

0048840

H0096-T/W

Thermo NUtech

2030 Wright Avenue
P.O. Box 404
Richmond, CA 94804-004
(510) 235-0433 • FAX (510) 235-0433

September 23, 1997

Ms. Doris Ayres
Bechtel Hanford Inc.
1022 Lee Boulevard
Richland, WA 99352



Reference: P.O. #TSH-SBV-207925
Thermo NUtech N7-08-051-7449, SDG H0096

Dear Ms. Ayres:

Enclosed is the data report for the single water sample designated as SAF No. C97-013 received at Thermo NUtech on August 22, 1997. Results are given for total uranium by KPA and technetium-99.

This data package is paginated from 1 through 29.

Please call if you have any questions concerning this data.

Sincerely,

A handwritten signature in black ink that reads "N. Joseph Verville".

N. Joseph Verville
Program Manager

NJV/dss

Enclosure: Data Package



Case Narrative

1.0 GENERAL

Thermo NUtech Sample Delivery Group H0096 is comprised of the single water sample designated as SAF C97-013 delivered under Project Designation 200-UP-1 IRM Groundwater Sampling FY1997.

The sample was received as stated on the Chain-of-Custody document.

2.0 ANALYSIS NOTES

2.1 Total Uranium Analyses

The MDA's of the sample and its duplicate were greater than the RDL; however, since the sample contained uranium much greater than the RDL, this increased MDA is not a problem.

2.2 Technetium-99 Analyses

The aliquots and count times for the sample and its duplicate were less than the method requirements; nevertheless, the sample MDA's were less than the RDL. The sample contained significant amounts of technetium-99.



THERMO NUTECH

SAMPLE DELIVERY GROUP H0096

SAMPLE SUMMARY

SDG 7449
 Contact N. Joseph Verville

Client Westinghouse Hanford
 Contract TSH-SBV-207925
 Case no SDG H0096

CLIENT SAMPLE ID	LOCATION	MATRIX	LEVEL	LAB SAMPLE ID	SAP NO	CHAIN OF CUSTODY	COLLECTED
B0LJT6	HANFORD SITE	LIQUID		N708051-01	C97-013	C97-013-151	08/20/97 10:47
Method Blank		LIQUID		N708051-03	C97-013		
Lab Control Sample		LIQUID		N708051-02	C97-013		
Duplicate (N708051-01)	HANFORD SITE	LIQUID		N708051-04	C97-013		08/20/97 10:47

SAMPLE SUMMARY

Page 1

SUMMARY DATA SECTION

Page 3

Lab id TMANC
 Protocol WHC-HASM-1
 Version Ver 1.0
 Form DVD-CS
 Version 3.06
 Report date 09/23/97

THERMO NUTECH

SAMPLE DELIVERY GROUP H0096

SDG 7449

Contact N. Joseph Verville

QC SUMMARY

Client Westinghouse Hanford

Contract TSH-SBV-207925

Case no SDG H0096

QC BATCH	CHAIN OF CUSTODY	CLIENT SAMPLE ID	MATRIX	SOLIDS	SAMPLE AMOUNT	BASIS AMOUNT	DAYS SINCE RECEIVED	LAB COLL	LAB SAMPLE ID	DEPARTMENT SAMPLE ID
7449	C97-013-151	B0LJT6	LIQUID				08/22/97 2	N708051-01		7449-001
		Method Blank	LIQUID					N708051-03		7449-003
		Lab Control Sample	LIQUID					N708051-02		7449-002
		Duplicate (N708051-01)	LIQUID				08/22/97 2	N708051-04		7449-004

QC SUMMARY

Page 1

SUMMARY DATA SECTION

Page 4

Lab id TMANC

Protocol WHC-HASM-1

Version Ver 1.0

Form DVD-QS

Version 3.06

Report date 09/23/97

THERMO NUTECH

SAMPLE DELIVERY GROUP H0096

N708051-04

B0LJT6

DUPLICATE

SDG <u>7449</u>	Client/Case no <u>Westinghouse Hanford</u> <u>SDG H0096</u>
Contact <u>N. Joseph Verville</u>	Case no <u>TSH-SBV-207925</u>
DUPLICATE	ORIGINAL
Lab sample id <u>N708051-04</u>	Lab sample id <u>N708051-01</u>
Dept sample id <u>7449-004</u>	Dept sample id <u>7449-001</u>
	Received <u>08/22/97</u>
	Client sample id <u>B0LJT6</u>
	Location/Matrix <u>HANFORD SITE</u> <u>LIQUID</u>
	Collected <u>08/20/97 10:47</u>
	Custody/SAF No <u>C97-013-151</u> <u>C97-013</u>

ANALYTE	DUPLICATE pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST	ORIGINAL pCi/L	2σ ERR (COUNT)	MDA pCi/L	QUALI- FIERS	RPD %	3σ PROT TOT LIMIT
Technetium 99	6400	100	9.4	15		TC	6600	100	9.0		3	22
Total Uranium (ug/L)	2100	380	<u>17</u>	0.10		U_T	2100	370	<u>17</u>		0	43

QC-DUP#1 27338

DUPLICATES

Page 1

SUMMARY DATA SECTION

Page 9

Lab id <u>TMANC</u>
Protocol <u>WHC-HASM-1</u>
Version <u>Ver 1.0</u>
Form <u>DVD-DUP</u>
Version <u>3.06</u>
Report date <u>09/23/97</u>

THERMO NUTECH
SAMPLE DELIVERY GROUP H0096

N708051-01

B0LJT6

DATA SHEET

SDG 7449
Contact N. Joseph Verville

Client/Case no Westinghouse Hanford SDG H0096
Case no TSH-SBV-207925

Lab sample id N708051-01
Dept sample id 7449-001
Received 08/22/97

Client sample id B0LJT6
Location/Matrix HANFORD SITE LIQUID
Collected 08/20/97 10:47
Custody/SAF No C97-013-151 C97-013

ANALYTE	CAS NO	RESULT pCi/L	2σ ERR (COUNT)	MDA pCi/L	RDL pCi/L	QUALI- FIERS	TEST
Technetium 99	14133-76-7	6600	100	9.0	15		TC
Total Uranium (ug/L)	7440-61-1	2100	370	<u>17</u>	0.10		U_T

THERMO NUTECH

SAMPLE DELIVERY GROUP H0096

METHOD SUMMARY

TECHNETIUM 99 IN WATER

BETA COUNTING

Test TC Matrix LIQUID
 SDG 7449
 Contact N. Joseph Verville

Client Westinghouse Hanford
 Contract TSH-SBV-207925
 Case no SDG H0096

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF- FIX	Technetium PLANCHET	99
------------------	---------------	----------	----------	---------------------	----

Preparation batch 2785-048

B0LJT6	N708051-01	7449-001		6600	
BLK (QC ID=27337)	N708051-03	7449-003		U	
LCS (QC ID=27336)	N708051-02	7449-002		ok	
Duplicate (N708051-01)	N708051-04	7449-004		ok	

Nominal values and limits from method RDLs (pCi/L) 15

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW TEST	SUF- FIX	MDA pCi/L	ALIQ L	PREP FAC	DILU- TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	ANAL- YZED	DETECTOR
------------------	---------------	----------	----------	-----------	--------	----------	------------	---------	-------	-----------	----------	-----------	-----------	------------	----------

Preparation batch 2785-048 2σ prep error 10.0 % Reference Lab Notebook #2785 pg. 048

B0LJT6	N708051-01			9.0	<u>0.100</u>			66		<u>40</u>			26	09/11/97	09/15 GRB-202
BLK (QC ID=27337)	N708051-03			2.8	0.200			44		195				09/11/97	09/15 GRB-204
LCS (QC ID=27336)	N708051-02			5.2	0.200			56		<u>40</u>				09/11/97	09/15 GRB-203
Duplicate (N708051-01)	N708051-04			9.4	<u>0.100</u>			62		<u>40</u>			26	09/11/97	09/15 GRB-205
	(QC ID=27338)														

Nominal values and limits from method 15 0.200 20-105 50 180

PROCEDURES	REFERENCE	TC99TRLSC
EP-020		Sample Leach For Technetium-99, rev 0
EP-540		Technetium-99 Purification, rev 0

AVERAGES ± 2 SD	MDA	<u>6.6</u> ± <u>6.3</u>
FOR 4 SAMPLES	YIELD	<u>57</u> ± <u>19</u>

METHOD SUMMARIES

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SUMMARY DATA SECTION

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Lab id	<u>TMANC</u>
Protocol	<u>WHC-HASM-1</u>
Version	<u>Ver 1.0</u>
Form	<u>DVD-CMS</u>
Version	<u>3.06</u>
Report date	<u>09/23/97</u>

THERMO NUTECH
 SAMPLE DELIVERY GROUP H0096

METHOD SUMMARY
 URANIUM, TOTAL IN WATER
 KINETIC PHOSPHORIMETRY

Test U T Matrix LIQUID
 SDG 7449
 Contact N. Joseph Verville

Client Westinghouse Hanford
 Contract TSH-SBV-207925
 Case no SDG H0096

RESULTS

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW SUP- TEST FIX	PLANCHET	Total Uranium
Preparation batch 2785-048				
B0LJT6	N708051-01		7449-001	2100
BLK (QC ID=27337)	N708051-03		7449-003	U
LCS (QC ID=27336)	N708051-02		7449-002	ok
Duplicate (N708051-01)	N708051-04		7449-004	ok
Nominal values and limits from method				RDLs (ug/L) 0.10

METHOD PERFORMANCE

CLIENT SAMPLE ID	LAB SAMPLE ID	RAW SUP- TEST FIX	MDA ug/L	ALIQ L	PREP FAC	DILU TION	YIELD %	EFF %	COUNT min	FWHM keV	DRIFT KeV	DAYS HELD	PREPARED	ANAL- YZED	DETECTOR	
Preparation batch 2785-048 2σ prep error 9.0 % Reference Lab Notebook #2785 pg. 048																
B0LJT6	N708051-01		<u>17</u>	0.0200								20	09/09/97	09/09	KPA-001	
BLK (QC ID=27337)	N708051-03		0.017	0.0200									09/09/97	09/09	KPA-001	
LCS (QC ID=27336)	N708051-02		<u>0.17</u>	0.0200									09/09/97	09/09	KPA-001	
Duplicate (N708051-01)	N708051-04		<u>17</u>	0.0200								20	09/09/97	09/09	KPA-001	
(QC ID=27338)																
Nominal values and limits from method			0.10	0.0200								180				

PROCEDURES	REFERENCE	UKPA
	EP-040	Environmental Water Dissolution, rev 1
	EP-044	Preparation of Total Uranium by Kinetic Phosphorimetry, rev 1
	EP-928	Total Uranium by Kinetic Phosphorimetry, rev 0

AVERAGES ± 2 SD	MDA <u>8.5</u> ± <u>20</u>
FOR 4 SAMPLES	YIELD _____ ± _____

THERMO NUTECH
SAMPLE DELIVERY GROUP H0096

SDG 7449
Contact N. Joseph Verville

Client Westinghouse Hanford
Contract TSH-SBV-207925
Case no SDG H0096

REPORT GUIDE

DATA SHEET

The Data Sheet Report shows all results and primary supporting information for one client sample or Method Blank. This report corresponds to both the CLP Inorganics and Organics Data Sheet.

The following notes apply to this report:

- * TEST is a code for the method used to measure an analyte. If the TEST is empty, no data is available; the analyte was not analyzed for.
- * The LAB SAMPLE ID and TEST uniquely identify work within the Summary Data Section of a Data Package. The Work Summary and Method Summary Reports further identify raw data that underlies this work.

The Method Summary Report for each TEST has method performance data, such as yield, for each Lab Sample ID and a list of procedures used in the method.

- * ERRORS can be labeled TOTAL or COUNT. TOTAL implies a preparation (non-counting method) error has been added, as square root of sum of squares, to the counting error denoted by COUNT. The preparation errors, which may vary by preparation batch, are shown on the Method Summary Report.
- * A RESULT can be 'N.R.' (Not Reported). This means the lab did this work but chooses not to report it now, possibly because it was reported at another time.
- * When reporting a Method Blank, a RESULT can be 'N.A.' (Not Applicable). This means there is no reported client sample work in the same preparation batch as the Blank's result. This is likely to occur when the Method Blank is associated with reanalyses of selected work for a few samples in the SDG.

The following qualifiers are defined by the DVD system:

- U The RESULT is less than the MDA (Minimum Detectable Activity).

Lab id TMANC
Protocol WHC-HASM-1
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 09/23/97

THERMO NUTECH
SAMPLE DELIVERY GROUP H0096

SDG 7449
Contact N. Joseph Verville

GUIDE, cont.

Client Westinghouse Hanford
Contract TSH-SBV-207925
Case no SDG H0096

DATA SHEET

If the MDA is blank, the ERROR is used as the limit.

- J The RESULT is less than the RDL (Required Detection Limit) and no U qualifier is assigned.
- B A Method Blank associated with this sample had a result without a U flag and, after correcting for possibly different aliquots, that result is greater than or equal to the MDA for this sample.
- Normally, B is not assigned if U is. When method blank subtraction is shown on this report, B flags are assigned based on the unsubtracted values while U's are assigned based on the subtracted ones. Both flags can be assigned in this case.
- For each sample result, all Method Blank results in the same preparation batch are compared. The Method Summary Report documents this and other QC relationships.
- L Some Lab Control Sample that QC's this sample had a low recovery. The lab can disable assignment of this qualifier.
- H Similar to 'L' except the recovery was high.
- P The RESULT is 'preliminary'.
- X Some data necessary to compute the RESULT, ERROR or MDA was manually entered or modified.
- 2 There were two or more results available for this analyte. The reported result may not be the same as in the raw data.
- Other qualifiers are lab defined. Definitions should be in the SDG narrative.

The following values are underlined to indicate possible problems:

- * An MDA is underlined if it is bigger than its RDL.

THERMO NUTECH
SAMPLE DELIVERY GROUP H0096

SDG 7449
Contact N. Joseph Verville

GUIDE, cont.

Client Westinghouse Hanford
Contract TSH-SBV-207925
Case no SDG H0096

DATA SHEET

- * An ERROR is underlined if the 1.645 sigma counting error is bigger than both the MDA and the RESULT, implying that the MDA may not be a good estimate of the 'real' minimum detectable activity.
- * A negative RESULT is underlined if it is less than the negative of its 2 sigma counting ERROR.
- * When reporting a Method Blank, a RESULT is underlined if greater than its MDA. If the MDA is blank, the 2 sigma counting error is used in the comparison.

REPORT GUIDES

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SUMMARY DATA SECTION

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Lab id TMANC
Protocol WHC-HASM-1
Version Ver 1.0
Form DVD-RG
Version 3.06
Report date 09/23/97

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C97-013-151

Page 1 of 1

Collector: **K.J. YOUNG (RFS)** Company Contact: **J.H. KESSNER** Telephone No.: **(509)372-9538** Project Coordinator: **Stewart, DL** Data Turnaround: **45 Days**

Project Designation: **200-LP-1 IRM Groundwater Sampling FY1997** Sampling Location: **HANFORD SITE** SAF No.: **C97-013**

Ice Chest No.: **SINF 709** Field Logbook No.: **WM-5ML-142** Method of Shipment: **GOVT. VEHICLE**

Shipped To: **TMA NORCAL** Offsite Property No.: Bill of Lading/Air Bill No.:

POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	None	HNO3 to pH <2	HCl to pH <2	HCl or H2SO4 to pH <2 Con.
	Type of Container	G/P	G/P	G/P	Gs*
	No. of Container(s)	1	1	1	3

Special Handling and/or Storage: Volume: 20ml 125ml 1000ml 40ml

SAMPLE ANALYSIS

SDG - H0096

Activity Scan Total Uranium Technetium-99 VOA - 8240-A (TCL)

Sample No.	Matrix *	Sample Date	Sample Time	Activity Scan	Total Uranium	Technetium-99	VOA - 8240-A (TCL)
BOLJT6	Water	8-20-97	1047	✓	✓	✓	✓

CHAIN OF POSSESSION		Sign/Print Names	
Relinquished By: K.J. YOUNG (RFS)	Date/Time: 8-21-97 1400	Received By: <i>[Signature]</i>	Date/Time: 8/22/97 11:43AM
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPT
 FAX copies of log-in to DL Stewart (372-1704) and JM Duncan (372-9052)

- Matrix ***
- S = Soil
 - SE = Sediment
 - SO = Solid
 - SL = Sludge
 - W = Water
 - O = Oil
 - A = Air
 - DS = Drum Solids
 - DL = Drum Liquids
 - T = Tissue
 - WI = Waste
 - L = Liquid
 - V = Vegetation
 - X = Other

LABORATORY SECTION Received By: Title: Date/Time:

FINAL SAMPLE DISPOSITION Disposal Method: Disposed By: Date/Time:

Thermo NUtech

2030 Wright Avenue

P.O. Box 4040

Richmond, CA 94804-0040

(510) 235 2633 • FAX (510) 235 0438

October 14, 1997

Ms. Doris Ayres
Bechtel Hanford Company
1022 Lee Boulevard
Richland, WA 99352

Reference: P.O. # TSH-SBV-207925
SDG H0096 (Recra Order 9708L016)



Dear Ms. Ayres:

Enclosed is the analytical report for the single water sample received at Thermo NUtech on August 22, 1997 from SAF No. C97-013 for the analysis of TCL Volatile target compounds by Method 8240A.

Please do not hesitate to call if you have any questions.

Sincerely,

Dolores Sanchez
Dolores Sanchez
Program Coordinator

Enclosure: Report



a division of Recra Environmental, Inc.

Virtual Laboratories Everywhere

Recra LabNet Philadelphia Analytical Report

Client : TNU-HANFORD
RFW# : 9708L016
SDG #: H0096

W.O. #: 10985-001-001-9999-00
Date Received: 08-23-97

GC/MS VOLATILE

One (1) water sample was collected on 08-20-97.

The sample and its associated QC samples were analyzed according to criteria set forth in SW 846 Method 8260A for TCL Volatile target compounds on 08-28-97.

The following is a summary of the QC results accompanying these 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 required holding time for analysis was met.
3. Non-target compounds were not detected in this sample.
4. All surrogate recoveries were within EPA QC limits.
5. All matrix spike recoveries were within EPA QC limits.
6. All blank spike recoveries were within EPA QC limits.
7. The method blank contained the common contaminants Methylene Chloride and Acetone at levels less than the CRQL.



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

10-9-97
Date

mmz\voal08-016v.cn

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 7 pages.

GLOSSARY OF VOA 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.
- 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 VOA 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.



Recra LabNet - Lionville Laboratory

Volatiles by GC/MS, HSL List

Report Date: 09/27/97 17:03

RFW Batch Number: 9708L016

Client: TNU-HANFORD

Work Order: 10985001001 Page: 1a

Sample Information	Cust ID:	BOLJT6	BOLJT6	BOLJT6	VBLKT3	VBLKT3 BS
	RFW#:	001	001 MS	001 MSD	97LVG174-MB1	97LVG174-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00
	Units:	UG/L	UG/L	UG/L	UG/L	UG/L
Surrogate	Toluene-d8	101 %	99 %	97 %	93 %	94 %
Recovery	Bromofluorobenzene	87 %	88 %	89 %	94 %	89 %
	1,2-Dichloroethane-d4	101 %	99 %	103 %	95 %	98 %
=====fl=====fl=====fl=====fl=====fl=====fl=====fl=====						
Chloromethane		10 U	10 U	10 U	10 U	10 U
Bromomethane		10 U	10 U	10 U	10 U	10 U
Vinyl Chloride		10 U	10 U	10 U	10 U	10 U
Chloroethane		10 U	10 U	10 U	10 U	10 U
Methylene Chloride		1 BJ	8 B	9 B	5 J	2 BJ
Acetone		4 BJ	10 U	10 U	3 J	10 U
Carbon Disulfide		5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene		5 U	109 %	104 %	5 U	110 %
1,1-Dichloroethane		5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)		5 U	5 U	5 U	5 U	5 U
Chloroform		4 J	4 J	3 J	5 U	5 U
1,2-Dichloroethane		5 U	5 U	5 U	5 U	5 U
2-Butanone		10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane		5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride		190	170	150	5 U	5 U
Bromodichloromethane		5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane		5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U
Trichloroethene		3 J	98 %	95 %	5 U	96 %
Dibromochloromethane		5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane		5 U	5 U	5 U	5 U	5 U
Benzene		5 U	108 %	104 %	5 U	103 %
Trans-1,3-Dichloropropene		5 U	5 U	5 U	5 U	5 U
Bromoform		5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone		10 U	10 U	10 U	10 U	10 U
2-Hexanone		10 U	10 U	10 U	10 U	10 U
Tetrachloroethene		5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane		5 U	5 U	5 U	5 U	5 U
Toluene		5 U	108 %	104 %	5 U	104 %

*= Outside of EPA CLP QC limits.

004

Cust ID: BOLJT6 BOLJT6 BOLJT6 VELKTZ VELKTZ BS

RFW#: 001 001 MS 001 MSD 97LVG174-MB1 97LVG174-MB1

	5	U	103	%	101	%	5	U	102	%
Chlorobenzene	5	U	103	%	101	%	5	U	102	%
Ethylbenzene	5	U	5	U	5	U	5	U	5	U
Styrene	5	U	5	U	5	U	5	U	5	U
Xylene (total)	5	U	5	U	5	U	5	U	5	U

*= Outside of EPA CLP QC limits.

005

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

DATE RECEIVED: 08/23/97

RFW LOT # :9708L016

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
BOLJT6	001	W	97LVG174	08/20/97	N/A	08/28/97
BOLJT6	001 MS	W	97LVG174	08/20/97	N/A	08/28/97
BOLJT6	001 MSD	W	97LVG174	08/20/97	N/A	08/29/97

LAB QC:

VBLKTZ	MB1	W	97LVG174	N/A	N/A	08/28/97
VBLKTZ	MB1 BS	W	97LVG174	N/A	N/A	08/28/97

RECRA LabNet Use Only

97082016

Custody Transfer Record/Lab Work Request



Client <u>TNU-HANPOAD</u>	Refrigerator #	
Est. Final Proj. Sampling Date	#/Type Container	Liquid <u>36L</u>
Project # <u>10985-001-001-9999-00</u>		Solid
Project Contact/Phone #	Volume	Liquid <u>70</u>
RECRA Project Manager <u>K.S. 30</u>		Solid
QC <u>SD</u> Del <u>SD</u> TAT <u>5 DAY</u>	Preservatives	<u>HCL</u>
Date Rec'd <u>8-23-97</u> Date Due <u>9-8-97</u>	ANALYSES REQUESTED	
Account # <u>TNU HANPOAD 22</u>		

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 (✓)		Matrix	Date Collected	Time Collected	RECRA LabNet Use Only													
			MS	MSD				VOA	BNA	Pest/PCB	Herb	Metal	CN								
	<u>001</u>	<u>BOLJT6</u>	✓	✓	<u>W</u>	<u>8-20-97</u>	<u>1047</u>	<u>0624H</u>													

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
PSA-CLIENT INRO
AMSC-COMP
SDG H0096
mt 10/9/97
4.7°C

DATE/REVISIONS:
→ 1 AIRBILL W/ 97082017
→ 2 UOA BY 8240A (TCL)

RECRA LabNet Use Only

Samples were:
 1) Shipped or Hand Delivered
 Airbill # 417143570
 2) Ambient or Chilled
 3) Received in Good Condition or N
 4) Labels Indicate Properly Preserved or N
 5) Received Within Holding Times 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 or N
 4) Unbroken on Sample or N
 COC Record Present Upon Sample Rec't or N

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
<u>FedEx</u>	<u>[Signature]</u>	<u>8/23/97</u>	<u>1007</u>				

Discrepancies Between Samples Labels and COC Record? Y or N
 NOTES

**ORIGINAL
REWRITTEN**

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C97-013-151

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Collector K.J. YOUNG (RFS)	Company Contact J.H. KESSNER	Telephone No. (509)372-9538	Project Coordinator Stewart, DL	Data Turnaround 45 Days
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Project Designation 200-UP-1 IRM Groundwater Sampling FY1997	Sampling Location HANFORD SITE	SAF No. C97-013
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Ice Chest No. <i>SML 309</i>	Field Logbook No. <i>WM-SML-142</i>	Method of Shipment GOVT. VEHICLE
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Shipped To TMA NORCAL	Offsite Property No.	Bill of Lading/Air Bill No.
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POSSIBLE SAMPLE HAZARDS/REMARKS	Preservation	None	HNO3 to pH <2	HCl to pH <3	HCl or H2SO4 to pH <2 Conc				
	Type of Container	G/P	G/P	G/P	Gs*				
	No. of Container(s)	1	1	1	3				

Special Handling and/or Storage	Volume	20ml	125ml	1000ml	40ml				
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SAMPLE ANALYSIS 200 SDG - H0096	Activity Scan	Total Uranium	Technetium-99	VOA - 8240A (TCL)					
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Sample No.	Matrix *	Sample Date	Sample Time						
BOLJT6	Water	8-20-97	1047	✓	✓	✓	✓		

CHAIN OF POSSESSION	Sign/Print Names			
Relinquished By <i>K.J. Young</i>	Date/Time 8-21-97 1400	Received By <i>[Signature]</i>	Date/Time 8/22/97 11:43AM	
Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	
Relinquished By	Date/Time	Received By	Date/Time	

SPECIAL INSTRUCTIONS
TOTAL ACTIVITY EXEMPT

FAX copies of log-in to DL Stewart (372-1704) and JM Duncan (372-9052)

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

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