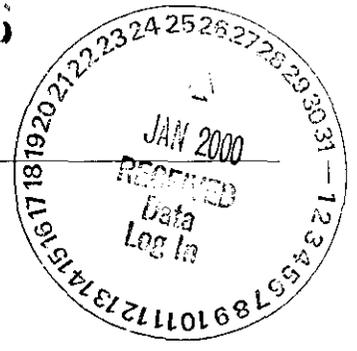


H0536-TMA/REURA

0052636



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Virtual Laboratories Everywhere



Recra LabNet Philadelphia
Analytical Report

Client : TNU-HANFORD B99-078
RFW# : 9909L101
SDG# : H0536
SAF# : B99-078

W.O. # : 10985-001-001-9999-00
Date Received: 09-03-99

RECEIVED
FEB 28 2000

INORGANIC CASE NARRATIVE

1. This narrative covers the analyses of 7 soil samples. A method detection limit (MDL) determination was performed for Hydrazine. The information pertaining to the MDL study is provided within the data package.
2. The samples were 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 method blank for Hydrazine was within method criteria.
5. The Laboratory Control Samples (LCS) for Hydrazine were within the laboratory control limits. The duplicate LCS was within the 20% Relative Percent Difference (RPD) control limit.
6. The replicate analysis for Percent Solids was within the 20% RPD control limit.
7. Results for the MDL study were reported on a wet weight basis.

EDMC

J. Michael Taylor
Vice President
Philadelphia Analytical Laboratory

1-20-00
Date

njp09-101

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 12 pages.

Recra LabNet Philadelphia

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	✓ <u>D2216-80</u>		___ 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	
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)
Oxygne Bomb Prep for Anions	___ D240-87(mod)	___ 5050	
Petroleum Hydrocarbons, Total Recoverable		___ 9071	___ EPA 418.1
pH, Soil		___ 9045C	
Sulfide, Reactive		___ Section 7.3	
Sulfide		___ 9030B(mod)	
Specific Gravity	___ D1429-76C/	___ D5057-90	
Sulfur, Total		___ 9056	
Synthetic Prpearation Leach		___ 1312	
Paint Filter		9095A	

Other: *hydroxyne*

Method: *(Air Force) Method: F336-15-84-D-4400/0016*

Other:

Method

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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.

1999 Wet Chemistry MDLs

PARAMETER	Methods	Date	Analyst	spike ppm	1	2	3	4	5	6	7	units	Ave	SD	MDL WATER (mg/L)	SOIL FACTOR	MDL SOIL (mg/Kg)
Hydrazine (color) soil ***	Air force method	10/13/99	RDB	2.50	(0.00)	2.95	1.92	1.88	2.81	1.81	1.17	mg/Kg	2.09	0.672	NA	1.0	2.3

** For Hydrazine, sample #1 appears to have not been spiked, and has been excluded from the statistics as an outlier. The MDL is calculated from the other 6 values, using the student t-factor for 6 measurements.

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INORGANICS DATA SUMMARY REPORT 12/28/99

CLIENT: TNU-HANFORD B99-078

RECRA LOT #: 9909L101

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-----	-----	-----	-----	-----	-----	-----
-001	BOW9P9	% Solids	88.6	%	0.01	1.0
		Hydrazine	1.0	u MG/KG	1.0	1.0
-002	BOW9R0	% Solids	88.6	%	0.01	1.0
		Hydrazine	3.0	MG/KG	1.0	1.0
-003	BOW9R1	% Solids	88.6	%	0.01	1.0
		Hydrazine	1.9	MG/KG	1.0	1.0
-004	BOW9R2	% Solids	88.6	%	0.01	1.0
		Hydrazine	1.9	MG/KG	1.0	1.0
-005	BOW9R3	% Solids	88.6	%	0.01	1.0
		Hydrazine	2.8	MG/KG	1.0	1.0
-006	BOW9R4	% Solids	88.6	%	0.01	1.0
		Hydrazine	1.8	MG/KG	1.0	1.0
-007	BOW9R5	% Solids	88.6	%	0.01	1.0
		Hydrazine	1.2	MG/KG	1.0	1.0

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INORGANICS METHOD BLANK DATA SUMMARY PAGE 12/28/99

CLIENT: TNU-HANFORD B99-078
WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 9909L101

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	99LHZ002-MB1	Hydrazine	1.0	u MG/KG	1.0	1.0

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INORGANICS ACCURACY REPORT 12/28/99

CLIENT: TNU-HANFORD B99-078
 WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 9909L101

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
BLANK10	99LHZ002-MB1	Hydrazine	5.0	1.0 u	5.0	99.1	1.0
		Hydrazine MSD	5.0	1.0 u	5.0	100.5	1.0

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INORGANICS DUPLICATE SPIKE REPORT 12/28/99

CLIENT: TNU-HANFORD B99-078

RECRA LOT #: 99C9L101

WORK ORDER: 10985-001-001-9999-G0

SAMPLE	SITE ID	ANALYTE	SPIKE#1		SPIKE#2	
			%RECOV	%RECOV	%RECOV	%DIFF
*****	*****	*****	*****	*****	*****	*****
BLANK10	99LHZ002-MB1	Hydrazine	99.1	100.5	1.4	

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INORGANICS PRECISION REPORT 12/28/99

CLIENT: TNU-HANFORD B99-078
WORK ORDER: 10985-001-001-9999-00

RECRA LOT #: 9909L101

SAMPLE	SITE ID	ANALYTE	INITIAL RESULT	REPLICATE	RPD	DILUTION FACTOR (REP)
-007REP	BOW9R5	% Solids	88.6	89.5	1.0	1.0

Recra LabNet - Lionville Laboratory
 INORGANIC ANALYTICAL DATA PACKAGE FOR
 TNU-HANFORD B99-078

DATE RECEIVED: 09/03/99

RFW LOT # :9909L101

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BOW9P9						
% SOLIDS	001	S	99L%S124	09/01/99	09/17/99	09/20/99
HYDRAZINE	001	S	99LHZ002	09/01/99	10/13/99	10/13/99
BOW9R0						
% SOLIDS	002	S	99L%S124	09/01/99	09/17/99	09/20/99
HYDRAZINE	002	S	99LHZ002	09/01/99	10/13/99	10/13/99
BOW9R1						
% SOLIDS	003	S	99L%S124	09/01/99	09/17/99	09/20/99
HYDRAZINE	003	S	99LHZ002	09/01/99	10/13/99	10/13/99
BOW9R2						
% SOLIDS	004	S	99L%S124	09/01/99	09/17/99	09/20/99
HYDRAZINE	004	S	99LHZ002	09/01/99	10/13/99	10/13/99
BOW9R3						
% SOLIDS	005	S	99L%S124	09/01/99	09/17/99	09/20/99
HYDRAZINE	005	S	99LHZ002	09/01/99	10/13/99	10/13/99
BOW9R4						
% SOLIDS	006	S	99L%S124	09/01/99	09/17/99	09/20/99
HYDRAZINE	006	S	99LHZ002	09/01/99	10/13/99	10/13/99
BOW9R5						
% SOLIDS	007	S	99L%S124	09/01/99	09/17/99	09/20/99
% SOLIDS	007 REP	S	99L%S124	09/01/99	09/17/99	09/20/99
HYDRAZINE	007	S	99LHZ002	09/01/99	10/13/99	10/13/99

LAB QC:

HYDRAZINE	MB1	S	99LHZ002	N/A	10/13/99	10/13/99
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INORGANIC ANALYTICAL DATA PACKAGE FOR
TNU-HANFORD B99-078

DATE RECEIVED: 09/03/99

RFW LOT # :9909L101

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
HYDRAZINE	MB1 BS	S	99LHZ002	N/A	10/13/99	10/13/99
HYDRAZINE	MB1 BSD	S	99LHZ002	N/A	10/13/99	10/13/99

