

H1203

0054700

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B00-029 H1203

DATE RECEIVED: 01/03/01

RFW LOT # :0101L682

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
---------------------	-------	-----	--------	------------	-----------	----------

B116X9

% SOLIDS	001	S	01L&S002	12/28/00	01/04/01	01/04/01
% SOLIDS	001 REP	S	01L&S002	12/28/00	01/04/01	01/04/01
CHROMIUM VI	001	S	01LVI004	12/28/00	01/17/01	01/17/01
CHROMIUM VI	001 REP	S	01LVI004	12/28/00	01/17/01	01/17/01
CHROMIUM VI	001 MS	S	01LVI004	12/28/00	01/17/01	01/17/01
CHROMIUM VI	001 MSD	S	01LVI004	12/28/00	01/17/01	01/17/01

LAB QC:

CHROMIUM VI	MB1	S	01LVI004	N/A	01/17/01	01/17/01
CHROMIUM VI	MB1 BS	S	01LVI004	N/A	01/17/01	01/17/01
CHROMIUM VI	MB1 BSD	S	01LVI004	N/A	01/17/01	01/17/01

RECEIVED
APR 02 2001

EDMC



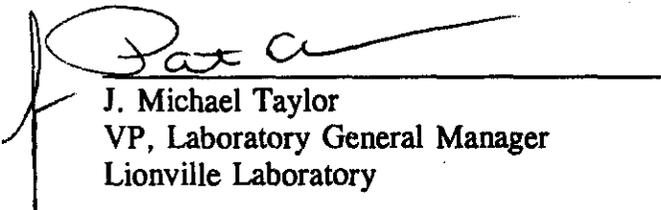
**Recra LabNet Philadelphia
Analytical Report**

Client : TNU-HANFORD B00-029 H1203
RFW# : 0101L682

W.O. # : 10985-001-001-9999-00
Date Received: 01-03-01

INORGANIC CASE NARRATIVE

1. This narrative covers the analyses of 1 soil sample.
2. The sample was prepared and analyzed in accordance with the methods checked on the attached glossary.
3. Sample holding times as required by the method and/or contract were met.
4. The cooler temperature was recorded on the chain-of-custody.
5. The method blank for Chromium VI was within method criteria.
6. The Laboratory Control Samples (LCS) for Chromium VI were within the laboratory control limits.
7. The matrix spike recoveries for Chromium VI were within the 75-125% control limits.
8. The replicate analyses were within the 20% Relative Percent Difference (RPD) control limit.
9. Results for solid samples are reported on a dry weight basis.
10. 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

01-24-01
Date

njp\01-682

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 10 pages.

WET CHEMISTRY
METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

	<u>ASTM</u>	<u>SW846</u>	<u>OTHER</u>
% Ash	___ D2216-80		
% Moisture	___ D2216-80		___ ILMO4.0 (e)
% Solids	✓ D2216-80		___ ILMO4.0 (e)
% Volatile Solids	___ D2216-80		
ASTM Extraction in Water	___ D3987-81/85		
BTU	___ D240-87		
CEC		___ 9081	___ c
Chromium VI		✓ 3060A/7196A	
Corrosivity ___ by coupon ___ by pH		___ 1110(mod) ___ 9045C	
Cyanide, Total		___ 9010B	___ ILMO4.0 (e)
Cyanide, Reactive		___ Section 7.3/9014	
Halides, Extractable Organic		___ 9020B	___ EPA 600/4/84-008
Halides, Total		___ 9020B	___ EPA 600/4/84-008
EP Toxicity		___ 1310A	
Flash Point		___ 1010	
Ignitability		___ 1010	
Oil & Grease		___ 9071A	
Carbon, Total Organic		___ 9060	___ Lloyd Kahn (mod)
Oxygen Bomb Prep for Anions	___ D240-87(mod)	___ 5050	
Petroleum Hydrocarbons, Total Recoverable		___ 9071	___ EPA 418.1
pH, Soil		___ 9045C	
Sulfide, Reactive		___ Section 7.3/9030B	
Sulfide		___ 9030B(mod)	
Specific Gravity	___ D1429-76C/	___ D5057-90	
Sulfur, Total		___ 9056	
Synthetic Preparation Leach		___ 1312	
Paint Filter		___ 9095A	

Other:

Method:

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 01/22/01

CLIENT: TNUHANFORD B00-029 H1203
WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0101L682

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B116X9	% Solids Chromium VI	93.6 4.1	% MG/KG	0.01 0.43	1.0 1.0

Recra LabNet - Lionville

INORGANICS METHOD BLANK DATA SUMMARY PAGE 01/22/01

CLIENT: TNUHANFORD B00-029 H1203
WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0101L682

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	01LVI004-MB1	Chromium VI	0.40 u	MG/KG	0.40	1.0

Recra LabNet - Lionville

INORGANICS ACCURACY REPORT 01/22/01

CLIENT: TNUHANFORD B00-029 H1203
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0101L682

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-001	B116X9	Soluble Chromium VI	12.9	4.1	8.5	102.5	1.0
		Insoluble Chromium VI	1750	4.1	1440	120.5	100
BLANK10	01LVI004-MB1	Soluble Chromium VI	7.7	0.40u	8.0	96.7	1.0
		Insoluble Chromium VI	1360	0.40u	1220	111.3	100

Recra LabNet - Lionville

INORGANICS PRECISION REPORT 01/22/01

CLIENT: TNUHANFORD B00-029 H1203
WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0101L682

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
-001REP	B116X9	% Solids	93.6	93.6	0.011	1.0
		Chromium VI	4.1	3.8	8.8	1.0



Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNUHANFORD B00-029 H1203

DATE RECEIVED: 01/03/01

RFW LOT # :0101L682

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B116X9						
SILVER, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
SILVER, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
SILVER, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
ALUMINUM, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
ALUMINUM, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
ALUMINUM, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
BARIUM, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
BARIUM, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
BARIUM, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
BERYLLIUM, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
BERYLLIUM, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
BERYLLIUM, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
CALCIUM, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
CALCIUM, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
CALCIUM, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
CADMIUM, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
CADMIUM, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
CADMIUM, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
COBALT, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
COBALT, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
COBALT, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
CHROMIUM, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
CHROMIUM, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
CHROMIUM, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
COPPER, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
COPPER, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
COPPER, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
IRON, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
IRON, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
IRON, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
POTASSIUM, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
POTASSIUM, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
POTASSIUM, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
MAGNESIUM, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
MAGNESIUM, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01

Recra LabNet - Lionville Laboratory
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD B00-029 H1203

DATE RECEIVED: 01/03/01

RFW LOT # :0101L682

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MAGNESIUM, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
MANGANESE, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
MANGANESE, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
MANGANESE, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
SODIUM, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
SODIUM, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
SODIUM, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
NICKEL, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
NICKEL, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
NICKEL, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
LEAD, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
LEAD, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
LEAD, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
ANTIMONY, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
ANTIMONY, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
ANTIMONY, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
VANADIUM, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
VANADIUM, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
VANADIUM, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01
ZINC, TOTAL	001	S	99L1876	12/28/00	01/05/01	01/06/01
ZINC, TOTAL	001 REP	S	99L1876	12/28/00	01/05/01	01/06/01
ZINC, TOTAL	001 MS	S	99L1876	12/28/00	01/05/01	01/06/01

LAB QC:

SILVER LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
SILVER, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
ALUMINUM LABORTORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
ALUMINUM, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
BARIUM LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
BARIUM, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
BERYLLIUM LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
BERYLLIUM, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
CALCIUM LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
CALCIUM, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
CADMIUM LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
CADMIUM, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
COBALT LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01

Recra LabNet - Lionville Laboratory
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD B00-029 H1203

DATE RECEIVED: 01/03/01

RFW LOT # :0101L682

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
COBALT, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
CHROMIUM LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
CHROMIUM, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
COPPER LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
COPPER, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
IRON LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
IRON, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
POTASSIUM LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
POTASSIUM, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
MAGNESIUM LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
MAGNESIUM, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
MANGANESE LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
MANGANESE, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
SODIUM LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
SODIUM, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
NICKEL LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
NICKEL, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
LEAD LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
LEAD, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
ANTIMONY LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
ANTIMONY, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
VANADIUM LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
VANADIUM, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01
ZINC LABORATORY	LC1 BS	S	99L1876	N/A	01/05/01	01/06/01
ZINC, TOTAL	MB1	S	99L1876	N/A	01/05/01	01/06/01

**Recra LabNet Philadelphia
Analytical Report**

Client: TNU-HANFORD B00-029
RFW#: 0101L682
SDG/SAF#: H1203/B00-029

W.O.#: 10985-001-001-9999-00
Date Received: 01-03-01

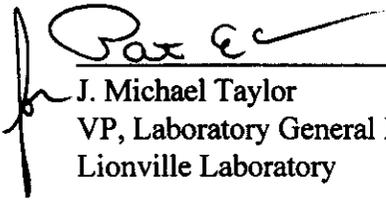
METALS CASE NARRATIVE

1. This narrative covers the analyses of 1 soil sample.
2. The sample was 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. The matrix spike (MS) recoveries for 4 analytes were outside the 75-125% control limits. Refer to the Inorganics Accuracy Report.
11. For analytes where the ICP MS is out-of-control, a post-digestion MS (PDS) and serial dilution are performed. A serial dilution is performed for Mercury. A PDS was prepared at meaningful concentration levels, due to high concentrations of the following analytes:

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 14 pages.

<u>Sample ID</u>	<u>Element</u>	<u>PDS</u>	
		<u>Concentration (ppb)</u>	<u>% Recovery</u>
B116X9	Aluminum	20,000	104.6
	Iron	20,000	101.6
	Manganese	1,100	104.1
	Antimony	100	107.6

12. The duplicate analysis for 1 analyte was outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.
13. 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.
14. 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
 gmb/m01-682

01-17-01
 Date



METALS METHOD GLOSSARY

The following methods are used as reference for the digestion and analysis of samples contained within this

Recra Lot#:

001266 *01012682*

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	<input checked="" type="checkbox"/> 6010B	<u> </u> 200.7			<u> </u> 99
Antimony	<input checked="" type="checkbox"/> 6010B <u> </u> 7041 ⁵	<u> </u> 200.7 <u> </u> 204.2			<u> </u> 99
Arsenic	<u> </u> 6010B <u> </u> 7060A ⁵	<u> </u> 200.7 <u> </u> 206.2	<u> </u> 3113B		<u> </u> 99
Barium	<input checked="" type="checkbox"/> 6010B	<u> </u> 200.7			<u> </u> 99
Beryllium	<input checked="" type="checkbox"/> 6010B	<u> </u> 200.7			<u> </u> 99
Bismuth	<u> </u> 6010B ¹	<u> </u> 200.7 ¹		<u> </u> 1620	<u> </u> 99
Boron	<u> </u> 6010B	<u> </u> 200.7			<u> </u> 99
Cadmium	<input checked="" type="checkbox"/> 6010B <u> </u> 7131A ⁵	<u> </u> 200.7 <u> </u> 213.2			<u> </u> 99
Calcium	<input checked="" type="checkbox"/> 6010B	<u> </u> 200.7			<u> </u> 99
Chromium	<input checked="" type="checkbox"/> 6010B <u> </u> 7191 ⁵	<u> </u> 200.7 <u> </u> 218.2			<u> </u> SS17
Cobalt	<input checked="" type="checkbox"/> 6010B	<u> </u> 200.7			<u> </u> 99
Copper	<input checked="" type="checkbox"/> 6010B <u> </u> 7211 ⁵	<u> </u> 200.7 <u> </u> 220.2			<u> </u> 99
Iron	<input checked="" type="checkbox"/> 6010B	<u> </u> 200.7			<u> </u> 99
Lead	<input checked="" type="checkbox"/> 6010B <u> </u> 7421 ⁵	<u> </u> 200.7 <u> </u> 239.2	<u> </u> 3113B		<u> </u> 99
Lithium	<u> </u> 6010B <u> </u> 7430 ⁴	<u> </u> 200.7		<u> </u> 1620	<u> </u> 99
Magnesium	<input checked="" type="checkbox"/> 6010B	<u> </u> 200.7			<u> </u> 99
Manganese	<input checked="" type="checkbox"/> 6010B	<u> </u> 200.7			<u> </u> 99
Mercury	<u> </u> 7470A ³ <u> </u> 7471A ³	<u> </u> 245.1 ² <u> </u> 245.5 ²			<u> </u> 99
Molybdenum	<input checked="" type="checkbox"/> 6010B	<u> </u> 200.7			<u> </u> 99
Nickel	<input checked="" type="checkbox"/> 6010B	<u> </u> 200.7			<u> </u> 99
Potassium	<input checked="" type="checkbox"/> 6010B <u> </u> 7610 ⁴	<u> </u> 200.7 <u> </u> 258.1 ⁴			<u> </u> 99
Rare Earths	<u> </u> 6010B ¹	<u> </u> 200.7 ¹		<u> </u> 1620	<u> </u> 99
Selenium	<u> </u> 6010B <u> </u> 7740 ⁵	<u> </u> 200.7 <u> </u> 270.2	<u> </u> 3113B		<u> </u> 99
Silicon	<u> </u> 6010B ¹	<u> </u> 200.7		<u> </u> 1620	<u> </u> 99
Silica	<u> </u> 6010B	<u> </u> 200.7		<u> </u> 1620	<u> </u> 99
Silver	<input checked="" type="checkbox"/> 6010B <u> </u> 7761 ⁵	<u> </u> 200.7 <u> </u> 272.2			<u> </u> 99
Sodium	<input checked="" type="checkbox"/> 6010B <u> </u> 7770 ⁴	<u> </u> 200.7 <u> </u> 273.1 ⁴			<u> </u> 99
Strontium	<u> </u> 6010B	<u> </u> 200.7			<u> </u> 99
Thallium	<u> </u> 6010B <u> </u> 7841 ⁵	<u> </u> 200.7 <u> </u> 279.2 <u> </u> 200.9			<u> </u> 99
Tin	<u> </u> 6010B	<u> </u> 200.7			<u> </u> 99
Titanium	<u> </u> 6010B	<u> </u> 200.7			<u> </u> 99
Uranium	<u> </u> 6010B ¹	<u> </u> 200.7 ¹		<u> </u> 1620	<u> </u> 99
Vanadium	<input checked="" type="checkbox"/> 6010B	<u> </u> 200.7			<u> </u> 99
Zinc	<input checked="" type="checkbox"/> 6010B	<u> </u> 200.7			<u> </u> 99
Zirconium	<u> </u> 6010B ¹	<u> </u> 200.7 ¹		<u> </u> 1620	<u> </u> 99

Other: _____

Method: _____

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 01/08/01

CLIENT: TNUHANFORD B00-029 H1203
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0101L682

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING	DILUTION
					LIMIT	FACTOR
-001	B116X9	Silver, Total	0.12 u	MG/KG	0.12	1.0
		Aluminum, Total	4850	MG/KG	2.4	1.0
		Barium, Total	51.5	MG/KG	0.02	1.0
		Beryllium, Total	0.08	MG/KG	0.01	1.0
		Calcium, Total	2740	MG/KG	2.0	1.0
		Cadmium, Total	0.04	MG/KG	0.03	1.0
		Cobalt, Total	5.3	MG/KG	0.09	1.0
		Chromium, Total	7.4	MG/KG	0.06	1.0
		Copper, Total	12.9	MG/KG	0.09	1.0
		Iron, Total	14000	MG/KG	2.3	1.0
		Potassium, Total	830	MG/KG	4.3	1.0
		Magnesium, Total	3390	MG/KG	0.70	1.0
		Manganese, Total	229	MG/KG	0.02	1.0
		Sodium, Total	123	MG/KG	0.43	1.0
		Nickel, Total	9.1	MG/KG	0.09	1.0
		Lead, Total	3.4	MG/KG	0.22	1.0
		Antimony, Total	0.24 u	MG/KG	0.24	1.0
		Vanadium, Total	32.8	MG/KG	0.08	1.0
		Zinc, Total	30.2	MG/KG	0.04	1.0

Recra LabNet - Lionville

INORGANICS METHOD BLANK DATA SUMMARY PAGE 01/08/01

CLIENT: TNUHANFORD B00-029 H1203
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0101L682

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-----	-----	-----	-----	-----	-----	-----
BLANK1	99L1876-MB1	Silver, Total	0.11 u	MG/KG	0.11	1.0
		Aluminum, Total	2.3	MG/KG	2.3	1.0
		Barium, Total	0.03	MG/KG	0.02	1.0
		Beryllium, Total	0.01 u	MG/KG	0.01	1.0
		Calcium, Total	1.9 u	MG/KG	1.9	1.0
		Cadmium, Total	0.03 u	MG/KG	0.03	1.0
		Cobalt, Total	0.09 u	MG/KG	0.09	1.0
		Chromium, Total	0.06 u	MG/KG	0.06	1.0
		Copper, Total	0.09 u	MG/KG	0.09	1.0
		Iron, Total	2.2 u	MG/KG	2.2	1.0
		Potassium, Total	4.1 u	MG/KG	4.1	1.0
		Magnesium, Total	0.67 u	MG/KG	0.67	1.0
		Manganese, Total	0.03	MG/KG	0.02	1.0
		Sodium, Total	4.7	MG/KG	0.41	1.0
		Nickel, Total	0.09 u	MG/KG	0.09	1.0
		Lead, Total	0.21 u	MG/KG	0.21	1.0
		Antimony, Total	0.23 u	MG/KG	0.23	1.0
		Vanadium, Total	0.08 u	MG/KG	0.08	1.0
		Zinc, Total	0.12	MG/KG	0.04	1.0

Recra LabNet - Lionville

INORGANICS ACCURACY REPORT 01/08/01

CLIENT: TNUHANFORD B00-029 H1203
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0101L682

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-001	B116X9	Silver, Total	4.9	0.12u	5.2	94.2	1.0
		Aluminum, Total	6570	4850	209	818.1*	1.0
		Barium, Total	251	51.5	209	95.1	1.0
		Beryllium, Total	4.8	0.08	5.2	90.8	1.0
		Calcium, Total	5750	2740	2620	114.9	1.0
		Cadmium, Total	4.8	0.04	5.2	91.5	1.0
		Cobalt, Total	54.6	5.3	52.4	94.1	1.0
		Chromium, Total	29.7	7.4	20.9	106.7	1.0
		Copper, Total	37.3	12.9	26.2	93.1	1.0
		Iron, Total	16600	14000	105	2524 *	1.0
		Potassium, Total	3590	830	2620	105.4	1.0
		Magnesium, Total	6470	3390	2620	117.9	1.0
		Manganese, Total	303	229	52.4	141.8*	1.0
		Sodium, Total	2660	123	2620	97.1	1.0
		Nickel, Total	58.8	9.1	52.4	94.8	1.0
		Lead, Total	50.7	3.4	52.4	90.3	1.0
		Antimony, Total	35.5	0.24u	52.4	67.7	1.0
		Vanadium, Total	89.7	32.8	52.4	108.6	1.0
		Zinc, Total	84.4	30.2	52.4	103.4	1.0

Recra LabNet - Lionville

INORGANICS PRECISION REPORT 01/08/01

CLIENT: TNUHANFORD B00-029 H1203
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0101L682

SAMPLE	SITE ID	ANALYTE	INITIAL			DILUTION FACTOR (REP)
			RESULT	REPLICATE	RPD	
-001REP	B116X9	Silver, Total	0.12u	0.12u	NC	1.0
		Aluminum, Total	4850	5410	10.9	1.0
		Barium, Total	51.5	52.4	1.7	1.0
		Beryllium, Total	0.08	0.09	14.8	1.0
		Calcium, Total	2740	2810	2.4	1.0
		Cadmium, Total	0.04	0.03u	NC < LO	1.0
		Cobalt, Total	5.3	5.3	0.00	1.0
		Chromium, Total	7.4	8.6	15.0	1.0
		Copper, Total	12.9	12.1	6.4	1.0
		Iron, Total	14000	14300	2.3	1.0
		Potassium, Total	830	937	12.1	1.0
		Magnesium, Total	3390	3630	7.0	1.0
		Manganese, Total	229	235	2.8	1.0
		Sodium, Total	123	136	10.1	1.0
		Nickel, Total	9.1	10.0	9.4	1.0
		Lead, Total	3.4	3.8	11.1	1.0
		Antimony, Total	0.24u	0.24u	NC	1.0
		Vanadium, Total	32.8	32.5	0.92	1.0
		Zinc, Total	30.2	31.7	4.8	1.0

Handwritten signature and date: 1/12/01

Recra LabNet - Lionville

INORGANICS LABORATORY CONTROL STANDARDS REPORT 01/08/01

CLIENT: TNUHANFORD B00-029 H1203
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 0101L682

SAMPLE	SITE ID	ANALYTE	SPIKED		UNITS	%RECOV
			SAMPLE	AMOUNT		
LCS1	99L1876-LC1	Silver, LCS	51.7	50.0	MG/KG	103.4
		Aluminum, LCS	534	500	MG/KG	106.9
		Barium, LCS	509	500	MG/KG	101.8
		Beryllium, LCS	25.0	25.0	MG/KG	100
		Calcium, LCS	2500	2500	MG/KG	99.9
		Cadmium, LCS	25.5	25.0	MG/KG	102.0
		Cobalt, LCS	258	250	MG/KG	103.1
		Chromium, LCS	51.7	50.0	MG/KG	103.4
		Copper, LCS	128	125	MG/KG	102.7
		Iron, LCS	514	500	MG/KG	102.8
		Potassium, LCS	2680	2500	MG/KG	107.3
		Magnesium, LCS	2580	2500	MG/KG	103.0
		Manganese, LCS	78.9	75.0	MG/KG	105.2
		Sodium, LCS	2520	2500	MG/KG	100.8
		Nickel, LCS	203	200	MG/KG	101.6
		Lead, LCS	250	250	MG/KG	100.2
		Antimony, LCS	301	300	MG/KG	100.3
		Vanadium, LCS	261	250	MG/KG	104.3
		Zinc, LCS	102	100	MG/KG	101.9

RECRA LabNet Use Only
0101L682

Custody Transfer Record/Lab Work Request

Page 1 of 1
FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS



Client <u>TNU - Hanford 800-029</u>	Refrigerator #	A	B	C	D	E	
Est. Final Proj. Sampling Date	#/Type Container	Liquid	Liquid	Liquid	Liquid	Liquid	
Project # <u>10985-001-001-9999-00</u>	Solid	lag	lag	lag	lag	lag	
Project Contact/Phone #	Volume	Liquid	Liquid	Liquid	Liquid	Liquid	
RECRA Project Manager <u>OJ</u>	Solid	250	250	250	150	60	
OC <u>Spec</u> Del <u>Std</u> TAT <u>3 day</u>	Preservatives	-	-	-	-	-	
Date Rec'd <u>1-3-01</u> Date Due <u>1-6-01</u>	ANALYSES REQUESTED →	ORGANIC				INORG	
Account #		VOA	BNA	Pest/PCB	Herb	ICP Metal	CN Hex Chrome

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 OC Chosen (✓)		Matrix	Date Collected	Time Collected	RECRA LabNet Use Only														
			MS	MSD				VOA	BNA	Pest/PCB	Herb	ICP Metal	CN	Hex Chrome								
													Met	ICR								
	001	B116X9	✓	✓	S	12/28/00	0950	X	X	X							X	X				

Special Instructions: Saf 800-029

DATE/REVISIONS:

Met ① 1. Al, Ag, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K,
L 2. Mg, Mn, Na, Ni, Sb, V, Zn, Pb

3. _____
4. _____
5. _____
6. _____

RECRA LabNet Use Only

Samples were:
1) Shipped or Hand Delivered _____
Airbill See Beha
2) Ambient or Chilled
3) Received in Good Condition or N
4) Labels Indicate Property Preserved or N
5) Received Within Holding Times or N

COC Tape was:
1) Present on Outer Package or N
2) Unbroken on Outer Package or N
3) Present on Sample or N
4) Unbroken on Sample or N
COC Record Present Upon Sample Rec't or N
Cooler Temp. 2.0 °C

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
<u>Yed Ex</u>	<u>Dygmile</u>	<u>1/3/01</u>	<u>0930</u>	COMPOSITE WASTE	ORIGINAL REWRITTEN		

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:
4235 7954 1492

13

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B00-029-70	Page 1 of 1
Collector Mike Stankovich	Company Contact Mike Stankovich	Telephone No. 531-7620	Project Coordinator TRENT, SJ		Price Code 2C	Data Turnaround 30 days		
Project Designation 100 F Area - Quick Turn	Sampling Location 116-F-14	SAF No. B00-029	Air Quality <input type="checkbox"/>					
Ice Chest No. ERC 99-063 (404)	Field Logbook No. EL-1535	COA R14 F14 2600	Method of Shipment Federal Express					
Shipped To TMA/RECRA	Offsite Property No. A010182	wa 12/21/00	Bill of Lading/Air Bill No. 42351953-1492					
POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C		
	Type of Container	aG	aG	aG	aG	aG		
	No. of Container(s)	1	1	1	1	1		
	Volume	60mL	60mL	500mL	500mL	500 ml		
Special Handling and/or Storage Cool 4 degrees								
SAMPLE ANALYSIS		Chromium Hex - 7196	See item (1) in Special Instructions.	Pesticide - 8081 8081 no 12/24/00 (2)	Semi-VOA - 8270A (TCL)	Herbicide 8150 (3)		
Sample No.	Matrix *	Sample Date	Sample Time					
B116X9	SOIL	12-28-00 28 no 12-28-00	0950				B116X8	
CHAIN OF POSSESSION			Sign/Print Names		SPECIAL INSTRUCTIONS			
Relinquished By Stankovich	Date/Time 1140 12-28-00	Received By R. Thoren	Date/Time 1140 12-28-00	(1) ICP Metals - 6010A (Supertrace) (Arsenic, Chromium, Lead); Mercury - 7491 + (CV) TCL list + Lead				
Relinquished By R. Thoren	Date/Time 1145 12-28-00	Received By STORBIN	Date/Time 1145 12-28-00	(2) Pesticide 8081				
Relinquished By Removed from R of IA 3728	Date/Time 0900 12-28-00	Received By R. Thoren	Date/Time 0900 12-28-00	(3) Herbicide 8150				
Relinquished By R. Thoren	Date/Time 0900 12-28-00	Received By FEDER	Date/Time 12-28-00					
Relinquished By FedEx	Date/Time 1301 12-30-00	Received By D. [Signature]	Date/Time 1301 12-30-00					
LABORATORY SECTION	Received By	Title		Date/Time				
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By		Date/Time				

Recra LabNet - Lionville Laboratory
 HBGX ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD B00-029 H1203

DATE RECEIVED: 01/03/01

RFW LOT # :0101L682

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B116X9	001	S	01LE0011	12/28/00	01/04/01	01/10/01
B116X9	001 MS	S	01LE0011	12/28/00	01/04/01	01/10/01
B116X9	001 MSD	S	01LE0011	12/28/00	01/04/01	01/10/01
LAB QC:				<i>01-16-01</i>		
PBLKLP	MB1	S	01LE0011	N/A	01/04/01	01/11/01
PBLKLP	MB1 BS	S	01LE0011	N/A	01/04/01	01/11/01

01-16-01



**Recra LabNet Philadelphia
Analytical Report**

Client: TNU HANFORD B00-029

RFW#: 0101L682

SDG/SAF#: H1203/B00-029

W.O.#: 10985-001-001-9999-00

Date Received: 01-03-01

HERBICIDE

One (1) soil sample was collected on 12-28-00.

The sample and its associated QC samples were extracted on 01-04-00 and analyzed according to Recra OPs based on SW846, 3rd Edition procedures on 01-10,11-00. The extraction and analysis procedure was based on method 8151.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. The cooler temperature has been recorded on the chain-of-custody.
2. All required holding times for extraction and analysis have been met.
3. The method blank was below the reporting limits for all target compounds.
4. All obtainable surrogate recoveries were within acceptance criteria.
5. One (1) of eight (8) blank spike recoveries was outside acceptance criteria. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
6. Matrix spike recoveries were unobtainable due to the dilution required for analysis.
7. The sample required a ten-fold instrument dilution due to chromatographic anomalies and high concentrations of non-target analytes. Reporting limits have been adjusted to reflect the necessary dilutions.
8. All initial calibrations associated with this data set were within acceptance criteria.
9. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

10. 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

pefr:\group\data\herb\01L-682.her

01-17-01
Date



Initiator: M. Kibel Batch: 0101L682 Parameter: OHBEK
 Date: 1/12/01 Samples: BS Matrix: Soil
 Client: TNU Method: SW846/MCAWW/CLP/ Prep Batch: OLE0011

1. Reason for SDR

a. COC Discrepancy Tech Profile Error Client Request Sampler Error on C-O-C
 Transcription Error Wrong Test Code Other _____

b. General Discrepancy

Missing Sample/Extract Container Broken Wrong Sample Pulled Label ID's Illegible
 Hold Time Exceeded Insufficient Sample Preservation Wrong Received Past Hold
 Improper Bottle Type Not Amenable to Analysis

Note: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. QC Problem (Include all relevant specific results; attach data if necessary)

① High 2,4-DB recovery in BS @ 172%. Samples are clean of targets.
 ② samples ran at 10-fold dilution due to high count of bromacil in BNA fraction.

2. Known or Probable Causes(s) (To be used for trend analysis)

- Lack of Organization Other (Please explain): _____
- Lack of Training
- Lack of Discipline
- Lack of Resources
- Lack of Time
- Lack of Management Support

3. Discussion and Proposed Action

Other Description: _____

- Re-log
- Entire Batch
- Following Samples: _____
- Re-leach
- Re-extract
- Re-digest
- Revise EDD
- Change Test Code to _____
- Place On/Take Off Hold (circle)

4. Project Manager Instructions...signature/date:

[Signature] 1/12/01

- Concur with Proposed Action
- Disagree with Proposed Action; See Instruction
- Include in Case Narrative
- Client Contacted:
- Date/Person _____
- Add
- Cancel

5. Final Action...signature/date:

[Signature] 01-16-01

Other Explanation: _____

- Verified re-[log][leach][extract][digest][analysis] (circle)
- Included in Case Narrative
- Hard Copy COC Revised
- Electronic COC Revised
- EDD Corrections Completed

When Final Action has been recorded, forward original to QA for distribution and filing.

Route/Distribution of SDR

Route

Distribution of Completed SDR

- Initiator
- Lab Manager: M. Taylor
- Project Mgr: Stone/Carey/Johnson
- Section Mgr: Wesson/Daniels
- QA (file): Schrenkel
- Data Management: Feldman
- Sample Prep: Bickel/Kauffman

- Metals: Doughty
- Inorganic: Perrone
- GC/LC: Pastor
- MS: Layman/Rycklak
- Log-in: Keppel
- Admin: Soos
- Other: _____

GLOSSARY OF HERBICIDE DATA

DATA QUALIFIERS

- U** = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
- J** = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
- E** = Indicates that the compound was detected beyond the calibration range.
- I** = Interference.

SUFFIXES

- BS** = Indicates blank spike in which reagent grade water is spiked with the matrix spiking solutions and- carried through all the steps in the method. Spike recoveries are reported.
- BSD** = Indicates blank spike duplicate.
- MS** = Indicates matrix spike.
- MSD** = Indicates matrix spike duplicate.

ABBREVIATIONS

- D** = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
- NA** = Not Applicable.
- DF** = Dilution Factor.
- NR** = Not Reported.
- SP** = Indicates spiked compound.

Recra LabNet - Lionville Laboratory

Herbicides, Special List

Report Date: 01/12/01 12:59

RFW Batch Number: 0101L682

Client: TNUHANFORD B00-029 H1203 Work Order: 10985001001 Page: 1

60

Sample Information	Cust ID:	B116X9	B116X9	B116X9	PBLKLP	PBLKLP BS
RFW#:	001	001 MS	001 MSD	01LE0011-MB1	01LE0011-MB1	
Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
D.F.:	10.0	10.0	10.0	1.00	1.00	
Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	
Surrogate:	DCAA	I %	I %	I %	94 %	100 %
		fl	fl	fl	fl	fl
Dalapon	1800 U	D %	D %	D %	170 U	60 %
Dicamba	710 U	D %	D %	D %	67 U	99 %
Dichloroprop	1800 U	D %	D %	D %	170 U	101 %
2,4-D	360 U	D %	D %	D %	33 U	117 %
2,4,5-TP (Silvex)	180 U	D %	D %	D %	17 U	108 %
2,4,5-T	180 U	D %	D %	D %	17 U	140 %
2,4-DB	1800 U	D %	D %	D %	170 U	172 * %
Dinoseb	180 U	D %	D %	D %	17 U	70 %

aw
01-16-01

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
% = Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B00-029-70		Page 1 of 1			
Collector Mike Stankovich		Company Contact Mike Stankovich		Telephone No. 531-7620		Project Coordinator TRENT, SJ		Price Code 2C		Data Turnaround		
Project Designation 100 F Area - Quick Turn		Sampling Location 116-F-14		SAF No. B00-029		Air Quality <input type="checkbox"/>		3 Day ⁰⁰ _(C)				
Ice Chest No. ERC 99-063 (lot)		Field Logbook No. EL-1535		COA RHF14 2600		Method of Shipment Federal Express						
Shipped To TMA/RECRA		Offsite Property No. A010182		wa 12/21/00		Bill of Lading/Air Bill No. 42357953-1492						
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C			
				Type of Container	aG	aG	aG	aG	aG			
				No. of Container(s)	1	1	1	1	1			
				Volume	60mL	60mL	500mL	500mL	500 ml			
Special Handling and/or Storage Cool 4 degrees				Chromium Hex - 7196	See item (1) in Special Instructions.	Pests - 8082 Pesticide 8081 wa 12/23/00 (2)	Semi-VOA - 8270A (TCL)	Herbicide 8150 (3)				
SAMPLE ANALYSIS												
Sample No.	Matrix *	Sample Date	Sample Time									
B116X9	SOIL	12-27-00	0950							B116X8		
		28 wa 12-28-00										
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS				
Relinquished By Stankovich		Date/Time 12-28-00		Received By R. Thoren		Date/Time 12-28-00		(1) ICP Metals - 6010A (Supertrace) (Arsenic, Chromium, Lead, Mercury - 7491-1CV) TCL list + Lead (2) Pesticide 8081 (3) Herbicide 8150 wa 12/24/00				
Relinquished By R. Thoren		Date/Time 12-28-00		Received By STORBIN		Date/Time 12-28-00						
Relinquished By Removed from		Date/Time 0900		Received By R. Thoren		Date/Time 0900						
Relinquished By Ref IA 3728		Date/Time 12-28-00		Received By R. Thoren		Date/Time 12-28-00						
Relinquished By R. Thoren		Date/Time 12-28-00		Received By FEDER		Date/Time 12-28-00						
Relinquished By FedEx		Date/Time 13-01-00		Received By D. [Signature]		Date/Time 13-01-00						
LABORATORY SECTION				Received By				Title				
FINAL SAMPLE DISPOSITION				Disposal Method				Disposed By				
								Date/Time				
								Date/Time				

Figure 1. Sample Check-in List

Date/Time Received: 1301 / 09:30

SDG#: 01011682

Work Order Number: _____

SAF# B00-029

Shipping Container ID: ERC-99-063

Chain of Custody # B00-029-70

- 1. Custody Seals on shipping container intact? Yes No
- 2. Custody Seals dated and signed? Yes No
- 3. Chain-of-Custody record present? Yes No
- 4. Cooler temperature 20°
- 5. Vermiculite/packing materials is Wet Dry
- 6. Number of samples in shipping container: 5
- 7. Sample holding times exceeded? Yes No

<p>8. Samples have:</p> <p style="margin-left: 20px;"> <input type="checkbox"/> tape <input type="checkbox"/> hazard labels <input checked="" type="checkbox"/> custody seals <input type="checkbox"/> appropriate sample labels </p>
<p>9. Samples are:</p> <p style="margin-left: 20px;"> <input checked="" type="checkbox"/> in good condition <input type="checkbox"/> leaking <input type="checkbox"/> broken <input type="checkbox"/> have air bubbles </p>

10. Were any anomalies identified in sample receipt? Yes No

11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: D. Smith / BECRA Date: 1301

Telephoned to: _____ On _____ By _____

Recra LabNet - Lionville Laboratory
 PEST/PCB ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD B00-029 H1203

DATE RECEIVED: 01/03/01

RFW LOT # :0101L682

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B116X9	001	S	01LE0009	12/28/00	01/04/01	01/06/01
B116X9	001 MS	S	01LE0009	12/28/00	01/04/01	01/06/01
B116X9	001 MSD	S	01LE0009	12/28/00	01/04/01	01/06/01
LAB QC:				<i>sw 01-16-01</i>		
PBLKLR	MB1	S	01LE0009	N/A	01/04/01	01/06/01
PBLKLR	MB1 BS	S	01LE0009	N/A	01/04/01	01/06/01

sw 01-16-01



**Recra LabNet Philadelphia
Analytical Report**

Client: TNU HANFORD B00-029
RFW#: 0101L682
SDG/SAF#: H1203/B00-029

W.O.#: 10985-001-001-9999-00
Date Received: 01-03-01

PESTICIDE

One (1) soil sample was collected on 12-28-00.

The sample and its associated QC samples were extracted on 01-04-00 and analyzed according to Recra OPs based on SW846, 3rd Edition procedures on 01-06-00. The extraction procedure was based on method 3550 and the extracts were analyzed based on method 8081.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. The cooler temperature has been recorded on the chain-of-custody.
2. All required holding times for extraction and analysis have been met.
3. The method blank was below the reporting limits for all target compounds.
4. Five (5) of ten (10) surrogate recoveries were outside acceptance criteria. Decachlorobiphenyl was diluted out in the sample, but was reported per client's instructions. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
5. All blank spike recoveries were within acceptance criteria.
6. Six (6) of ten (10) obtainable matrix spike recoveries were outside acceptance criteria. The spike recoveries were reported on a 1/10 dilution, where the spike compounds were diluted out of calibration range. A copy of the Sample Discrepancy Report (SDR) has been enclosed.
7. The sample required a ten-fold instrument dilution due to high concentrations of non-target analytes. Reporting limits have been adjusted to reflect the necessary dilutions.
8. All initial calibrations associated with this data set were within acceptance criteria.
9. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.

10. 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.

by 
J. Michael Taylor
VP, Laboratory General Manager
Lionville Laboratory

01-17-01
Date

pefr:\group\data\pest\01L-682.pes



Initiator: M. Keppel
Date: 1/9/01
Client: TNU

Batch: 01012682
Samples: MS, MSD, B
Method: SW846/MCAWW/CLPI

Parameter: 06084
Matrix: Soil
Prep Batch: 00LE0009

1. Reason for SDR

a. COC Discrepancy Tech Profile Error Client Request Sampler Error on C-O-C
 Transcription Error Wrong Test Code Other _____

b. General Discrepancy

Missing Sample/Extract Container Broken Wrong Sample Pulled Label ID's Illegible
 Hold Time Exceeded Insufficient Sample Preservation Wrong Received Past Hold
 Improper Bottle Type Not Amenable to Analysis

Note: Verified by [Log-In] or [Prep Group] (circle)...signature/date: _____

c. QC Problem (Include all relevant specific results; attach data if necessary)

① ^{spikes} high surrogates in MS + MSD (see attached). 0% recovery of heptachlor in MSD
② low surrogates in blank; TCX @ 14% and DCB @ 14%. Samples are clean not target.

2. Known or Probable Causes(s) (To be used for trend analysis)

- Lack of Organization
- Lack of Training
- Lack of Discipline
- Lack of Resources
- Lack of Time
- Lack of Management Support

Other (Please explain): sample + surrogate of 1/9/01. * poor spike recoveries in MS + MSD due to 10-fold dilution. (bromacil hit in BNA fraction).

3. Discussion and Proposed Action

Other Description:

- Re-log
- Entire Batch
- Following Samples: _____
- Re-leach
- Re-extract
- Re-digest
- Revise EDD
- Change Test Code to _____
- Place On/Take Off Hold (circle)

4. Project Manager Instructions...signature/date:

John Taylor 1/9/01

- Concur with Proposed Action
- Disagree with Proposed Action; See Instruction
- Include in Case Narrative
- Client Contacted:
- Date/Person _____
- Add
- Cancel

5. Final Action...signature/date:

Stone/Carey/Johnson

Other Explanation:

- Verified re-[log][leach][extract][digest][analysis] (circle)
- Included in Case Narrative
- Hard Copy COC Revised
- Electronic COC Revised
- EDD Corrections Completed

When Final Action has been recorded, forward original to QA for distribution and filing.

Route/Distribution of SDR

Route

Distribution of Completed SDR

- Initiator
- Lab Manager: M. Taylor
- Project Mgr: Stone/Carey/Johnson
- Section Mgr: Wesson/Daniels
- QA (file): Schrenkel
- Data Management: Feldman
- Sample Prep: Bickel/Kauffman

- Metals: Doughty
- Inorganic: Perrone
- GC/LC: Pastor
- MS: Layman/Rycklak
- Log-in: Keppel
- Admin: Soos
- Other: _____

GLOSSARY OF PESTICIDE/PCB DATA

DATA QUALIFIERS

- U** = Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).
- J** = Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination.
- E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- I** = Interference.

ABBREVIATIONS

- BS** = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD** = Indicates blank spike duplicate.
- MS** = Indicates matrix spike.
- MSD** = Indicates matrix spike duplicate.
- DL** = Indicates that recoveries were not obtained because the extract had to be diluted for analysis.
- NA** = Not Applicable.
- DF** = Dilution Factor.
- NR** = Not Required.
- SP** = Indicates Spiked Compound.



GLOSSARY OF PESTICIDE/PCB DATA

- P** = This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".
- D** = This flag identifies all compounds identified in an analysis at a secondary dilution factor.
- C** = This flag applies to a compound that has been confirmed by GC/MS.

RFW #21-21-035/A-03/97



Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				B00-029-70	Page 1 of 1		
Collector Mike Stankovich		Company Contact Mike Stankovich		Telephone No. 531-7620		Project Coordinator TRENT, SJ	Price Code 2C Data Turnaround 30 days		
Project Designation 100 F Area - Quick Turn		Sampling Location 116-F-14		SAF No. B00-029		Air Quality <input type="checkbox"/>	30 days		
Ice Chest No. ERC 99-063 (104)		Field Logbook No. EL-1535		COA R14F14 2600		Method of Shipment Federal Express			
Shipped To TMA/RECREA		Offsite Property No. A010182		wa 12/21/00		Bill of Lading/Air Bill No. 42351953-1497			
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation	Cool 4C	None	Cool 4C	Cool 4C	Cool 4C
				Type of Container	aG	aG	aG	aG	aG
				No. of Container(s)	1	1	1	1	1
				Volume	60mL	60mL	500mL	500mL	500 ml
Special Handling and/or Storage Cool 4 degrees				Chromium Hex - 7196	See item (1) in Special Instructions.	Pests - B02 Pesticide 8081 wa 12/21/00 (2)	Semi-VOA - 8270A (TCL)	Herbicide 8150 (3)	
SAMPLE ANALYSIS									
Sample No.	Matrix *	Sample Date	Sample Time						
B116X9	SOIL	12-27-00	0950						B116X8
		28 wa 12/21/00							
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS				Matrix *	
Relinquished By Stankovich		Date/Time 12-27-00 1140		Received By R. Thoren		Date/Time 12-28-00 1140		(1) ICP Metals - 6010A (Supertrace) (Arsenic, Chromium, Lead); Mercury - 7491 (CV) TCL list + Lead (2) Pesticide 8081 (3) Herbicide 8150 wa 12/21/00	S-Soil SS-Soil/Sludge SO-Solid S-Sludge W-Water O-Oil A-Air DS-Dross Solids DL-Dross Liquids T-Tissue W-Wipe L-Liquid V-Vegetation X-Other
Relinquished By R. Thoren		Date/Time 12-28-00 1145		Received By STORERIN		Date/Time 12-28-00 1145			
Relinquished By Removed from		Date/Time 0100		Received By R. Thoren		Date/Time 0100			
Relinquished By Ref IA 3728		Date/Time 12-28-00 1145		Received By R. Thoren		Date/Time 12-28-00 1145			
Relinquished By R. Thoren		Date/Time 0100		Received By FEDER		Date/Time 1-2-01			
Relinquished By FedEx		Date/Time 13-01-0930		Received By D. Thoren		Date/Time 13-01-0930			
LABORATORY SECTION		Received By		Title				Date/Time	
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time	

Figure 1. Sample Check-in List

Date/Time Received: 1.3.01 / 09:30

SDG#: 01011682

Work Order Number: _____

SAF# B00-029

Shipping Container ID: ERC-99-063

Chain of Custody # B00-029-70

1. Custody Seals on shipping container intact? Yes No

2. Custody Seals dated and signed? Yes No

3. Chain-of-Custody record present? Yes No

4. Cooler temperature 2.0°

5. Vermiculite/packing materials is Wet Dry

6. Number of samples in shipping container: 5

7. Sample holding times exceeded? Yes No

<p>8. Samples have:</p> <p>_____ tape _____ hazard labels</p> <p><input checked="" type="checkbox"/> custody seals _____ appropriate sample labels</p>
<p>9. Samples are:</p> <p><input checked="" type="checkbox"/> in good condition _____ leaking</p> <p>_____ broken _____ have air bubbles</p>

10. Were any anomalies identified in sample receipt? Yes No

11. Description of anomalies (include sample numbers): _____

Sample Custodian/Laboratory: D. J. Smith / BECRA Date: 1.3.01

Telephoned to: _____ On _____ By _____

Recra LabNet - Lionville Laboratory
 BNA ANALYTICAL DATA PACKAGE FOR
 TNUHANFORD B00-029 H1203

DATE RECEIVED: 01/03/01

RFW LOT # :0101L682

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B116X9	001	S	01LE0010	12/28	01/04/01	01/05/01
B116X9	001 MS	S	01LE0010	12/28	01/04/01	01/05/01
B116X9	001 MSD	S	01LE0010	12/28	01/04/01	01/05/01

LAB QC:

SBLKLS	MB1	S	01LE0010	N/A	01/04/01	01/05/01
SBLKLS	MB1 BS	S	01LE0010	N/A	01/04/01	01/05/01



**Recra LabNet Philadelphia
Analytical Report**

Client: TNU-HANFORD B00-029
RFW #: 0101L682
SDG/SAF #: H1203/B00-029

W.O. #: 10985-001-001-9999-00
Date Received: 01-03-2001

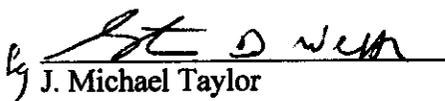
SEMIVOLATILE

One (1) soil sample was collected on 12-28-2000.

The sample and its associated QC samples were extracted on 01-04-2001 and analyzed according to criteria set forth in Recra OPs based on SW 846 Method 8270C for TCL Semivolatile target compounds on 01-05-2001.

The following is a summary of the QC results accompanying the sample results and a description of any problems encountered during their analyses:

1. The cooler temperature upon receipt has been recorded on the chain-of-custody.
2. The sample was extracted and analyzed within required holding times.
3. Non-target compounds were detected in the sample.
4. The sample required a 20-fold dilution due to high levels of non-target compounds.
5. All surrogate recoveries were within EPA QC limits.
6. One (1) of twenty-two (22) matrix spike recoveries was outside EPA QC limits.
7. All blank spike recoveries were within EPA QC limits.
8. The method blank contained the common laboratory contaminant Bis(2-Ethylhexyl)phthalate at a level less than the CRQL.
9. Internal standard area and retention time criteria were met.
10. "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
V.P./Laboratory General Manager
Lionville Laboratory

01-25-01
Date

son\group\data\bna\tnu-hanford-01-682.doc

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 11 pages.

GLOSSARY OF BNA DATA

DATA QUALIFIERS

- U** = Compound was analyzed for but not detected. The associated numerical value is the estimated sample quantitation limit which is included and corrected for dilution and percent moisture.
- J** = Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; or 2) when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. For example, if the limit of detection is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
- B** = This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is also used for a TIC as well as for a positively identified TCL compound.
- E** = Indicates that the compound was detected beyond the calibration range and was subsequently analyzed at a dilution.
- D** = Identifies all compounds identified in an analysis at a secondary dilution factor.
- I** = Interference.
- NQ** = Result qualitatively confirmed but not able to quantify.
- A** = Indicates that a TIC is a suspected aldol-condensation product.
- N** = Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
- X** = This flag is used for a TIC compound which is quantified relative to a response factor generated from a daily calibration standard (rather than quantified relative to the closest internal standard).
- Y** = Additional qualifiers used as required are explained in the case narrative.



GLOSSARY OF BNA DATA

ABBREVIATIONS

- BS** = Indicates blank spike in which reagent grade water is spiked with the CLP matrix spike solutions and carried through all the steps in the method. Spike recoveries are reported.
- BSD** = Indicates blank spike duplicate.
- MS** = Indicates matrix spike.
- MSD** = Indicates matrix spike duplicate.
- DL** = Suffix added to sample number to indicate that results are from a diluted analysis.
- NA** = Not Applicable.
- DF** = Dilution Factor.
- NR** = Not Required.
- SP, Z** = Indicates Spiked Compound.



Cust ID: B116X9 B116X9 B116X9 SBLKLS SBLKLS BS
 RFW#: 001 001 MS 001 MSD 01LE0010-MB1 01LE0010-MB1

2-Chloronaphthalene	7000 U	6800 U	6900 U	330 U	330 U
2-Nitroaniline	18000 U	17000 U	17000 U	830 U	830 U
Dimethylphthalate	7000 U	6800 U	6900 U	330 U	330 U
Acenaphthylene	7000 U	6800 U	6900 U	330 U	330 U
2,6-Dinitrotoluene	7000 U	6800 U	6900 U	330 U	330 U
3-Nitroaniline	18000 U	17000 U	17000 U	830 U	830 U
Acenaphthene	7000 U	77 %	76 %	330 U	78 %
2,4-Dinitrophenol	18000 U	17000 U	17000 U	830 U	830 U
4-Nitrophenol	18000 U	37 %	32 %	830 U	57 %
Dibenzofuran	7000 U	6800 U	6900 U	330 U	330 U
2,4-Dinitrotoluene	7000 U	54 %	60 %	330 U	76 %
Diethylphthalate	7000 U	6800 U	6900 U	330 U	330 U
4-Chlorophenyl-phenylether	7000 U	6800 U	6900 U	330 U	330 U
Fluorene	7000 U	6800 U	6900 U	330 U	330 U
4-Nitroaniline	18000 U	17000 U	17000 U	830 U	830 U
4,6-Dinitro-2-methylphenol	18000 U	17000 U	17000 U	830 U	830 U
N-Nitrosodiphenylamine (1)	7000 U	6800 U	6900 U	330 U	330 U
4-Bromophenyl-phenylether	7000 U	6800 U	6900 U	330 U	330 U
Hexachlorobenzene	7000 U	6800 U	6900 U	330 U	330 U
Pentachlorophenol	18000 U	30 %	34 %	830 U	82 %
Phenanthrene	7000 U	6800 U	6900 U	330 U	330 U
Anthracene	7000 U	6800 U	6900 U	330 U	330 U
Carbazole	7000 U	6800 U	6900 U	330 U	330 U
Di-n-butylphthalate	7000 U	6800 U	6900 U	330 U	330 U
Fluoranthene	7000 U	6800 U	6900 U	330 U	330 U
Pyrene	7000 U	80 %	88 %	330 U	94 %
Butylbenzylphthalate	7000 U	6800 U	6900 U	330 U	330 U
3,3'-Dichlorobenzidine	7000 U	6800 U	6900 U	330 U	330 U
Benzo(a)anthracene	7000 U	6800 U	6900 U	330 U	330 U
Chrysene	7000 U	6800 U	6900 U	330 U	330 U
bis(2-Ethylhexyl)phthalate	7000 U	6800 U	6900 U	41 J	31 JB
Di-n-octyl phthalate	7000 U	6800 U	6900 U	330 U	330 U
Benzo(b)fluoranthene	7000 U	6800 U	6900 U	330 U	330 U
Benzo(k)fluoranthene	7000 U	6800 U	6900 U	330 U	330 U
Benzo(a)pyrene	7000 U	6800 U	6900 U	330 U	330 U
Indeno(1,2,3-cd)pyrene	7000 U	6800 U	6900 U	330 U	330 U
Dibenz(a,h)anthracene	7000 U	6800 U	6900 U	330 U	330 U
Benzo(g,h,i)perylene	7000 U	6800 U	6900 U	330 U	330 U

(1) - Cannot be separated from Diphenylamine. *= Outside of EPA CLP QC limits.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

B116X9

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNUHANFORD B00-029 H1203

Matrix: (soil/water) SOIL

Lab Sample ID: 0101L682-001

Sample wt/vol: 30.5 (g/mL) G

Lab File ID: D010505

Level: (low/med) LOW

Date Received: 01/03/01

% Moisture: 6 decanted: (Y/N) __

Date Extracted: 01/04/01

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 01/05/01

Injection Volume: 2.0 (uL)

Dilution Factor: 20.0

GPC Cleanup: (Y/N) N

pH: 7.0

CONCENTRATION UNITS:

Number TICs found: 4

(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	DICHLOROPHENYL ISOCYANATE	14.44	30000	J
2.	DICHLOROBENZENAMINE	16.24	4000	J
3.	UNKNOWN	19.23	3000	J
4. 314-40-9	BOMACIL	21.48	500000	JN

1F
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

SBLKLS

Lab Name: Recra.LabNet Work Order: 10985001001

Client: TNUHANFORD B00-029 H1203

Matrix: (soil/water) SOIL Lab Sample ID: 01LE0010-MB1

Sample wt/vol: 30.0 (g/mL) G Lab File ID: D010503

Level: (low/med) LOW Date Received: 01/04/01

% Moisture: decanted: (Y/N) Date Extracted: 01/04/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 01/05/01

Injection Volume: 2.0 (uL) Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH: 7.0

Number TICs found: 1 CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	7.671	400	J

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST					B00-029-70		Page 1 of 2			
Collector Mike Stankovich		Company Contact Mike Stankovich		Telephone No. 531-7620		Project Coordinator TRENT, SJ		Price Code 2C		Data Turnaround		
Project Designation 100 F Area - Quick Turn		Sampling Location 116-F-14		SAF No. B00-029		Air Quality <input type="checkbox"/>		30 Days				
Ice Chest No. ERC 99-063 (off)		Field Logbook No. EL-1535		COA R14 F14 2600		Method of Shipment Federal Express						
Shipped To TMA/RECRE		Offsite Property No. A010182		Bill of Lading/Air Bill No. 42351953-1492								
POSSIBLE SAMPLE HAZARDS/REMARKS				Preservation		Cool 4C	None	Cool 4C	Cool 4C	Cool 4C		
				Type of Container		aG	aG	aG	aG	aG		
				No. of Container(s)		1	1	1	1	1		
				Volume		60mL	60mL	500mL	500mL	500 ml		
Special Handling and/or Storage Cool 4 degrees				Chromium Hex - 7196		See item (1) in Special Instructions.		PCBs - 8082 Pesticide 8081 no 12/28/00 (2)		Semi-VOA - 8270A (TCL) Herbicide 8150 (3)		
SAMPLE ANALYSIS				TR-70								
Sample No.	Matrix *	Sample Date	Sample Time									
B116X9	SOIL	12-28-00	0950							B116X8		
		28 no 12-28-00										
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS				Matrix *				
Relinquished By Stankovich		Date/Time 12-28-00 1140		Received By R. Thoren		Date/Time 12-28-00 1140		(1) ICP Metals - 6010A (Supertrace) (Asenic, Chromium, Lead), Mercury - 4491 (CV) no 12/28/00 TCL list + Lead				
Relinquished By R. Thoren		Date/Time 12-28-00 1NS		Received By Stored in Ref IA 3728		Date/Time 12-28-00 1NS		(2) Pesticide 8081				
Relinquished By Removed from		Date/Time 12-28-00 0900		Received By R. Thoren		Date/Time 12-28-00 0900		(3) Herbicide 8150				
Relinquished By R. Thoren		Date/Time 12-28-00 120		Received By FEDEx		Date/Time 12-28-00 120						
Relinquished By FedEx		Date/Time 1-3-01 1030		Received By D. [Signature]		Date/Time 1-3-01 1030						
LABORATORY SECTION		Received By		Title				Date/Time				
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By				Date/Time				