RECRA LabNet
a division of Recra Environmental, Inc.
Virtual Laboratories Everywhere

0051776

AUG 1999 RECEIVED Data Log In

Recra LabNet Philadelphia
Analytical Report
****REVISION****

Client : TNU-HANFORD B99-002
RFW# : 9904L629
SDG# : H0377
SAF# : B99-002

W.O. # : 10985-001-001-9999-00
Date Received: 04-07-99

INORGANIC CASE NARRATIVE

51534

This package was revised to correct the Chromium VI Percent Recovery calculations.

1. This narrative covers the analyses of 4 soil samples.
2. The samples were prepared and analyzed in accordance with the methods indicated 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 analysis for Chromium VI was within the 20% Relative Percent Difference (RPD) control limit.
9. Results for solid samples are reported on a dry weight basis.

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

8-9-99
Date

pef\i04-629

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.

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

WET CHEMISTRY
METHODS GLOSSARY FOR ANALYSIS OF SOIL/SOLID SAMPLES

	ASTM	SW846	OTHER
%Ash	__ D2216-80		
%Moisture	__ D2216-80		__ ILMO4.0 (e)
%Solids			✓ ILMO4.0 (e)
%Volatile Solids	__ D2216-80		
ASTM Extraction in Water	__ D3987-81/85		
BTU	__ D240-87		
CEC		__ 9081	__ c
Corrosivity __by coupon __by pH		__ 1110 (mod)__ 9045	
Cyanide, Total		__ 9010	__ ILMO4.0 (e)
Cyanide, Reactive		__ Sec 7.3	
Density			__ b
Halides, Extractable Organic			__ EPA 600/4/84-008 (mod)
Halides, Total			__ EPA 600/4/84-008 (mod)
EP-Toxicity		__ 1310A	
Flash Point		__ 1010	
Ignitability		__ 1010	
Carbon, Total Organic (by LOI)			__ c
Oil and 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 (mod)
pH, Soil		__ 9045B	
Sulfide, Reactive		__ Sec 7.3	
Specific Gravity	__ D1429-76C		
Sulfur, Total		__ 9056	
TCLP		__ 1311	
TCLV		__ 1311	
Synthetic Precipitation Leach		__ 1312	
Chlorine, Total		__ 9056	
Paint Filter		__ 9095	

Other: Chromium VI Method: SW3060A/7196A

RWW 21-21-034/B-08/95

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., (1989).

b. Standard Methods for the Examination of Water and Waste, 17 ed., (1983)

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.

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INORGANICS DATA SUMMARY REPORT 04/13/99

CLIENT: TNU-HANFORD B99-002 RECRA LOT #: 9904L629

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	B0V1W7	% Solids	96.3	%	0.01	1.0
		Chromium VI	0.86	MG/KG	0.42	1.0
-002	B0V1W8	% Solids	94.4	%	0.01	1.0
		Chromium VI	0.86	MG/KG	0.42	1.0
-003	B0V1W9	% Solids	95.5	%	0.01	1.0
		Chromium VI	0.42 u	MG/KG	0.42	1.0
-004	B0V1X0	% Solids	91.5	%	0.01	1.0
		Chromium VI	0.44 u	MG/KG	0.44	1.0

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INORGANICS METHOD BLANK DATA SUMMARY PAGE 04/13/99

CLIENT: TNU-HANFORD B99-002

RECRA LOT #: 9904L629

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	99LVI033-MB1	Chromium VI	0.40 u	MG/KG	0.40	1.0

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INORGANICS ACCURACY REPORT 04/13/99

CLIENT: TNU-HANFORD B99-002 RECRA LOT #: 9904L629

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

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR(SPK)
-004	B0V1X0	Soluble Chromium VI	4.4	~~-0.3~~ 0.49u	4.4	~~109.0~~ 101.7	1.0
		Insoluble Chromium VI	1180	~~-0.3~~ 0.41u	1300	90.3	20.0
BLANK10	99LVI033-MB1	Soluble Chromium VI	3.9	0.40u	4.0	97.3	1.0
		Insoluble Chromium VI	1040	0.40u	1160	89.1	20.0

JD 8/9/99

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INORGANICS PRECISION REPORT 04/13/99

CLIENT: TNU-HANFORD B99-002 RECRA LOT #: 9904L629

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

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR(REP)
-004REP	B0V1X0	% Solids	91.5	91.3	0.23	1.0

Recra LabNet - Lionville Laboratory
INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B99-002

DATE RECEIVED: 04/07/99 RFW LOT # :9904L629

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B0V1W7						
% SOLIDS	001	S	99L%S051	04/01/99	04/09/99	04/12/99
CHROMIUM VI	001	S	99LVI033	04/01/99	04/12/99	04/12/99
B0V1W8						
% SOLIDS	002	S	99L%S051	04/01/99	04/09/99	04/12/99
CHROMIUM VI	002	S	99LVI033	04/01/99	04/12/99	04/12/99
B0V1W9						
% SOLIDS	003	S	99L%S051	04/01/99	04/09/99	04/12/99
CHROMIUM VI	003	S	99LVI033	04/01/99	04/12/99	04/12/99
B0V1X0						
% SOLIDS	004	S	99L%S051	04/01/99	04/09/99	04/12/99
% SOLIDS	004 REP	S	99L%S051	04/01/99	04/09/99	04/12/99
CHROMIUM VI	004	S	99LVI033	04/01/99	04/12/99	04/12/99
CHROMIUM VI	004 MS	S	99LVI033	04/01/99	04/12/99	04/12/99
CHROMIUM VI	004 MSD	S	99LVI033	04/01/99	04/12/99	04/12/99

LAB QC:

CHROMIUM VI	MB1	S	99LVI033	N/A	04/12/99	04/12/99
CHROMIUM VI	MB1 BS	S	99LVI033	N/A	04/12/99	04/12/99
CHROMIUM VI	MB1 BSD	S	99LVI033	N/A	04/12/99	04/12/99

RECRA LabNet Use Only

9904L629

Custody Transfer Record/Lab Work Request

Page 1 of 1

RECRA LabNet

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU-Hanford B99-002

Est. Final Proj. Sampling Date:

Project #: 10985-001-001-0001-00

Project Contact/Phone #:

RECRA Project Manager: OJ

QC: spec Del: std TAT: 15 day

Date Rec'd: 4/7/99 Date Due: 4/22/99

Account #:

Refrigerator #											3		3					
#/Type Container	Liquid																	
	Solid										1g		1g					
Volume	Liquid																	
	Solid										250		125					
Preservatives																		
ANALYSES REQUESTED →		ORGANIC									INORG							
		VOA	BNA	Pest/PCB	Herb						Metal	CN						
											Met O		IORG					

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

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	Met O	IORG
001	B0V1W7			S	4/1/99	0845	✓	✓
2	W8					0920	✓	✓
3	W9					0920	✓	✓
4	X0					0945	✓	✓

Special Instructions:

saf # B99-002

COMPOSITE WASTE

DATE/REVISIONS:

1. Met O Cr, Pb, Hg
2. Run matrix QC
3.
4.
5.
6.

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Samples were: 1) Shipped ✓ or Hand Delivered ___

Airbill # *

2) Ambient or Chilled

3) Received in Good Condition Y or N

4) Labels Indicate Properly Preserved Y or N

5) Received Within Holding Times Y or N

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

2) Unbroken on Outer Package Y or N

3) Present on Sample Y or N

4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec't Y or N

Cooler Temp. 4.2 °C

Discrepancies Between Samples Labels and COC Record? Y or N

NOTES:

Relinquished by	Received by	Date	Time
Dedee	Foster	4/7/99	0930

Relinquished by	Received by	Date	Time

ORIGINAL REWRITTEN

Bechtel Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	B99-002-79	Page 1 of 1

Collector Fahlberg/Coffman	Company Contact R Coffman	Telephone No. 373-6425	Project Coordinator TRENT, SJ	Price Code	Data Turnaround 15 Days
Project Designation 100 BC Areas - Full Protocol	Sampling Location 100 B/C 116-B-12 deep zone		SAF No. B99-002		
Ice Chest No. 844	Field Logbook No. EL 1327-2		Method of Shipment Fed Ex		
Shipped To ~~TMA~~/RECRA R.F. 4.1.99	Offsite Property No. A990098		Bill of Lading/Air Bill No. 4235795243 75		
9904L629			COA		

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	None	Cool 4C	None	None						
Type of Container	aG	aG	aG	aG	aG						
No. of Container(s)	1	1	1	1	1						
Volume	60mL	60mL	125mL	250mL	1000mL						
SAMPLE ANALYSIS	Activity Scan	See item (1) in Special Instructions.	Chromium Hex - 7196	ICP Metals - 6010A (SW-846) (Chromium, Lead); Mercury - 7471 - (CV)	See item (2) in Special Instructions.						

Sample No.	Matrix *	Sample Date	Sample Time										
B0V1W7	Soil	4.1.99	0845			X	X				tieto	B0TV	Y9
B0V1W8	Soil	4.1.99	0920			X	X					B0TW	00
B0V1W9	Soil	4.1.99	0920			X	X					B0TW	00
B0V1X0	Soil	4.1.99	0945			X	X					B0TW	01

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By	Date/Time	Received By	Date/Time
R.T. Coffman / R.T. Coffman	1600 4-1-99	Ref. IC	1600 4-1-99
Relinquished By	Date/Time	Received By	Date/Time
Ref. IC	4/6/99 1110	Renee Nielson / R. Nielson	1110 4/6/99
Relinquished By	Date/Time	Received By	Date/Time
Renee Nielson / R. Nielson	1300 4/6/99	Fed Ex	
Relinquished By	Date/Time	Received By	Date/Time
Fedex		Fedex	4/7/99 0930

SPECIAL INSTRUCTIONS

(1) Americium-241; Isotopic Plutonium; Isotopic Uranium; Strontium-89,90 -- Total Sr; Nickel-63
(2) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Americium-241, Uranium-238}

R.T. Coffman unavailable to relinquish samples

9904L629 4.2°C

Matrix *
Soil
Water
Vapor
Other Solid
Other Liquid

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