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Virtual Laboratories Everywhere

**Recra LabNet Philadelphia  
Analytical Report**

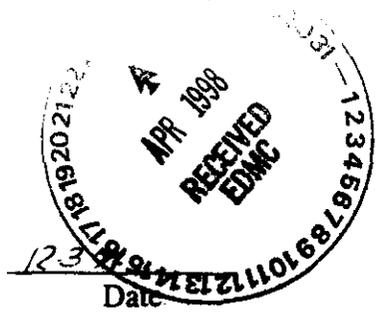
**Client : TNU-HANFORD**  
**RFW# : 9710L942**  
**SDG# : H0110/1**

**W.O. # : 10985-001-001-9999-00**  
**Date Received: 10-24-97**

10/27/97

**INORGANIC CASE NARRATIVE**

1. This narrative covers the analysis of 1 water sample.
2. The sample was prepared and analyzed in accordance with the method checked on the attached glossary.
3. Sample holding time as required by the method and/or contract was not met as the sample was received past hold.
4. The cooler temperature was recorded on the chain-of-custody.
5. The method blank was within method criteria.
6. The Laboratory Control Samples (LCS) were within the laboratory control limits. The duplicate LCS was within the 20% Relative Percent Difference (RPD) control limit.
7. The matrix spike recovery was within the 75-125% control limits.
8. The replicate analysis was within the 20% RPD control limit.



*J. Michael Taylor*  
J. Michael Taylor  
Vice President and Laboratory Manager  
Lionville Analytical Laboratory

njp&pef/i10-942

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 13 pages.

# WET CHEMISTRY METHODS GLOSSARY FOR ANALYSIS OF WATER SAMPLES

	<u>EPA 600</u>	<u>SW846</u>	<u>OTHER</u>
Acidity	__ 305.1		
__ Alkalinity __ Bicarbonate __ Carbonate	__ 310.1		
BOD	__ 405.1		__ 5210B (b)
Ion Chromatography:			
__ Bromide __ Chloride __ Fluoride	__ 300.0	__ 9056	
__ Nitrite __ Nitrate __ Phosphate	__ 300.0	__ 9056	
__ Sulfate __ Formate __ Acetate __ Oxalate	__ 300.0	__ 9056	
Chloride	__ 325.2	__ 9251	
Chlorine Residual	__ 330.5 (mod)		
Cyanide Amenable to Chlorination	__ 335.2	__ 9010A	
Cyanide (Total)	__ 335.2	__ 9010A __ 9012	__ 1LM04.0 (c)
Cyanide, Weak Acid Dissociable			__ 412 (a) __ 4500CN-1 (b)
COD	__ 410.4 (mod)		__ 5220 C (b)
Color	__ 110.2		
Corrosivity (by Coupon)		__ 1110 (mod)	
Chromium VI		__ 7196A	__ 3500Cr-D (b)
Fluoride	__ 340.2		
Hardness, Calcium	__ 215.2		
Hardness, Total	__ 130.2		
Iodide			__ ASTM D19P202 (1)
Surfactant	__ 425.1		
__ Nitrate-Nitrite __ Nitrate __ Nitrite	__ 353.2		
Ammonia	__ 350.3		
Total __ Kjeldahl Nitrogen __ Organic Nitrogen	__ 351.4		
Total __ Organic __ Inorganic Carbon	__ 415.1	__ 9060	
Oil and Grease	__ 413.1	__ 9070	
__ pH __ pH, Paper	__ 150.1	__ 9040A __ 9041A	
Petroleum Hydrocarbons, Total Recoverable	__ 418.1		
Phenol	__ 420.1 __ 420.2	__ 9065 __ 9066	
__ Ortho Phosphate __ Total Phosphate	__ 365.2		__ 4500-P B __ C
Salinity			__ 210A (a) __ 2520B (b)
Settleable Solids	__ 160.5		
Sulfide	__ 376.2 __ 376.1	__ 9030A	
Reactive __ Cyanide __ Sulfide		__ Sec 7.3	
Silica	__ 370.1		
Sulfite	__ 377.1		
Sulfate	__ 375.4	__ 9038	
Specific Conductance	__ 120.1	__ 9050	
Specific Gravity			__ 213E (a)
__ TCLP __ TCLV		__ 1311	
Synthetic Precipitation Leach		__ 1312	
Total __ Dissolved __ Suspended __ Solids	160 __ .1 __ .2 __ .3		
Total Organic Halides	__ 450.1	__ 9020B	
Turbidity	__ 180.1		
Volatile Solids __ Total __ Dissolved __ Suspended	__ 160.4		
Other: _____		Method: _____	

# 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.

RFW 21-21L-034/D-06/96

Recre LabNet - Lionville

INORGANICS DATA SUMMARY REPORT 11/03/97

CLIENT: TNU-HANFORD

RECRA LOT #: 9710L942

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

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-001	BOMSB5	Chromium VI	0.11	MG/L	0.020	1.0

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

DATE RECEIVED: 10/24/97

RFW LOT # :9710L942

CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BOM5B5						
CHROMIUM VI	001	W	97LVI042	10/21/97	10/27/97	10/27/97
CHROMIUM VI	001 REP	W	97LVI042	10/21/97	10/27/97	10/27/97
CHROMIUM VI	001 MS	W	97LVI042	10/21/97	10/27/97	10/27/97

LAB QC:

CHROMIUM VI	MB1	W	97LVI042	N/A	10/27/97	10/27/97
CHROMIUM VI	MB1 BS	W	97LVI042	N/A	10/27/97	10/27/97
CHROMIUM VI	MB1 BSD	W	97LVI042	N/A	10/27/97	10/27/97



<u>DASH</u>	<u>SAMPLE IDENTIFICATION</u>	<u>STORED</u>	<u>TESTS</u>
01A-W	BOM5B5	RECRA-LAB	WB073
01B-W	BOM5B5 MS	RECRA-LAB	WB073
01C-W	BOM5B5 DUP	RECRA-LAB	WB073

<u>RELEASED BY</u>	<u>DATE</u>	<u>TRANSFERRED TO</u>	<u>DATE</u>	<u>RECEIVED BY</u>	<u>DATE</u>
<i>Yamamoto</i>	<i>10/23/97</i>	<i>RECRA LAB</i>	<i>10/23/97</i>		

Collector <b>AG RIZZO (RFS)</b>	Company Contact <b>JH KESSNER</b>	Telephone No. <b>(509) 372-9538</b>	Project Coordinator <b>FORD, BH</b>	Data Turnaround <b>45 Days</b>
Project Designation <b>100-HR3-IAM (1) GW FY 1998</b>	Sampling Location <b>HANFORD SITE</b>	SAF No. <b>C98-002</b>		

Ice Chest No. <b>SML 372</b>	Field Logbook No. <b>WIN-SML-H5</b>	Method of Shipment <b>GOVT. VEHICLE</b>
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Shipped To <b>TMA/WESTON</b>	Offsite Property No. <b>NA</b>	Bill of Lading/Air Bill No. <b>NA</b>
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POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	None	HNO3 to pH <2										
	Type of Container	G/P	G/P										
	No. of Container(s)	1	1										
	Volume	20ml	500ml										

Special Handling and/or Storage <b>4°C</b>	Activity Scan	Chromium Hex - 1196 <b>(F)</b>											
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Sample No	Matrix *	Sample Date	Sample Time										
BOM5B5 (F)	Water	10-21-97	1014	✓	✓								

CHAIN OF POSSESSION	Sign/Print Names		SPECIAL INSTRUCTIONS TOTAL ACTIVITY EXEMPTION APPLIES FAX COPY OF LOG-IN TO DL STEVART, PMNL (372-1704)										
	Relinquished By: <b>AG RIZZO</b>	Date/Time: <b>10/22/97 1020</b>	Received By: <b>C. SANGHANI</b>	Date/Time: <b>10/23/97 1030</b>	<b>Bom5B7 Total Activity</b>								
	Relinquished By: <b>Beley</b>	Date/Time:	Received By: <b>J. Fisher</b>	Date/Time: <b>10/24/97 0430</b>									
	Relinquished By:	Date/Time:	Received By:	Date/Time:									
Relinquished By:	Date/Time:	Received By:	Date/Time:										

- Matrix \*
- S - Sed
  - SE - Sediment
  - SO - Solid
  - SL - Sludge
  - W - Water
  - O - Oil
  - A - Air
  - DS - Drum Solids
  - DL - Drum Liquids
  - T - Tissue
  - WT - Wipe
  - L - Liquid
  - V - Vegetation
  - X - Other

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