	04/07/04	04/08/04
SELENIUM LABORATORY	LC1 BS	W	04L0234	N/A	04/07/04	04/08/04
SELENIUM, TOTAL	MB1	W	04L0234	N/A	04/07/04	04/08/04
TIN LABORATORY	LC1 BS	W	04L0234	N/A	04/07/04	04/08/04
TIN, TOTAL	MB1	W	04L0234	N/A	04/07/04	04/08/04
VANADIUM LABORATORY	LC1 BS	W	04L0234	N/A	04/07/04	04/08/04
VANADIUM, TOTAL	MB1	W	04L0234	N/A	04/07/04	04/08/04
ZINC LABORATORY	LC1 BS	W	04L0234	N/A	04/07/04	04/08/04
ZINC, TOTAL	MB1	W	04L0234	N/A	04/07/04	04/08/04

LIONVILLE LABORATORY INC.

~~Analytical Report~~
Revision

Client: TNU-HANFORD B03-018
LVL#: 0403L123
SDG/SAF#: H2534/B03-018

W.O.#: 11343-606-001-9999-00
Date Received: 03-24-04

METALS CASE NARRATIVE
This narrative has been revised to include Zinc analysis.

1. This narrative covers the analyses of 6 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. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.

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

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

7. The preparation/method blank for 1 analyte was outside method criteria. {less than the Practical Quantitation Limit (3X the IDL), or samples greater than 20X MB value}. Refer to the Inorganics Method Blank Data Summary.

   a). The MB result for Zinc was greater than the Practical Quantitation Limit (PQL) {3 x the (IDL) Instrument Detection Level} and all samples except B18KP8 and B18KP9 read less than 20 times the MB concentration. However, no corrective action criteria for MBs were provided in SW846 method 6010B. The sample results were reported herein "uncorrected" for the levels found in the MB.

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 the Inorganics Laboratory Control Standards Report.

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

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 28 pages.

208 Welsh Pool Road • Exton, PA 19341- 1313 • (610) 280-3000 • Fax (610) 280-3041

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.

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.

Iain Daniels
Laboratory Manager
Lionville Laboratory Incorporated

6/11/04
Date

jjw/m03-123r

LVLI
LIONVILLE LABORATORY INC.

METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this Lot#: 0403L123

Leaching Procedure: __1310 __1311 __1312 __Other:_____

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

Metals Digestion Methods: X 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	X 6010B	__7060A [5]	__200.7	__206.2	__3113B		__99
Barium	X 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	X 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	X 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	X 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	X 6010B		__200.7				__99
Titanium	__6010B		__200.7				__99
Uranium	__6010B [1]		__200.7 [1]			__1620	__99
Vanadium	X 6010B		__200.7				__99
Zinc	X 6010B		__200.7				__99
Zirconium	__6010B [1]		__200.7 [1]			__1620	__99

Other:_____ Method:_____

L-WI-033/M-03/01

6

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, approximately 0.3 grams of sample is taken to a final volume of 50 mL (including all reagents).

3. Flame AA.

4. Graphite Furnace AA.

L-WI-033/N-04/98

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 06/10/04

CLIENT: TNUHANFORD B03-018 H2534

LVL LOT #: 0403L123

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B18KR0	Arsenic, Soluble	3.4	u	UG/L	3.4	1.0
		Barium, Soluble	56.5		UG/L	0.20	1.0
		Chromium, Soluble	4.0		UG/L	0.50	1.0
		Lead, Soluble	2.0	u	UG/L	2.0	1.0
		Selenium, Soluble	7.4		UG/L	3.4	1.0
		Tin, Soluble	3.6	u	UG/L	3.6	1.0
		Vanadium, Soluble	24.6		UG/L	0.50	1.0
		Zinc, Soluble	5.1		UG/L	0.40	1.0
-002	B18KR1	Arsenic, Total	3.4	u	UG/L	3.4	1.0
		Barium, Total	60.4		UG/L	0.20	1.0
		Chromium, Total	29.2		UG/L	0.50	1.0
		Lead, Total	2.0	u	UG/L	2.0	1.0
		Selenium, Total	6.1		UG/L	3.4	1.0
		Tin, Total	3.6	u	UG/L	3.6	1.0
		Vanadium, Total	26.8		UG/L	0.50	1.0
		Zinc, Total	2.5		UG/L	0.40	1.0
-004	B18KP6	Arsenic, Soluble	3.4	u	UG/L	3.4	1.0
		Barium, Soluble	38.9		UG/L	0.20	1.0
		Chromium, Soluble	16.6		UG/L	0.50	1.0
		Lead, Soluble	2.0	u	UG/L	2.0	1.0
		Selenium, Soluble	4.2		UG/L	3.4	1.0
		Tin, Soluble	3.6	u	UG/L	3.6	1.0
		Vanadium, Soluble	26.8		UG/L	0.50	1.0
		Zinc, Soluble	7.8		UG/L	0.40	1.0

Lionville Laboratory, Inc.

INORGANICS DATA SUMMARY REPORT 06/10/04

CLIENT: TNUHANFORD B03-018 H2534

LVL LOT #: 0403L123

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
-005	B18KP7	Arsenic, Total	3.6		UG/L	3.4	1.0
		Barium, Total	39.0		UG/L	0.20	1.0
		Chromium, Total	16.6		UG/L	0.50	1.0
		Lead, Total	2.0	u	UG/L	2.0	1.0
		Selenium, Total	4.1		UG/L	3.4	1.0
		Tin, Total	3.6	u	UG/L	3.6	1.0
		Vanadium, Total	27.0		UG/L	0.50	1.0
		Zinc, Total	3.4		UG/L	0.40	1.0
-007	B18KP8	Arsenic, Soluble	3.4	u	UG/L	3.4	1.0
		Barium, Soluble	56.1		UG/L	0.20	1.0
		Chromium, Soluble	4.1		UG/L	0.50	1.0
		Lead, Soluble	2.0	u	UG/L	2.0	1.0
		Selenium, Soluble	5.6		UG/L	3.4	1.0
		Tin, Soluble	3.6	u	UG/L	3.6	1.0
		Vanadium, Soluble	24.9		UG/L	0.50	1.0
		Zinc, Soluble	317		UG/L	0.40	1.0
-008	B18KP9	Arsenic, Total	3.4	u	UG/L	3.4	1.0
		Barium, Total	56.9		UG/L	0.20	1.0
		Chromium, Total	5.0		UG/L	0.50	1.0
		Lead, Total	5.3		UG/L	2.0	1.0
		Selenium, Total	4.3		UG/L	3.4	1.0
		Tin, Total	3.6	u	UG/L	3.6	1.0
		Vanadium, Total	26.2		UG/L	0.50	1.0
		Zinc, Total	369		UG/L	0.40	1.0

Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 06/10/04

CLIENT: TNUHANFORD B03-018 H2534

LVL LOT #: 0403L123

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT		UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK1	04L0234-MB1	Arsenic, Total	3.4	u	UG/L	3.4	1.0
		Barium, Total	0.20	u	UG/L	0.20	1.0
		Chromium, Total	0.50	u	UG/L	0.50	1.0
		Lead, Total	2.0	u	UG/L	2.0	1.0
		Selenium, Total	3.4	u	UG/L	3.4	1.0
		Tin, Total	3.6	u	UG/L	3.6	1.0
		Vanadium, Total	0.50	u	UG/L	0.50	1.0
		Zinc, Total	1.4		UG/L	0.40	1.0

Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 06/10/04

CLIENT: TNUHANFORD B03-018 H2534 LVL LOT #: 0403L123

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	B18KR0	Arsenic, Soluble	1860	3.4 u	2000	92.9	1.0
		Barium, Soluble	1900	56.5	2000	92.4	1.0
		Chromium, Soluble	187	4.0	200	91.5	1.0
		Lead, Soluble	458	2.0 u	500	91.6	1.0
		Selenium, Soluble	1870	7.4	2000	93.2	1.0
		Tin, Soluble	935	3.6 u	1000	93.5	1.0
		Vanadium, Soluble	476	24.6	500	90.3	1.0
		Zinc, Soluble	465	5.1	500	91.9	1.0

11

Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 06/10/04

CLIENT: TNUHANFORD B03-018 H2534

LVL LOT #: 0403L123

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-001REP	B18KR0	Arsenic, Soluble	3.4 u	3.9	~~NC~~ 200	1.0
		Barium, Soluble	56.5	54.9	2.9	1.0
		Chromium, Soluble	4.0	3.5	13.3	1.0
		Lead, Soluble	2.0 u	2.0 u	NC	1.0
		Selenium, Soluble	7.4	7.5	1.3	1.0
		Tin, Soluble	3.6 u	3.6 u	NC	1.0
		Vanadium, Soluble	24.6	24.0	2.5	1.0
		Zinc, Soluble	5.1	7.1	32.8	1.0

MJ 6/10/04

Lionville Laboratory, Inc.

INORGANICS LABORATORY CONTROL STANDARDS REPORT 06/10/04

CLIENT: TNUHANFORD B03-018 H2534

LVL LOT #: 0403L123

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
LCS1	04L0234-LC1	Arsenic, LCS	9430	10000	UG/L	94.3
		Barium, LCS	4780	5000	UG/L	95.5
		Chromium, LCS	476	500	UG/L	95.3
		Lead, LCS	2400	2500	UG/L	95.9
		Selenium, LCS	9570	10000	UG/L	95.7
		Tin, LCS	4710	5000	UG/L	94.2
		Vanadium, LCS	2350	2500	UG/L	93.8
		Zinc, LCS	963	1000	UG/L	96.3

(6) VOA, HCl, 1000g

Lionville Laboratory Use Only

0403L123

Custody Transfer Record/Lab Work Request

Page 1 of 1

LVLP LIONVILLE LABORATORY INC.

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client Fluor Hanford SAF# B03018

Est. Final Proj. Sampling Date TNU Hanford B03-018

Project # 11343-006-001-9999-00

Project Contact/Phone #

Lionville Laboratory Project Manager O Johnson

QC Spec Del Std TAT 30 Days

Date Rec'd 3/24/04 Date Due 4/23/04

		AC						J	D		E	F	G		H	I
Refrigerator #		1						3	3		3	3	3		3	3
#/Type Container	Liquid	3AG						1PL	1PL		1PL	1PL	1PL	1	1PL	1AG
	Solid															
Volume	Liquid	40						500	500		500	500	500	1	250	500
	Solid															
Preservatives		HCl						HNO3	HNO3		H2SO4	—	—	1	—	H2SO4
ANALYSES REQUESTED →		ORGANIC						Soluble metals	INORG		NOC NO3	TDS	IC Anions	1	Al K	TOX
		VOA	BNA	Pest/PCB	Herb				Total Metal	CN						

Lionville Laboratory Use Only

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	062444					MET(6)SO	MET(6)		IN3N2	ITDS	ICCL, ICFe, ICNO3, ICNO2, ICSO4, ICPO4	IAKLL	ITOX
S - Soil	001	B18KR0			W	3/18/04	0859						1	✓ JR 3/24/04						
SE - Sediment	002	KR1					⊥	3						1		1	1	1	✓	1	1
SO - Solid	003	PL1					0730	3												
SL - Sludge	004	KP6					1039						1	✓ JR 3/24/04						
W - Water	005	KP7					⊥	3						1		1	1	1	✓	1	1
O - Oil	006	PL2				3-19-04	0730	3												
A - Air	007	KP8				3-19-04	1149						1	✓ JR 3/24/04						
DS - Drum Solids	008	KP9				⊥	+	3						1		1	1	1	✓	1	1
DL - Drum Liquids	009	PL3				3-19-04	0800	3												
L - EP/TCLP Leachate																				
WI - Wipe																				
X - Other																				
F - Fish																				

Special Instructions:

SAF# B03-018 (per client)

Run Matrix QC

MET(6) = As, Ba, Cr, Pb, Se, Sn, V, +Zn

DATE/REVISIONS:

6/3/04 1. add zn to metals

2.

3.

4.

5.

6.

Relinquished by	Received by	Date	Time
[signature]	[signature]	3/24/04	1000

Relinquished by	Received by	Date	Time
COMPOSITE WASTE"	ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

Lionville Laboratory Use Only

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

Tamper Resistant Seal 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

PNNL SDG# H2534

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

I04-028-3

Collector: D. P. CONNOLLY	Contact/Requester: DL STEWART	Telephone No. 509-376-5056 MSIN FAX
SAF No. ~~I04-028~~ B03018	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: ERDF MARCH 2004	Logbook No. DTS-SAWS-1180	Ice Chest No. WM-1 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No. 790583420478
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Batch all PNNL GW samples submitted under "I04" SAF's into one SDG, not to exceed SDG closure of 14 days.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B18KR0 (F)		W	3-18-04	0859	1x500-mL P	ICP Metals - 6010TR (Client List) {Arsenic, Barium, Chromium, Lead, Selenium, Tin, Vanadium}	HNO3 to pH <2
B18KR1		W			3x40-mL aGs*	VOA - 8260A (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B18KR1		W			1x500-mL P	ICP Metals - 6010TR (Client List) {Arsenic, Barium, Chromium, Lead, Selenium, Tin, Vanadium}	HNO3 to pH <2
B18KR1		W			1x500-mL P	IC Anions - 300.0 {Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate}	Cool 4C
B18KR1		W			1x250-mL P	Alkalinity - 310.1	Cool 4C
B18KR1		W			1x500-mL P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B18KR1		W			1x20-mL P	Activity Scan	None
B18KR1		W			2x1000-mL P	Gross Alpha; Gross Beta	HNO3 to pH <2
B18KR1		W			1x125-mL P	Carbon-14	None
B18KR1		W			4x1000-mL P	Iodine-129	None
B18KR1		W			2x1000-mL P	Radium -226	HNO3 to pH <2
B18KR1		W			1x250-mL P	Technetium-99	HCl to pH <2

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
D. P. CONNOLLY	MAR 18 2004 1400	Fed EX	3/19/4 1030
Fedex	3/19/4 1030		3/19/4 1030
		Fed Ex	
Fed Ex	3-24-04 1000	Victor Hernandez	3-24-04 1000

Matrix *

S = Soil		DS = Drum Solids	
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 SDG# H2534

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

I04-028-3

SAF No. ~~104-028~~ BS 3-18-04 B03018

Contact/Requestor: DL STEWART

Telephone No.: 509-376-5056

MSIN

FAX

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B18KR1		W	3-18-04	0859	1x125-mL P	Total Uranium	HNO3 to pH <2
B18KR1		W	↓	↓	1x500-mL P	TDS - 160.1	Cool 4C
B18KR1		W	↓	↓	1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	D. P. CONNOLLY		MAR 18 2004 1400		Fed Ex		3/19/4 1030
Relinquished By	Fedex		3/19/4 10	Received By			3/19/4 10
Relinquished By			3/23/04 2:15 pm	Received By	Fed Ex		
Relinquished By	Fed Ex		3-24-04 1000	Received By			3-24-04 1000

Matrix *

S	= Soil	DS	= Drum Solids
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 SDG# H2534

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

104-028-5

Page 1 of 1

Collector D Connolly	Contact/Requester DL STEWART	Telephone No. 509-376-5056 MSIN FAX
SAF No. ~~104-028~~ B03-018 MCM 3/23/4	Sampling Origin HANFORD SITE	Purchase Order/Charge Code
Project Title ERDF MARCH 2004	Logbook No. DTS-SAWS-H80	Ice Chest No. WM-1 Temp.
Shipped To (Lab) TMA/RECRA	Method of Shipment GOVT. VEHICLE	Bill of Lading/Air Bill No. 790583420478
Protocol CERCLA	Data Turnaround 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Batch all PNNL GW samples submitted under "104" SAF's into one SDG, not to exceed SDG closure of 14 days.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B18PL1		W	3-18-04	0730	3x40-mL aGs*	VOA - 8260A (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B18PL1		W	↓	↓	1x20-mL P	Activity Scan	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D Connolly		[signature]	3-18-04 1400	Fed Ex		[signature]	3/19/4 1030
Fed Ex			3/19/4 10	[signature]			3/19/4 1030
Fred [signature]			3/23/04 2:15 PM	Fed Ex			
Fed Ex			3-24-04 1000	Victor Hernandez			3-24-04 1000

Matrix *

S	= Soil	DS	= Drum Solids
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

Mar 18 04 11:36a D9T85 - EC&RA (509) 376-2210 p.3

PNNL SDG # H2534

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

~~I04-028~~-1

Collector: D. P. CONNOLLY	Contact/Requester: DL STEWART	Telephone No.: 509-376-5056 MSIN FAX
SAF No.: ~~I04-028~~ RT 7-1804 B03018	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: ERDF MARCH 2004	Logbook No.: DTS-SAWS-H 80	Ice Chest No.: SML 137 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 790583420490
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Batch all PNNL GW samples submitted under "I04" SAF's into one SDG, not to exceed SDG closure of 14 days.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B18KP6 (F)		W	3-18-04	1039	1x500-mL P	ICP Metals - 6010TR (Client List) {Arsenic, Barium, Chromium, Lead, Selenium, Tin, Vanadium}	HNO3 to pH <2
B18KP7		W			3x40-mL aGs*	VOA - 8260A (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B18KP7		W			1x500-mL P	ICP Metals - 6010TR (Client List) {Arsenic, Barium, Chromium, Lead, Selenium, Tin, Vanadium}	HNO3 to pH <2
B18KP7		W			1x500-mL P	IC Anions - 300.0 {Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate}	Cool 4C
B18KP7		W			1x250-mL P	Alkalinity - 310.1	Cool 4C
B18KP7		W			1x500-mL P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B18KP7		W			1x20-mL P	Activity Scan	None
B18KP7		W			2x1000-mL P	Gross Alpha; Gross Beta	HNO3 to pH <2
B18KP7		W			1x125-mL P	Carbon-14	None
B18KP7		W			4x1000-mL P	Iodine-129	None
B18KP7		W			2x1000-mL P	Radium -226	HNO3 to pH <2
B18KP7		W			1x250-mL P	Technetium-99	HCl to pH <2

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. P. CONNOLLY	[signature]		MAR 18 2004 1400	Fed Ex	P. [illegible]	P. [illegible]	3/22/4 3 pm
Fedex			3/22/4 3 pm	[signature]			3/22/4 3 pm
[signature]			3/23/04 2:15 PM	Fed Ex			
Fed Ex			3-24-04 1000	Victor Hernandez			3-24-04 1000

Matrix *

S	= Soil	DS	= Drum Solids
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 SDG# H2534

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

I04-028-1

SAF No. ~~I04-028~~ RJS 7-18-04 B03018

Contact/Requestor: DL STEWART

Telephone No.: 509-376-5056 MSIN FAX

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B18KP7		W	3-18-04	1039	1x125-mL P	Total Uranium	HNO3 to pH <2
B18KP7		W	↓	↓	1x500-mL P	TDS - 160.1	Cool 4C
B18KP7		W	↓	↓	1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D. P. CONNOLLY	[signature]		MAR 18 2004 1400	Fed Ex	P. [illegible]	P. [illegible]	3/22/4 3:00 pm
Fedex			3/22/4 3:00 pm	[signature]			3/22/4 3:00 pm
[signature]			3/23/04 2:18 pm	[signature] Fed Ex			
Fed E			3-24-04 1000	Victor Hernandez			3-24-04 1000

Matrix *

S	= Soil	DS	= Drum Solids
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 SDG # H2534

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

MWH 3/23/04 ~~104-028-0~~

Collector: D Connolly	Contact/Requester: DL STEWART	Telephone No.: 509-376-5056	MSIN / FAX: I04-028-6
SAF No.: ~~104-028~~ B03-018	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code: SOF	
Project Title: ERDF MARCH 2004	Logbook No.: DTS-SAWS-H80	Ice Chest No.: SMC137	Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 7905-8342-0490	
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.	

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Batch all PNNL GW samples submitted under "104" SAF's into one SDG, not to exceed SDG closure of 14 days.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B18PL2		W	3-18-04	0730	3x40-mL aGs*	VOA - 8260A (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B18PL2		W	↓	↓	1x20-mL P	Activity Scan	None

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D Connolly			3-18-04 1400	Fed Ex	P. LINTCHOVSKI		3/22/4
Fedex			3/22/4				3/22/4
			3/23/04 2:15pm				
			3/24/04 1000				3-24-04 1000

Matrix *

S = Soil		DS = Drum Solids	
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 SDG# H2534

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #
I04-028-2

Collector: D. P. CONNOLLY	Contact/Requester: DL STEWART	Telephone No.: 509-376-5056 MSIN FAX
SAF No.: 03-19-01 B03018	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: ERDF MARCH 2004	Logbook No.: DTS-SAWS-H80	Ice Chest No.: SAWS-125 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 7900 9299 3445
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Batch all PNNL GW samples submitted under "I04" SAF's into one SDG, not to exceed SDG closure of 14 days.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B18KP8 (F)		W	3-19-04	1149	1x500-mL P	ICP Metals - 6010TR (Client List) {Arsenic, Barium, Chromium, Lead, Selenium, Tin, Vanadium}	HNO3 to pH <2
B18KP9		W			3x40-mL aGs*	VOA - 8260A (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B18KP9		W			1x500-mL P	ICP Metals - 6010TR (Client List) {Arsenic, Barium, Chromium, Lead, Selenium, Tin, Vanadium}	HNO3 to pH <2
B18KP9		W			1x500-mL P	IC Anions - 300.0 {Chloride, Fluoride, Nitrate, Nitrite, Phosphate, Sulfate}	Cool 4C
B18KP9		W			1x250-mL P	Alkalinity - 310.1	Cool 4C
B18KP9		W			1x500-mL P	NO2/NO3 - 353.2	H2SO4 to pH <2 Cool 4C
B18KP9		W			1x20-mL P	Activity Scan	None
B18KP9		W			2x1000-mL P	Gross Alpha; Gross Beta	HNO3 to pH <2
B18KP9		W			1x125-mL P	Carbon-14	None
B18KP9		W			4x1000-mL P	Iodine-129	None
B18KP9		W			2x1000-mL P	Radium -226	HNO3 to pH <2
B18KP9		W			1x250-mL P	Technetium-99	HCl to pH <2

Relinquished By	Date/Time	Received By	Date/Time
Print: D. P. CONNOLLY Sign:	MAR 19 2004 1300	Print: Fed Ex Sign: Pavlin Imlivorci	3/22/4
Fedex	3/22/4		3/22/4
	3/23/04 2:15pm	Fed Ex	
Fed Ex	3-24-04 1000	V. Hernandez	3-24-04 1000

Matrix *

S = Soil		DS = Drum Solids	
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 SDG # H2534

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

I04-028-2

SAF No. 3-19-04 ~~I04-028~~ B03018

Contact/Requestor: DL STEWART

Telephone No.: 509-376-5056 MSIN FAX

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B18KP9		W	3-19-04	1149	1x125-mL P	Total Uranium	HNO3 to pH <2
B18KP9		W			1x500-mL P	TDS - 160.1	Cool 4C
B18KP9		W			1x500-mL aGs*	TOX - 9020	H2SO4 to pH <2 Cool 4C

3-19-04

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
D.P. CONNOLLY			1300 MAR 19 2004	Fed Ex			3/22/4
Fedex			3/22/4				3/22/4
Fed Ex			3/23/04 2:15PM	Fed Ex			
Fed Ex			3/24/04 1000				3-24-04 1000

Matrix *

S	= Soil	DS	= Drum Solids
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 SDG # H2534

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

I04-028-7

Collector: D. P. CONNOLLY	Contact/Requester: DL STEWART	Telephone No.: 509-376-5056 MSIN FAX
SAF No.: ~~I04-028~~ 104-028 B03-018 MCM 3/23/4	Sampling Origin: HANFORD SITE	Purchase Order/Charge Code
Project Title: ERDF MARCH 2004	Logbook No.: DTS-SAWS-H80	Ice Chest No.: SML-125 Temp.
Shipped To (Lab): TMA/RECRA	Method of Shipment: GOVT. VEHICLE	Bill of Lading/Air Bill No.: 7906 9299-3445
Protocol: CERCLA	Data Turnaround: 45 Days	Offsite Property No.

POSSIBLE SAMPLE HAZARDS/REMARKS
** **

SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐
Batch all PNNL GW samples submitted under "104" SAF's into one SDG, not to exceed SDG closure of 14 days.

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B18PL3		W	3-19-04	0800	3x40-mL aGs*	VOA - 8260A (TCL)	HCl or H2SO4 to pH <2 Cool 4C
B18PL3		W	1	1	1x20-mL P	Activity Scan	None
					3-19-04		

Relinquished By: D.P. CONNOLLY Print Sign	Date/Time 1300 MAR 19 2004	Received By: Fed Ex Print P. Pucciarelli Sign	Date/Time 3/24/4
Relinquished By: Fedex	Date/Time 3/22/4 12	Received By:	Date/Time 3/22/4 12
Relinquished By:	Date/Time 3/23/04 2:15 PM	Received By:	Date/Time
Relinquished By: Fed Ex	Date/Time 3/24/04 1000	Received By: J. Hernandez 3-24-04	Date/Time 1000

Matrix *

S = Soil		DS = Drum Solids	
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

SDG # H2534

PAGE 1

Eberline Srvces CHAIN OF CUSTODY ORD # R4-03-103

03/23/04 12:56:37 WORK ID: SAF# B03-018 SDG H2534

RCVD: 03/19/04 DUE: 04/18/04 KEEP: 04/18/05 DISP: S

DASH	SAMPLE IDENTIFICATION	STORED	TESTS
01A-W	B18KR0 (F)	SCA-2	DISPOS E015
01B-W	B18KR0 (F) MS	SCA-2	E015
01C-W	B18KR0 (F) DUP	SCA-2	E015
02A-W	B18KR1	LION	DISPOS E015 E122 E153 E211 E260 E265 E287
02B-W	B18KR1 MS	LION	E015 E122 E153 E211 E260 E265 E287
02C-W	B18KR1 DUP	LION	E015 E122 E153 E211 E260 E265 E287
03A-W	B18PL1	LION	DISPOS E122
04A-W	B18KP6 (F)	LION	DISPOS E015
05A-W	B18KP7	LION	DISPOS E015 E122 E153 E211 E260 E265 E287
06A-W	B18PL2	LION	DISPOS E122
07A-W	B18KP8 (F)	LION	DISPOS E015
08A-W	B18KP9	LION	DISPOS E015 E122 E153 E211 E260 E265 E287
09A-W	B18PL3	LION	DISPOS E122

RELEASED BY	DATE	TRANSFERRED TO	DATE	RECEIVED BY	DATE
[signature]	3/23/04	Lionville lab	3/23/04		

24

SDG# H2534

PAGE 1 Eberline Srvces PURCHASE ORDER # R4-03-103-SU-WT

CONTRACT: Blanket Order #N501118 03/23/04 12:56:14

ORDER FROM: Eberline Services/Richmond
Analytical Services
2030 Wright Avenue
Richmond, CA 94804-0040
ATTEN: Purchasing
PHONE: 510-235-2633

INVOICE TO: Eberline Services/Richmond
Analytical Services
2030 Wright Avenue
Richmond, CA 94804-0040
ATTEN: Purchasing
PHONE: 510-235-2633

Gyamamoto
AUTHORIZED BY

ORDER TO: Lionville Laboratory, Inc.
208 Welsh Pool Road
Lionville, PA 19353

ATTEN: Orlette Johnson

Please telephone our Sample Control Department immediately if any problems are encountered in the receipt or the analysis of the samples listed below.

This Purchase Order authorizes LvLI to perform all work listed on the enclosed COC. Alterations to work requested can only be made by Eberline Services or the appropriate Hanford client. Prices to be in accordance with Price list of 8/23/99.

FRACTION	TEST	DESCRIPTION	UNITS	DUE DATE	COST
01A	E015	Trace ICP (Client List)	Please Advise	04/18/04	0.00
01B	E015	Trace ICP (Client List)	Please Advise	04/18/04	0.00
01C	E015	Trace ICP (Client List)	Please Advise	04/18/04	0.00
02A	E015	Trace ICP (Client List)	Please Advise	04/18/04	0.00
	E122	Vol Organics-8260(TCL)	Please Advise	04/18/04	0.00
	E153	TOX-9020	Please Advise	04/18/04	0.00
	E211	TDS-160.1	Please Advise	04/18/04	0.00
	E260	Anions by IC-300.0(Client)	Please Advise	04/18/04	0.00
	E265	Alkalinity-310.1	Please Advise	04/18/04	0.00
	E287	N02/N03-353.2	Please Advise	04/18/04	0.00
02B	E015	Trace ICP (Client List)	Please Advise	04/18/04	0.00
	E122	Vol Organics-8260(TCL)	Please Advise	04/18/04	0.00
	E153	TOX-9020	Please Advise	04/18/04	0.00
	E211	TDS-160.1	Please Advise	04/18/04	0.00
	E260	Anions by IC-300.0(Client)	Please Advise	04/18/04	0.00
	E265	Alkalinity-310.1	Please Advise	04/18/04	0.00
	E287	N02/N03-353.2	Please Advise	04/18/04	0.00
02C	E015	Trace ICP (Client List)	Please Advise	04/18/04	0.00
	E122	Vol Organics-8260(TCL)	Please Advise	04/18/04	0.00
	E153	TOX-9020	Please Advise	04/18/04	0.00
	E211	TDS-160.1	Please Advise	04/18/04	0.00
	E260	Anions by IC-300.0(Client)	Please Advise	04/18/04	0.00
	E265	Alkalinity-310.1	Please Advise	04/18/04	0.00
	E287	N02/N03-353.2	Please Advise	04/18/04	0.00
03A	E122	Vol Organics-8260(TCL)	Please Advise	04/18/04	0.00
04A	E015	Trace ICP (Client List)	Please Advise	04/18/04	0.00
05A	E015	Trace ICP (Client List)	Please Advise	04/18/04	0.00
	E122	Vol Organics-8260(TCL)	Please Advise	04/18/04	0.00

25

SDG # H2534

 Eberline Srvces PURCHASE ORDER # R4-03-103-SU-WT

CONTRACT: Blanket Order #N501118 03/23/04 12:56:14

FRACTION	TEST	DESCRIPTION	UNITS	DUE DATE	COST
05A (continued)					
	E153	TOX-9020	Please Advise	04/18/04	0.00
	E211	TDS-160.1	Please Advise	04/18/04	0.00
	E260	Anions by IC-300.0(Client)	Please Advise	04/18/04	0.00
	E265	Alkalinity-310.1	Please Advise	04/18/04	0.00
	E287	N02/N03-353.2	Please Advise	04/18/04	0.00
06A	E122	Vol Organics-8260(TCL)	Please Advise	04/18/04	0.00
07A	E015	Trace ICP (Client List)	Please Advise	04/18/04	0.00
08A	E015	Trace ICP (Client List)	Please Advise	04/18/04	0.00
	E122	Vol Organics-8260(TCL)	Please Advise	04/18/04	0.00
	E153	TOX-9020	Please Advise	04/18/04	0.00
	E211	TDS-160.1	Please Advise	04/18/04	0.00
	E260	Anions by IC-300.0(Client)	Please Advise	04/18/04	0.00
	E265	Alkalinity-310.1	Please Advise	04/18/04	0.00
	E287	N02/N03-353.2	Please Advise	04/18/04	0.00
09A	E122	Vol Organics-8260(TCL)	Please Advise	04/18/04	0.00

TOTAL CHARGE NOT TO EXCEED $0.00

SDG 4 H2534

Eberline Srvces

GE 1

IENT: WES_HANFORD CON: MCM

PROJ: WHC_PNL

WORK SHEET

CAT: ENVMWT

03/23/04 12:56:21

ORD # R4-03-103

RCVD: 03/19/04 DUE: 04/18/04

STAT: TRANSMITTED 03/23/04

SH	SAMPLE IDENTIFICATION	STORED	DEPT	START	DUE BY	TESTS, FRACTIONS /				
A-W	B18KR0 (F)	SCA-2	EN	03/19	03/19	DISPOS				
			SU WT	03/09	04/18	E015				
B-W	B18KR0 (F) MS	SCA-2	SU WT	03/09	04/18	E015				
C-W	B18KR0 (F) DUP	SCA-2	SU WT	03/09	04/18	E015				
A-W	B18KR1	LION	EN	03/19	03/19	DISPOS				
			SU WT	03/09	04/18	E015	E122	E153	E211	E260
						E265	E287			
B-W	B18KR1 MS	LION	SU WT	03/09	04/18	E015	E122	E153	E211	E260
						E265	E287			
C-W	B18KR1 DUP	LION	SU WT	03/09	04/18	E015	E122	E153	E211	E260
						E265	E287			
A-W	B18PL1	LION	EN	03/19	03/19	DISPOS				
			SU WT	03/09	04/18	E122				
A-W	B18KP6 (F)	LION	EN	03/19	03/19	DISPOS				
			SU WT	03/09	04/18	E015				
5A-W	B18KP7	LION	EN	03/19	03/19	DISPOS				
			SU WT	03/09	04/18	E015	E122	E153	E211	E260
						E265	E287			
6A-W	B18PL2	LION	EN	03/19	03/19	DISPOS				
			SU WT	03/09	04/18	E122				
7A-W	B18KP8 (F)	LION	EN	03/19	03/19	DISPOS				
			SU WT	03/09	04/18	E015				
8A-W	B18KP9	LION	EN	03/19	03/19	DISPOS				
			SU WT	03/09	04/18	E015	E122	E153	E211	E260
						E265	E287			
9A-W	B18PL3	LION	EN	03/19	03/19	DISPOS				
			SU WT	03/09	04/18	E122				

Lionville Laboratory Incorporated

SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: Eberline **Date:** 3/24/04

Purchase Order / Project# / SAF# / SOW# / Release #: SDG H2534 B03018

LvLI Batch # : 04031L123 **Sample Custodian:** Victor Hernandez

NOTE: EXPLAIN ALL DISCREPANCIES

1.	Samples Hand Delivered or Shipped	Carrier FedEx		Airbill# 7905 8835 4340 4339	
2.	Custody seals on coolers or shipping container intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	Comments
3.	Outside of coolers or shipping containers are free from damage?	☑ Yes	☐ No		
4.	All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible?	☑ Yes	☐ No		
5.	Samples received cooled or ambient?	Temp 2° 3	°C	Cooler #	SML125 SML137
6.	Custody seals on sample containers intact, signed and dated?	☑ Yes	☐ No	☐ No Seals	
7.	coc signed and dated?	☑ Yes	☐ No		
8.	Sample containers are intact?	☑ Yes	☐ No		
9.	All samples on coc received? All samples received on coc?	☑ Yes	☐ No		
10.	All sample label information matches coc?	☑ Yes	☐ No		
11.	Samples properly preserved?	☑ Yes	☐ No		
12.	Samples received within hold times? Short holds taken to wet lab?	☑ Yes	☐ No		
13.	VOA, TOC, TOX free of headspace?	☐ Yes	☑ No	☐ N/A	Head Space
14.	QC stickers placed on bottles designated by client?	☐ Yes	☐ No	☑ N/A	
15.	Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)	☑ Yes	☐ No		
16.	Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)	☐ Yes	☐ No	☑ No Discrepancies	

SR-002-B