



Mr. Steve Trent  
 Fluor Hanford Inc.  
 825 Jadwin Ave.  
 Richland, WA 99352

**Subject: Contract No. 630  
 Analytical Data Package**

Dear Mr. Trent:

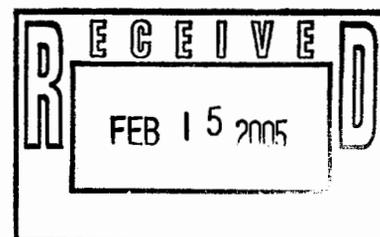
Enclosed are the hard copy analytical reports for the batch number/fraction indicated (marked X) in the following table:

LvLI Batch #	0412L484
SDG #	H2905
SAF #	F03-025
Date Received	12-18-04
# Samples	7
Matrix	Soil
Volatiles	X
Semivolatiles	X
Pest/PCB	X
DRO/GRO/KRO	X
Herbicides	
GC Alcohol	X
Metals	X
Inorganics	X

The electronic data deliverable (EDD) will be emailed shortly. If you have any questions, please don't hesitate to contact me at (610) 280-3012.

Sincerely,  
 Lionville Laboratory Incorporated

Orlette S. Johnson  
 Project Manager



Lionville Laboratory, Inc.  
VOA ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD F04-015 H2905

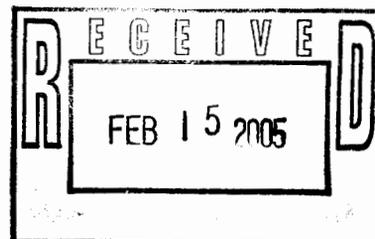
DATE RECEIVED: 12/18/04

LVL LOT # :0412L484

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B19PT5	004	S	04LVG398	12/13/04	N/A	12/22/04
B19PT5	004 MS	S	04LVG398	12/13/04	N/A	12/22/04
B19PT5	004 MSD	S	04LVG398	12/13/04	N/A	12/22/04

LAB QC:

VBLKIO	MB1	S	04LVG398	N/A	N/A	12/22/04
VBLKIO	MB1 BS	S	04LVG398	N/A	N/A	12/22/04



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## Case Narrative

Client: TNU HANFORD F04-015  
 LVL#: 0412L484  
 SDG/SAF#: H2905/F04-015

W.O.#: 11343-606-001-9999-00  
 Date Received: 12-18-2004

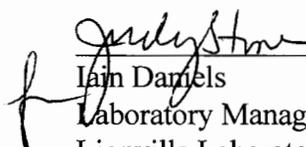
## GC/MS VOLATILE

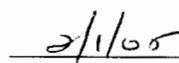
One (1) soil sample was collected on 12-13-2004.

The sample and its associated QC samples were analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8260B for TCL volatile target compounds on 12-22-2004.

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

1. All results presented in this report are derived from a sample that met LvLI's sample acceptance policy.
2. The sample was analyzed within required holding time.
3. Non-target compounds were detected in the sample.
4. All surrogate recoveries were within acceptance criteria.
5. All matrix spike recoveries were within acceptance criteria.
6. All blank spike recoveries were within acceptance criteria.
7. The method blank contained the common laboratory contaminant Methylene Chloride at a level less than the CRQL.
8. Internal standard area and retention time criteria were met.
9. Manual integrations are performed according to SOP QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").
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."

  
 Iain Daniels  
 Laboratory Manager  
 Lionville Laboratory Incorporated

  
 Date

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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 1 7 pages.

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## GLOSSARY

### 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.

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## GLOSSARY

### 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.

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## TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following 'flags' are used to indicate the technical reasons for quan modifications:

- MP** - **Missed Peak:** Manually added peak not found by automatic quan program.
- PA** - **Peak Assignment:** Quan report was changed to reflect correct peak assignment.
- RI** - **Routine Integration:** Routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the Dichlorobenzene isomers on the VOA packed column and Benzo (b) fluoranthene /Benzo (k) fluoranthene which are poorly resolve on the BNA column.
- SP** - **Split Peak:** The automatic integration improperly split the peak; a manual integration was performed to get the correct area.
- CB** - **Co-elution/ Background:** Peak was manually integrated to eliminate contribution from co-eluting compounds, background signal, or other interference.
- PI** - **Proper Integration:** A peak with poor or inconsistent integration (i.e., excessive tail) was properly integrated manually.

LVL-21-21-035/A-08/93



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Lionville Laboratory, Inc.  
 Volatiles by GC/MS, HSL List  
 Report Date: 01/19/05 11:19  
 RFW Batch Number: 0412L484 Client: TNUHANFORD F04-015 H2905 Work Order: 11343606001 Page: 1a

Cust ID:	B19PT5	B19PT5	B19PT5	B19PT5	VBLKIO	VBLKIO BS
RFW#:	004	004 MS	004 MSD	004 MS	04LVG398-MB1	04LVG398-MB1
Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
D.F.:	1.02	0.980	0.909	0.980	1.00	1.00
Units:	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg

Sample Information	004	004 MS	004 MSD	004 MS	04LVG398-MB1	04LVG398-MB1
	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	1.02	0.980	0.909	0.980	1.00	1.00
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Surrogate Toluene-d8	105	%	104	%	109	%
Bromofluorobenzene	108	%	107	%	107	%
Recovery 1,2-Dichloroethane-d4	122	%	124	%	122	%
Chloromethane	11	U	10	U	10	U
Bromomethane	11	U	10	U	10	U
Vinyl Chloride	11	U	10	U	10	U
Chloroethane	11	U	10	U	10	U
Methylene Chloride	15	B	14	B	3	J
Acetone	11	U	10	U	10	U
Carbon Disulfide	6	U	5	U	5	U
1,1-Dichloroethene	6	U	92	%	5	U
1,1-Dichloroethane	6	U	5	U	5	U
1,2-Dichloroethene (total)	6	U	5	U	5	U
Chloroform	6	U	5	U	5	U
1,2-Dichloroethane	6	U	5	U	5	U
2-Butanone	11	U	10	U	10	U
1,1,1-Trichloroethane	6	U	5	U	5	U
Carbon Tetrachloride	6	U	5	U	5	U
Bromodichloromethane	6	U	5	U	5	U
1,2-Dichloropropane	6	U	5	U	5	U
cis-1,3-Dichloropropene	6	U	5	U	5	U
Trichloroethene	6	U	106	%	5	U
Dibromochloromethane	6	U	5	U	5	U
1,1,2-Trichloroethane	6	U	5	U	5	U
Benzene	6	U	96	%	5	U
Trans-1,3-Dichloropropene	6	U	5	U	5	U
Bromoform	6	U	5	U	5	U
4-Methyl-2-pentanone	11	U	10	U	10	U
2-Hexanone	11	U	10	U	10	U
Tetrachloroethene	6	U	5	U	5	U
1,1,2,2-Tetrachloroethane	6	U	5	U	5	U
Toluene	6	U	103	%	5	U

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\* = Outside of EPA CLP QC limits.

RFW Batch Number: 0412L484 Client: TNUHANFORD F04-015 H2905 Work Order: 11343606001 Page: 1b  
Cust ID: B19PTS B19PTS B19PTS B19PTS VBLKIO VBLKIO VBLKIO BS

RFW#:	004	004 MS	004 MSD	04LVG398-MB1	04LVG398-MB1	%
Chlorobenzene	6 U	98	101	5 U	5 U	100
Ethylbenzene	6 U	5 U	5 U	5 U	5 U	5 U
Styrene	6 U	5 U	5 U	5 U	5 U	5 U
Xylene (total)	6 U	5 U	5 U	5 U	5 U	5 U
N-butylbenzene	6 U	5 U	5 U	5 U	5 U	5 U
trans-1,2-dichloroethene	6 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-dichloroethene	6 U	5 U	5 U	5 U	5 U	5 U

\*= Outside of EPA CLP QC limits.

1E  
VOLATILE ORGANICS ANALYSIS SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. PART 1

B19PT5

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: \_\_\_\_\_

Matrix: (soil/water) SOIL Lab Sample ID: 0412L484-004

Sample wt/vol: 4.90 (g/mL) G Lab File ID: q122208

Level: (low/med) LOW Date Received: 12/18/04

% Moisture: not dec. 4 Date Analyzed: 12/22/04

Column: (pack/cap) CAP Dilution Factor: 1.02

Number TICs found: 3 CONCENTRATION UNITS:  
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 141786	ETHYL ACETATE	10.534	30	NJ
2.	SILOXANE	19.461	10	J
3.	SILOXANE	21.521	8	J

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VOLATILE ORGANICS ANALYSIS SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO. **PART 1**

VBLKIO

Lab Name: Lionville Labs, Inc. Contract: 11343606001

Lab Code: Lionvi Case No.: \_\_\_\_\_ SAS No.: \_\_\_\_\_ SDG No.: \_\_\_\_\_

Matrix: (soil/water) SOIL Lab Sample ID: 04LVG398-MB1

Sample wt/vol: 5.00 (g/mL) G Lab File ID: g122206

Level: (low/med) LOW Date Received: 12/22/04

% Moisture: not dec. 0 Date Analyzed: 12/22/04

Column: (pack/cap) CAP Dilution Factor: 1.00

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				





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PART 1

FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F04-015-121	PAGE 1 OF 1
COLLECTOR Pope/Pfister/Tyza/Wiberg	COMPANY CONTACT CS Clearlock	TELEPHONE NO. 372-9638	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days		
SAMPLING LOCATION 216-U-3; 22.5fr-25ft	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil		SAF NO. F04-015	AIR QUALITY			
ICE CHEST NO. GRP-03-015	FIELD LOGBOOK NO. HNF-N-386-1	COA 1.19144ES10	METHOD OF SHIPMENT Federal Express				
SHIPPED TO Lionville Laboratory Incorporated	OFFSITE PROPERTY NO. SUTR 14591		BILL OF LADING/AIR BILL NO. SUTR 14591				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS N/A	PRESERVATION Cool 4C					
SPECIAL HANDLING AND/OR STORAGE Radioactive To: 949992 B19975 2/16/04	TYPE OF CONTAINER 3G						
	NO. OF CONTAINER(S) 1						
	VOLUME 120mL						
	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS					
SAMPLE NO. B19962	MATRIX* SOIL	SAMPLE DATE 12-13-04	SAMPLE TIME 0750				
CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS (1)NO2/NO3 - 353.2; Chromium Hex - 7196; Oil & Grease - 413.1;			
RELINQUISHED BY/REMOVED FROM R. PASTER / R. PASTER	DATE/TIME 2-13-04 1415	RECEIVED BY/STORED IN M.O. 076 FRELIN #1	DATE/TIME 12-18-04 1415				
RELINQUISHED BY/REMOVED FROM M.O. 076	DATE/TIME 2/19/04 1200	RECEIVED BY/STORED IN M.A. DANIEL	DATE/TIME 12/19/04 1200				
RELINQUISHED BY/REMOVED FROM M.A. DANIEL	DATE/TIME 12-18-04 1115	RECEIVED BY/STORED IN M.A. DANIEL	DATE/TIME 12-18-04 1115				
RELINQUISHED BY/REMOVED FROM M.A. DANIEL	DATE/TIME 12-18-04 1115	RECEIVED BY/STORED IN M.A. DANIEL	DATE/TIME 12-18-04 1115				
RELINQUISHED BY/REMOVED FROM M.A. DANIEL	DATE/TIME 12-18-04 1115	RECEIVED BY/STORED IN M.A. DANIEL	DATE/TIME 12-18-04 1115				
RELINQUISHED BY/REMOVED FROM M.A. DANIEL	DATE/TIME 12-18-04 1115	RECEIVED BY/STORED IN M.A. DANIEL	DATE/TIME 12-18-04 1115				
RELINQUISHED BY/REMOVED FROM M.A. DANIEL	DATE/TIME 12-18-04 1115	RECEIVED BY/STORED IN M.A. DANIEL	DATE/TIME 12-18-04 1115				
RELINQUISHED BY/REMOVED FROM M.A. DANIEL	DATE/TIME 12-18-04 1115	RECEIVED BY/STORED IN M.A. DANIEL	DATE/TIME 12-18-04 1115				
RELINQUISHED BY/REMOVED FROM M.A. DANIEL	DATE/TIME 12-18-04 1115	RECEIVED BY/STORED IN M.A. DANIEL	DATE/TIME 12-18-04 1115				
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME				
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME				

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FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F04-015-118	PAGE 1	OF 1
COLLECTOR Pope/Pfister/Hughes/Wiberg	COMPANY CONTACT CS Clearlock	TELEPHONE NO. 372-9638	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days	
SAMPLING LOCATION 216-U-3; 22.5ft-25ft	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil	SAF NO. F04-015				
ICE CHEST NO. GRP-03-015	FIELD LOGBOOK NO. HNF-N-386 1	COA 119144ES10	METHOD OF SHIPMENT Federal Express			
SHIPPED TO Becca	OFFSITE PROPERTY NO. SAPTRK 14591	BILL OF LADING/AIRBILL NO. SAPTRK 14591				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WT=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/REMARKS N/A	Preservation Cool 4C	Cool 4C	Cool 4C	Cool 4C	None
	TYPE OF CONTAINER	aG	aG	aG	aG	P
	NO. OF CONTAINER(S)	1	3	1	1	1
	VOLUME	250mL	40mL	120mL	120mL	50mL
	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	SEE ITEM (5) IN SPECIAL INSTRUCTIONS
	SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: 899953 MAB B19975 12/14/24					
SAMPLE NO. B19PT5	MATRIX*	SAMPLE DATE 12-13-04	SAMPLE TIME 0750			
	SOIL	X	X	X	X	X
CHAIN OF POSSESSION						
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
LABORATORY SECTION	RECEIVED BY			TITLE		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD			DATE/TIME		

SPECIAL INSTRUCTIONS

\*\* The laboratory is to report both kerosene and diesel range compounds from the WTPH-D analysis.  
 (1)IC Anions - 300.0 {Fluoride, Nitrate, Nitrite, Phosphate, Sulfate} Total Cyanide - 9010; pH (Soil) - 9045;  
 (2)ICP Metals - 6010A (Supertrace) {Cadmium, Chromium, Lead, Silver} ICP Metals - 6010A (Supertrace Add-On) {Copper} Mercury - 7471 - (CV);  
 (3)VOA - 8260A (TCL); VOA - 8260A (Add-On) {cis-1,2-Dichloroethylene, n-Butylbenzene, trans-1,2-Dichloroethylene}  
 (4)Semi-VOA -- 8270A (Add-On) {Tributyl phosphate} TPH-Gasoline Range - WTPH-G; TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}  
 (5)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155, Americium-241, Isotopic Plutonium, Isotopic Uranium, Strontium-89-90} Total Sr Total Uranium

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FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F04-015-067	PAGE 1 OF 1
COLLECTOR Pope/Pfister/Tyra/Wilberg	COMPANY CONTACT CS Clearlock	TELEPHONE NO. 372-9638	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days	
SAMPLING LOCATION 216-U-3; 35FT-37.5FT	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil	FIELD LOGBOOK NO. HNF-N-386 1	SAF NO. F04-015	AIR QUALITY		
ICE CHEST NO. GRR.03.015	COA 119144ES10	OFFSITE PROPERTY NO. 200 PTR 14591	METHOD OF SHIPMENT Federal Express	BILL OF LADING/AIR BILL NO. 200 PTR 14591		
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS N/A	PRESERVATION Cool °C	None			
		TYPE OF CONTAINER	ag			
		NO. OF CONTAINER(S)	1			
		VOLUME	120mL			
		SAMPLE ANALYSIS	SEE ITEM (1) IN LOCAL 129; SPECIAL INSTRUCTIONS Tribium - H3;			
		SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: B19953				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B19963	SOIL	12/14/04	0700			
CHAIN OF POSSESSION				SPECIAL INSTRUCTIONS (1)NO2/NO3 - 353.2; Oil & Grease - 413.1; Chromium Hex - 7196;		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
R. PESTER/ANL	12/14/04 0900	M. G. G. (726)	12-14-04 0900			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
M. G. G. (726)	12/14/04 0900	M. G. G. (726)	12/14/04 0900			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
M. G. G. (726)	12/14/04 0900	M. G. G. (726)	12/14/04 0900			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
M. G. G. (726)	12-18-04 11:15	M. G. G. (726)	12-18-04 11:15			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
M. G. G. (726)	12-18-04 11:15	M. G. G. (726)	12-18-04 11:15			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
M. G. G. (726)	12-18-04 11:15	M. G. G. (726)	12-18-04 11:15			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
M. G. G. (726)	12-18-04 11:15	M. G. G. (726)	12-18-04 11:15			
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME			
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME			



FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F04-015-069	PAGE 1 OF 1
COLLECTOR Pope/Plister/Tyra/Wilberg	COMPANY CONTACT CS Clearlock	TELEPHONE NO. 372-9638	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days	
SAMPLING LOCATION 216-U-3; 97.5FT-100FT	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil	FIELD LOGBOOK NO. HNF-N-386 1	SAF NO. F04-015	AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GPR-03-015	COA 119144ES10	METHOD OF SHIPMENT Federal Express	BILL OF LADING-AIR BIL NO. 200 PTL 14591			
SHIPPED 12/14/04 Beera Scientific Services	OFFSITE PROPERTY NO. 200 PTL 14591					
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/REMARKS N/A	PRESERVATION Cool 4C	None			
		TYPE OF CONTAINER 8G	8G			
		NO. OF CONTAINER(S) 1	1			
		VOLUME 120ml	60ml			
		SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS Iodine-29; Technetium-99; Tritium - H3;			
		SAMPLE DATE	12-16-04	SAMPLE TIME	0810	
B19965	SOIL	MATRIX*				
CHAIN OF POSSESSION						
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	SPECIAL INSTRUCTIONS (1)NO2/NO3 - 353.2; Oil & Grease - 413.1; Chromium Hex - 7196;		
R. PASTER	12/16/04 1030	M.O. - 036	FR 16	12/16/04	1030	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
M. PASTER	12/16/04 1030	M. PASTER	12/16/04			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
M. PASTER	12/16/04 1030	M. PASTER	12/16/04			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
Q. D. Ex	12-18-04 11:15	J. Smith	12-18-04	11:15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME			
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME			

00000001

Lionville Laboratory Incorporated  
 SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU Hamford

Date: 12-18-04

Purchase Order / Project# /

SAF# / SOW# / Release #: F04-015

LVL Batch #:

0412484

Sample Custodian:

D. Smith

NOTE: EXPLAIN ALL DISCREPANCIES

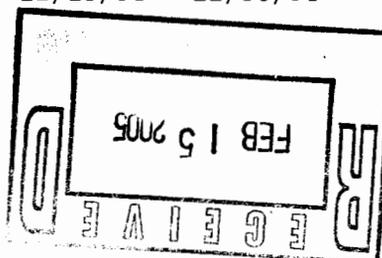
- |   |   |                             |  |                |
|---|---|-----------------------------|--|----------------|
| 1. Samples Hand Delivered or Shipped  | Carrier                                 | Fed Ex                      | Airbill#   | 7903 6982 1101 |
| 2. Custody seals on coolers or shipping container intact, signed and dated?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> No Seals                    | Comments       |
| 3. Outside of coolers or shipping containers are free from damage?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 5. Samples received cooled or ambient?  | Temp                                    | 3.7 °C                      | Cooler #   | GRP 03 015     |
| 6. Custody seals on sample containers intact, signed and dated?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> No Seals                    |                |
| 7. coc signed and dated?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 8. Sample containers are intact?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 9. All samples on coc received? All samples received on coc?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 10. All sample label information matches coc?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 11. Samples properly preserved?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 12. Samples received within hold times? Short holds taken to wet lab?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 13. VOA, TOC, TOX free of headspace?  | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A              |                |
| 14. QC stickers placed on bottles designated by client?   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A              |                |
| 15. Shipment meets LVL Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)      | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)                             | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> No Discrepancies |                |

Lionville Laboratory, Inc.  
INORGANIC ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD F04-015 H2905

DATE RECEIVED: 12/18/04

LVL LOT # :0412L484

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B19960						
% SOLIDS	001	S	04L%S206	12/10/04	12/27/04	12/28/04
CHROMIUM VI	001	S	04LVI048	12/10/04	12/28/04	12/28/04
NITRATE NITRITE	001	S	05LN3003	12/10/04	01/14/05	01/15/05
OIL & GREASE BY GRAV	001	S	04LOG046	12/10/04	12/28/04	12/29/04
B19961						
% SOLIDS	002	S	04L%S206	12/10/04	12/27/04	12/28/04
CHROMIUM VI	002	S	04LVI048	12/10/04	12/28/04	12/28/04
NITRATE NITRITE	002	S	05LN3003	12/10/04	01/14/05	01/15/05
OIL & GREASE BY GRAV	002	S	04LOG046	12/10/04	12/28/04	12/29/04
B19962						
% SOLIDS	003	S	04L%S206	12/13/04	12/27/04	12/28/04
CHROMIUM VI	003	S	04LVI048	12/13/04	12/28/04	12/28/04
NITRATE NITRITE	003	S	05LN3003	12/13/04	01/14/05	01/15/05
NITRATE NITRITE	003 REP	S	05LN3003	12/13/04	01/14/05	01/15/05
NITRATE NITRITE	003 MS	S	05LN3003	12/13/04	01/14/05	01/15/05
OIL & GREASE BY GRAV	003	S	04LOG046	12/13/04	12/28/04	12/29/04
OIL AND GREASE BY GR	003 REP	S	04LOG046	12/13/04	12/28/04	12/29/04
OIL AND GREASE BY GR	003 MS	S	04LOG046	12/13/04	12/28/04	12/29/04
B19PT5						
% SOLIDS	004	S	04L%S205	12/13/04	12/23/04	12/23/04
% SOLIDS	004 REP	S	04L%S205	12/13/04	12/23/04	12/23/04
FLUORIDE BY IC	004	S	04LICB74	12/13/04	12/30/04	12/30/04
FLUORIDE BY IC	004 REP	S	04LICB74	12/13/04	12/30/04	12/30/04
FLUORIDE BY IC	004 MS	S	04LICB74	12/13/04	12/30/04	12/30/04
NITRITE BY IC	004	S	04LICB74	12/13/04	12/30/04	12/30/04
NITRITE BY IC	004 REP	S	04LICB74	12/13/04	12/30/04	12/30/04
NITRITE BY IC	004 MS	S	04LICB74	12/13/04	12/30/04	12/30/04
NITRATE BY IC	004	S	04LICB74	12/13/04	12/30/04	12/30/04
NITRATE BY IC	004 REP	S	04LICB74	12/13/04	12/30/04	12/30/04



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01

Lionville Laboratory, Inc.  
INORGANIC ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD F04-015 H2905

DATE RECEIVED: 12/18/04

LVL LOT # :0412L484

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
NITRATE BY IC	004 MS	S	04LICB74	12/13/04	12/30/04	12/30/04
TOTAL CYANIDE	004	S	04LC085	12/13/04	12/23/04	12/23/04
TOTAL CYANIDE	004 REP	S	04LC085	12/13/04	12/23/04	12/23/04
TOTAL CYANIDE	004 MS	S	04LC085	12/13/04	12/23/04	12/23/04
PHOSPHATE BY IC	004	S	04LICB74	12/13/04	12/30/04	12/30/04
PHOSPHATE BY IC	004 REP	S	04LICB74	12/13/04	12/30/04	12/30/04
PHOSPHATE BY IC	004 MS	S	04LICB74	12/13/04	12/30/04	12/30/04
SULFATE BY IC	004	S	04LICB74	12/13/04	12/30/04	12/30/04
SULFATE BY IC	004 REP	S	04LICB74	12/13/04	12/30/04	12/30/04
SULFATE BY IC	004 MS	S	04LICB74	12/13/04	12/30/04	12/30/04
PH	004	S	04LPH110	12/13/04	12/22/04	12/22/04
PH	004 REP	S	04LPH110	12/13/04	12/22/04	12/22/04

B19963

% SOLIDS	005	S	04L%S206	12/14/04	12/27/04	12/28/04
CHROMIUM VI	005	S	04LVI048	12/14/04	12/28/04	12/28/04
NITRATE NITRITE	005	S	05LN3003	12/14/04	01/14/05	01/15/05
OIL & GREASE BY GRAV	005	S	04LOG046	12/14/04	12/28/04	12/29/04

B19964

% SOLIDS	006	S	04L%S206	12/15/04	12/27/04	12/28/04
CHROMIUM VI	006	S	04LVI048	12/15/04	12/28/04	12/28/04
NITRATE NITRITE	006	S	05LN3003	12/15/04	01/14/05	01/15/05
OIL & GREASE BY GRAV	006	S	04LOG046	12/15/04	12/28/04	12/29/04

B19965

% SOLIDS	007	S	04L%S206	12/16/04	12/27/04	12/28/04
CHROMIUM VI	007	S	04LVI048	12/16/04	12/28/04	12/28/04
CHROMIUM VI	007 REP	S	04LVI048	12/16/04	12/28/04	12/28/04
CHROMIUM VI	007 MS	S	04LVI048	12/16/04	12/28/04	12/28/04
CHROMIUM VI	007 MSD	S	04LVI048	12/16/04	12/28/04	12/28/04
NITRATE NITRITE	007	S	05LN3003	12/16/04	01/14/05	01/15/05
OIL & GREASE BY GRAV	007	S	04LOG046	12/16/04	12/28/04	12/29/04

LAB QC:

CHROMIUM VI	MB1	S	04LVI048	N/A	12/28/04	12/28/04
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Lionville Laboratory, Inc.  
INORGANIC ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD F04-015 H2905

DATE RECEIVED: 12/18/04

LVL LOT # :0412L484

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
CHROMIUM VI	MB1 BS	S	04LVI048	N/A	12/28/04	12/28/04
CHROMIUM VI	MB1 BSD	S	04LVI048	N/A	12/28/04	12/28/04
NITRATE NITRITE	MB1	S	05LN3003	N/A	01/14/05	01/15/05
NITRATE NITRITE	MB1 BS	S	05LN3003	N/A	01/14/05	01/15/05
OIL & GREASE BY GRAV	MB1	S	04LOG046	N/A	12/28/04	12/29/04
OIL AND GREASE BY GR	MB1 BS	S	04LOG046	N/A	12/28/04	12/29/04
OIL AND GREASE BY GR	MB1 BSD	S	04LOG046	N/A	12/28/04	12/29/04
FLUORIDE BY IC	MB1	S	04LICB74	N/A	12/30/04	12/30/04
FLUORIDE BY IC	MB1 BS	S	04LICB74	N/A	12/30/04	12/30/04
NITRITE BY IC	MB1	S	04LICB74	N/A	12/30/04	12/30/04
NITRITE BY IC	MB1 BS	S	04LICB74	N/A	12/30/04	12/30/04
NITRATE BY IC	MB1	S	04LICB74	N/A	12/30/04	12/30/04
NITRATE BY IC	MB1 BS	S	04LICB74	N/A	12/30/04	12/30/04
TOTAL CYANIDE	LCS L	S	04LC085	N/A	12/23/04	12/23/04
TOTAL CYANIDE	LCS L	S	04LC085	N/A	12/23/04	12/23/04
TOTAL CYANIDE	MB1	S	04LC085	N/A	12/23/04	12/23/04
PHOSPHATE BY IC	MB1	S	04LICB74	N/A	12/30/04	12/30/04
PHOSPHATE BY IC	MB1 BS	S	04LICB74	N/A	12/30/04	12/30/04
SULFATE BY IC	MB1	S	04LICB74	N/A	12/30/04	12/30/04
SULFATE BY IC	MB1 BS	S	04LICB74	N/A	12/30/04	12/30/04

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03




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**Analytical Report**

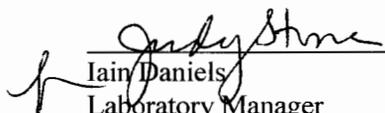

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**Client:** TNU-HANFORD F04-015 H2905  
**LVL#:** 0412L484

**W.O.#:** 11343-606-001-9999-00  
**Date Received:** 12-18-04

**INORGANIC NARRATIVE**

1. This narrative covers the analyses of 7 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 results presented in this report are derived from samples that met LvLI's sample acceptance policy.
5. The method blanks were within the method criteria.
6. The Laboratory Control Samples (LCS) were within the laboratory control limits with the exception of LCS 04LOG046-MB1 for Oil and Grease that was above the 80-125% control limit at 131.5% however the duplicate LCS 04LOG046-MB1 was within the control limits at 112.0%. The duplicate LCS for Oil and Grease was within the 20% Relative Percent Difference (RPD) control limit.
7. The matrix spike (MS) recoveries for Nitrate Nitrite, Oil and Grease, Fluoride, Nitrite, Nitrate, Total Cyanide, Sulfate and Chromium VI were within the 75-125% control limits however MS recovery for Phosphate was above the control limits at 127.9%.
8. The replicate analyses Nitrate Nitrite, Oil and Grease, Percent solids, Fluoride, Nitrite, Nitrate, Total Cyanide, Phosphate, pH and Chromium VI were within the 20% RPD control limit however replicate analysis for Sulfate was outside the control limit at 20.4%.
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 package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

  
 Iain Daniels  
 Laboratory Manager  
 Lionville Laboratory Incorporated

1/28/05  
 Date

njpi12-484

The results presented in this report relate to the analytical testing and conditions of the samples upon 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 20 pages.

04

## Lionville Laboratory Incorporated

## WET CHEMISTRY

## METHODS GLOSSARY FOR SOIL/SOLIDS SAMPLE ANALYSIS

	<u>ASTM</u>	<u>SW846</u>	<u>OTHER</u>
% Ash	___ D2216-80		
% Moisture	___ <del>D</del> 2216-80		___ ILMO4.0 (e)
% Solids	___ <input checked="" type="checkbox"/> D2216-80		___ ILMO4.0 (e)
% Volatile Solids	___ D2216-80		
ASTM Extraction in Water	___ D3987-81/85		
BTU	___ D240-87		
CEC		___ 9081	___ c
Chromium VI		<input checked="" type="checkbox"/> 3060A/7196A	
Corrosivity ___ by coupon ___ by pH		___ 1110(mod) ___ 9045C	
Cyanide, Total		<input checked="" type="checkbox"/> 9010B/19014	___ 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		<input checked="" type="checkbox"/> 9071A(mod.)	<input checked="" type="checkbox"/> EPA 413.1(mod.)
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		<input checked="" type="checkbox"/> 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: Nitrate Nitrite		Method: EPA 353.2(mod.)	
Other: Fluoride, Nitrite, Nitrate, Phosphate, Sulfate		Method: EPA 300.0(mod.)	

**Lionville Laboratory Incorporated****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.

Lionville Laboratory, Inc.

## INORGANICS DATA SUMMARY REPORT 01/25/05

CLIENT: TNUHANFORD F04-015 H2905

LVL LOT #: 0412L484

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-----	-----	-----	-----	-----	-----	-----
-001	B19960	% Solids	96.8	%	0.01	1.0
		Chromium VI	0.21	u MG/KG	0.21	1.0
		Nitrate Nitrite	0.33	MG/KG	0.21	1.0
		Oil & Grease Gravimetri	689	u MG/KG	689	1.0
-002	B19961	% Solids	96.1	%	0.01	1.0
		Chromium VI	0.21	u MG/KG	0.21	1.0
		Nitrate Nitrite	0.34	MG/KG	0.21	1.0
		Oil & Grease Gravimetri	694	u MG/KG	694	1.0
-003	B19962	% Solids	93.9	%	0.01	1.0
		Chromium VI	0.21	u MG/KG	0.21	1.0
		Nitrate Nitrite	0.41	MG/KG	0.21	1.0
		Oil & Grease Gravimetri	710	u MG/KG	710	1.0
-004	B19PT5	% Solids	95.9	%	0.01	1.0
		Fluoride by IC	1.0	u MG/KG	1.0	1.0
		Nitrite by IC	1.04	u MG/KG	1.04	1.0
		Nitrate by IC	2.55	MG/KG	1.04	1.0
		Cyanide, Total	0.50	u MG/KG	0.50	1.0
		Phosphate by IC	1.0	u MG/KG	1.0	1.0
		Sulfate by IC	11.5	MG/KG	1.0	1.0
		pH	9.0	SOIL PH	0.01	1.0
-005	B19963	% Solids	95.2	%	0.01	1.0
		Chromium VI	0.23	MG/KG	0.21	1.0
		Nitrate Nitrite	0.21	u MG/KG	0.21	1.0
		Oil & Grease Gravimetri	864	MG/KG	700	1.0
-006	B19964	% Solids	96.2	%	0.01	1.0
		Chromium VI	0.21	u MG/KG	0.21	1.0
		Nitrate Nitrite	0.21	u MG/KG	0.21	1.0
		Oil & Grease Gravimetri	693	u MG/KG	693	1.0
-007	B19965	% Solids	91.2	%	0.01	1.0
		Chromium VI	0.22	u MG/KG	0.22	1.0
		Nitrate Nitrite	0.70	MG/KG	0.22	1.0
		Oil & Grease Gravimetri	731	u MG/KG	731	1.0

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## Lionville Laboratory, Inc.

INORGANICS METHOD BLANK DATA SUMMARY PAGE 01/25/05

CLIENT: TNUHANFORD F04-015 H2905  
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0412L484

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
BLANK10	04LVI048-MB1	Chromium VI	0.20	u MG/KG	0.20	1.0
BLANK10	05LN3003-MB1	Nitrate Nitrite	0.20	u MG/KG	0.20	1.0
BLANK10	04LOG046-MB1	Oil & Grease Gravimetri	667	u MG/KG	667	1.0
BLANK10	04LICB74-MB1	Fluoride by IC	1.0	u MG/KG	1.0	1.0
		Nitrite by IC	1.00	u MG/KG	1.00	1.0
		Nitrate by IC	1.00	u MG/KG	1.00	1.0
		Phosphate by IC	1.0	u MG/KG	1.0	1.0
		Sulfate by IC	1.0	u MG/KG	1.0	1.0
BLANK1	04LC085-MB1	Cyanide, Total	0.50	u MG/KG	0.50	1.0

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Lionville Laboratory, Inc.

## INORGANICS ACCURACY REPORT 01/25/05

CLIENT: TNUHANFORD F04-015 H2905  
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0412L484

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
-003	B19962	Nitrate Nitrite	6.1	0.41	5.3	108.2	1.0
		Oil & Grease Gravimetr	8120	710 u	7660	106.1	1.0
-004	B19PT5	Fluoride by IC	45.7	0.09	41.6	109.5	2.0
		Nitrite by IC	45.8	1.04u	41.6	110.0	2.0
		Nitrate by IC	51.9	2.55	41.6	118.5	2.0
		Cyanide, Total	5.12	0.50u	4.99	102.7	1.0
		Phosphate by IC	53.2	1.0 u	41.6	127.9	2.0
		Sulfate by IC	60.5	11.5	41.6	117.7	2.0
-007	B19965	Soluble Chromium VI	4.7	0.22u	4.4	107.5	1.0
		Insoluble Chromium VI	1730	0.22u	1440	120.1	100
BLANK10	04LVI048-MB1	Soluble Chromium VI	4.1	0.20u	4.0	101.4	1.0
		Insoluble Chromium VI	1380	0.20u	1180	117.1	100
BLANK10	05LN3003-MB1	Nitrate Nitrite	5.2	0.20u	5.0	104.0	1.0
BLANK10	04LOG046-MB1	Oil & Grease Gravimetr	9450	667 u	7190	131.5	1.0
		Oil & Grease - Grav M	8050	667 u	7190	112.0	1.0
BLANK10	04LICB74-MB1	Fluoride by IC	19.3	1.0 u	20.0	96.5	1.0
		Nitrite by IC	20.0	1.00u	20.0	99.8	1.0
		Nitrate by IC	20.0	1.00u	20.0	99.9	1.0
		Phosphate by IC	19.5	1.0 u	20.0	97.4	1.0
		Sulfate by IC	19.7	1.0 u	20.0	98.4	1.0

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Lionville Laboratory, Inc.

INORGANICS DUPLICATE SPIKE REPORT 01/25/05

CLIENT: TNUHANFORD F04-015 H2905

LVL LOT #: 0412L484

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKE#1		SPIKE#2	
			%RECOV	%RECOV	%RECOV	%DIFF
BLANK10	04LOG046-MB1	Oil & Grease - Grav	131.5	112.0	16.0	

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## Lionville Laboratory, Inc.

INORGANICS PRECISION REPORT 01/25/05

CLIENT: TNUHANFORD F04-015 H2905  
WORK ORDER: 11343-606-001-9999-00

LVL LOT #: 0412L484

SAMPLE	SITE ID	ANALYTE	INITIAL			DILUTION FACTOR (REP)
			RESULT	REPLICATE RPD		
-003REP	B19962	Nitrate Nitrite	0.41	0.44	5.6	1.0
		Oil & Grease Gravimetri	710 u	710 u	NC	1.0
-004REP	B19PT5	% Solids	95.9	95.8	0.073	1.0
		Fluoride by IC	1.0 u	1.0 u	NC	1.0
		Nitrite by IC	1.04u	1.03u	NC	1.0
		Nitrate by IC	2.55	3.06	18.1	1.0
		Cyanide, Total	0.50u	0.50u	NC	1.0
		Phosphate by IC	1.0 u	1.0 u	NC	1.0
		Sulfate by IC	11.5	14.1	20.4	1.0
		pH	9.0	9.0	0.1	1.0
-007REP	B19965	Chromium VI	0.22u	0.22u	NC	1.0

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Lionville Laboratory, Inc.

## INORGANICS LABORATORY CONTROL STANDARDS REPORT 01/25/05

CLIENT: TNUHANFORD F04-015 H2905

LVL LOT #: 0412L484

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED	SPIKED	UNITS	%RECOV
			SAMPLE	AMOUNT		
LCSS1	04LC085-LCS1	Cyanide, Total LCS	2.12	2.0	MG/KG	105.8
LCSS2	04LC085-LCS2	Cyanide, Total LCS	10.2	10.0	MG/KG	102.1

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FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F04-015-065	PAGE 1 OF 1
COLLECTOR Pope/Pfister/Tyra/Wiberg	COMPANY CONTACT CS Cearlock	TELEPHONE NO. 372-9638	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days	
SAMPLING LOCATION 216-U-3; 125FF-55FT	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil	FIELD LOGBOOK NO. HNF-N-386 1	SAF NO. F04-015	AIR QUALITY		
ICE CHEST NO. GRP-03-016	COA 119144ES10	OFFSITE PROPERTY NO. Su PTK 14591	METHOD OF SHIPMENT Federal Express			
SHIPPED TO Beira		BILL OF LADING/AIR BILL NO. Su PTK 14591				
MATRIX* A=Air DL=Drum L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WT=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS N/A	PRESERVATION Cool 4C	TYPE OF CONTAINER aG	NO. OF CONTAINER(S) 1	VOLUME 60ml	
SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: B19951						
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B19960	SOIL	12/10/04	1050	X		
B19961	SOIL	12/10/04	1050	X		
CHAIN OF POSSESSION						
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	SPECIAL INSTRUCTIONS		
<i>Arva Wibe...</i>	12/10/04 11:30	<i>S. J. Trent</i>	12/10/04 12:00	(1)NO2/NO3 - 353.2; Oil & Grease - 413.1; Chromium Hex - 7196;		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
<i>Arva Wibe...</i>	12/10/04 11:00	<i>S. J. Trent</i>	12/10/04 11:15			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
<i>Arva Wibe...</i>	12/10/04 11:15	<i>S. J. Trent</i>	12/10/04 11:15			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
<i>Arva Wibe...</i>	12/10/04 11:15	<i>S. J. Trent</i>	12/10/04 11:15			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
<i>Arva Wibe...</i>	12/10/04 11:15	<i>S. J. Trent</i>	12/10/04 11:15			
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME			
<i>Arva Wibe...</i>	12/10/04 11:15	<i>S. J. Trent</i>	12/10/04 11:15			
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME			
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME			

FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST			F04-015-121	PAGE 1 OF 1
COLLECTOR Pope/Pfister/Tyra/Wilberg	COMPANY CONTACT CS Clearlock	TELEPHONE NO. 372-9638	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	AIR QUALITY	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION 216-U-3; 22.5ft-25ft	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil	FIELD LOGBOOK NO. HNF-N-386 1	SAF NO. F04-015	METHOD OF SHIPMENT Federal Express		
ICE CHEST NO. GRP-03-015	COA 119144ES10	BILL OF LADING/AIR BILL NO. Su PTL 14591				
SHIPPED TO Lionville Laboratory Incorporated	OFFSITE PROPERTY NO. Su PTL 14591	Su PTL 14591				
MATRIX* A=Air DL=Drum L=Liquid DS=Drum S=Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water Wf=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS N/A	PRESERVATION Cool 4C	TYPE OF CONTAINER 8G	NO. OF CONTAINER(S) 1	VOLUME 120mL	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: 819952 819975 12/16/04	SAMPLE ANALYSIS	X				
SAMPLE NO. B19962	MATRIX* SOIL	SAMPLE DATE 12-13-04	SAMPLE TIME 0750			
CHAIN OF POSSESSION						
RELINQUISHED BY/REMOVED FROM R. PASTER/REMOVED FROM	DATE/TIME 12-13-04 1415	SIGN/PRINT NAMES	RECEIVED BY/STORED IN M.A. BACHUR	DATE/TIME 12-18-04 1415	SPECIAL INSTRUCTIONS (1) NO2/NO3 - 353.2; Chromium Hex - 7196; Oil & Grease - 413.1;	
RELINQUISHED BY/REMOVED FROM M.A. BACHUR	DATE/TIME 12/14/04 1220		RECEIVED BY/STORED IN M.A. BACHUR	DATE/TIME 12/14/04 1220		
RELINQUISHED BY/REMOVED FROM M.A. BACHUR	DATE/TIME 12/14/04 1220		RECEIVED BY/STORED IN M.A. BACHUR	DATE/TIME 12/14/04 1220		
RELINQUISHED BY/REMOVED FROM M.A. BACHUR	DATE/TIME 12/18/04 1115		RECEIVED BY/STORED IN M.A. BACHUR	DATE/TIME 12/18/04 1115		
RELINQUISHED BY/REMOVED FROM M.A. BACHUR	DATE/TIME 12/18/04 1115		RECEIVED BY/STORED IN M.A. BACHUR	DATE/TIME 12/18/04 1115		
RELINQUISHED BY/REMOVED FROM	DATE/TIME		RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME		RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME		RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY			TITLE		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD			DATE/TIME		







FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F04-015-069	PAGE 1 OF 1
COLLECTOR Pope/Pfister/Tyra/Wiberg	COMPANY CONTACT CS Clearlock	TELEPHONE NO. 372-9638	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION 216-U-3; 97.5FT-100FT	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil	FIELD LOGBOOK NO. HNF-N-386 1	SAF NO. F04-015	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GPR-03-015	OFFSITE PROPERTY NO. 20 PTK 14591	COA 119144ES10	METHOD OF SHIPMENT Federal Express		
SHIPPED 12/24/04 EBCentive Services	SHIPPER'S NAME Beuca	OFFSITE PROPERTY NO. 20 PTK 14591	BILL OF LADING/AIR BLD NO. 20 PTK 14591		
MATRIX* A=Air DL=Drum L=Liquids DS=Drum S=Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS N/A	PRESERVATION Cool *C None			
	TYPE OF CONTAINER aG				
	NO. OF CONTAINER(S) 1				
	VOLUME 1.20mL				
	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS				
	SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: B9999 B19984 12/16/04				
SAMPLE NO. B19965	MATRIX* SOIL	SAMPLE DATE 12.16.04	SAMPLE TIME 0810		
CHAIN OF POSSESSION					
SIGN/ PRINT NAMES					
RELINQUISHED BY/REMOVED FROM R. P. STEA	DATE/TIME 12/16/04	RECEIVED BY/STORED IN MIO-026	DATE/TIME FRIG 12/16/04	RECEIVED BY/STORED IN MIO-026	DATE/TIME FRIG 12/16/04
RELINQUISHED BY/REMOVED FROM MIO-026	DATE/TIME 12/16/04	RECEIVED BY/STORED IN MIO-026	DATE/TIME FRIG 12/16/04	RECEIVED BY/STORED IN MIO-026	DATE/TIME FRIG 12/16/04
RELINQUISHED BY/REMOVED FROM MIO-026	DATE/TIME 12/18/04	RECEIVED BY/STORED IN MIO-026	DATE/TIME FRIG 12/18/04	RECEIVED BY/STORED IN MIO-026	DATE/TIME FRIG 12/18/04
RELINQUISHED BY/REMOVED FROM MIO-026	DATE/TIME 12/18/04	RECEIVED BY/STORED IN MIO-026	DATE/TIME FRIG 12/18/04	RECEIVED BY/STORED IN MIO-026	DATE/TIME FRIG 12/18/04
RELINQUISHED BY/REMOVED FROM MIO-026	DATE/TIME 12/18/04	RECEIVED BY/STORED IN MIO-026	DATE/TIME FRIG 12/18/04	RECEIVED BY/STORED IN MIO-026	DATE/TIME FRIG 12/18/04
RELINQUISHED BY/REMOVED FROM MIO-026	DATE/TIME 12/18/04	RECEIVED BY/STORED IN MIO-026	DATE/TIME FRIG 12/18/04	RECEIVED BY/STORED IN MIO-026	DATE/TIME FRIG 12/18/04
RELINQUISHED BY/REMOVED FROM MIO-026	DATE/TIME 12/18/04	RECEIVED BY/STORED IN MIO-026	DATE/TIME FRIG 12/18/04	RECEIVED BY/STORED IN MIO-026	DATE/TIME FRIG 12/18/04
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	

SPECIAL INSTRUCTIONS  
(1)NO2/NO3 - 353.2; Oil & Grease - 413.1; Chromium Hex - 7196;

Lionville Laboratory Incorporated  
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU + hamford

Date: 12-18-04

Purchase Order / Project# /  
SAF# / SOW# / Release #: F04-015

LVL Batch #: 0412484

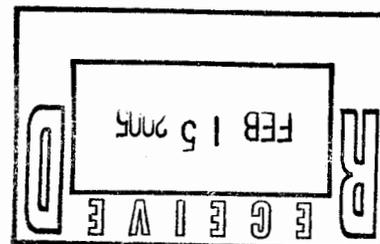
Sample Custodian: J. Smith

NOTE: EXPLAIN ALL DISCREPANCIES

- |   |   |  |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u>   | Carrier <u>Fed Ex</u>   | Airbill# <u>7903 6982 1101</u>                       |
| 2. Custody seals on coolers or shipping container intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals      Comments      |
| 3. Outside of coolers or shipping containers are free from damage?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 5. Samples received <u>cooled</u> or ambient?   | Temp <u>3.7 °C</u>  | Cooler # <u>GEP 03 015</u>                           |
| 6. Custody seals on sample containers intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals                    |
| 7. coc signed and dated?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 8. Sample containers are intact?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 9. All samples on coc received? All samples received on coc?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 10. All sample label information matches coc?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 11. Samples properly preserved?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 12. Samples received within hold times? Short holds taken to wet lab?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 13. VOA, TOC, TOX free of headspace?  | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 14. QC stickers placed on bottles designated by client?   | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 15. Shipment meets LVL Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)                             | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> No Discrepancies |

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Lionville Laboratory, Inc.  
INORGANIC ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD F04-015 H2905



DATE RECEIVED: 12/18/04

LVL LOT # :0412L484

CLIENT ID /ANALYSIS	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B19PT5						
SILVER, TOTAL	004	S	05L0002	12/13/04	01/01/05	01/03/05
SILVER, TOTAL	004 REP	S	05L0002	12/13/04	01/01/05	01/03/05
SILVER, TOTAL	004 MS	S	05L0002	12/13/04	01/01/05	01/03/05
CADMIUM, TOTAL	004	S	05L0002	12/13/04	01/01/05	01/03/05
CADMIUM, TOTAL	004 REP	S	05L0002	12/13/04	01/01/05	01/03/05
CADMIUM, TOTAL	004 MS	S	05L0002	12/13/04	01/01/05	01/03/05
CHROMIUM, TOTAL	004	S	05L0002	12/13/04	01/01/05	01/03/05
CHROMIUM, TOTAL	004 REP	S	05L0002	12/13/04	01/01/05	01/03/05
CHROMIUM, TOTAL	004 MS	S	05L0002	12/13/04	01/01/05	01/03/05
COPPER, TOTAL	004	S	05L0002	12/13/04	01/01/05	01/03/05
COPPER, TOTAL	004 REP	S	05L0002	12/13/04	01/01/05	01/03/05
COPPER, TOTAL	004 MS	S	05L0002	12/13/04	01/01/05	01/03/05
MERCURY, TOTAL	004	S	04C0284	12/13/04	12/27/04	12/28/04
MERCURY, TOTAL	004 REP	S	04C0284	12/13/04	12/27/04	12/28/04
MERCURY, TOTAL	004 MS	S	04C0284	12/13/04	12/27/04	12/28/04
LEAD, TOTAL	004	S	05L0002	12/13/04	01/01/05	01/03/05
LEAD, TOTAL	004 REP	S	05L0002	12/13/04	01/01/05	01/03/05
LEAD, TOTAL	004 MS	S	05L0002	12/13/04	01/01/05	01/03/05

LAB QC:

SILVER LABORATORY	LC1 BS	S	05L0002	N/A	01/01/05	01/03/05
SILVER, TOTAL	MB1	S	05L0002	N/A	01/01/05	01/03/05
CADMIUM LABORATORY	LC1 BS	S	05L0002	N/A	01/01/05	01/03/05
CADMIUM, TOTAL	MB1	S	05L0002	N/A	01/01/05	01/03/05
CHROMIUM LABORATORY	LC1 BS	S	05L0002	N/A	01/01/05	01/03/05
CHROMIUM, TOTAL	MB1	S	05L0002	N/A	01/01/05	01/03/05
COPPER LABORATORY	LC1 BS	S	05L0002	N/A	01/01/05	01/03/05
COPPER, TOTAL	MB1	S	05L0002	N/A	01/01/05	01/03/05
MERCURY LABORATORY	LC1 BS	S	04C0284	N/A	12/27/04	12/28/04
MERCURY, TOTAL	MB1	S	04C0284	N/A	12/27/04	12/28/04
LEAD LABORATORY	LC1 BS	S	05L0002	N/A	01/01/05	01/03/05
LEAD, TOTAL	MB1	S	05L0002	N/A	01/01/05	01/03/05

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**Analytical Report**


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**Client:** TNU-HANFORD F04-015  
**LVL#:** 0412L484  
**SDG/SAF#:** H2905/F04-015

**W.O.#:** 11343-606-001-9999-00  
**Date Received:** 12-18-04

**METALS CASE NARRATIVE**

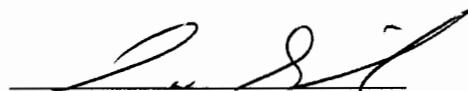
1. This narrative covers the analysis of 1 soil sample.
2. The sample was prepared and analyzed in accordance with methods checked on the attached glossary.
3. All analyses were performed within the required holding times.
4. All results presented in this report are derived from samples that met LvLI's sample acceptance policy.
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), 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 the Inorganics Laboratory Control Standards Report.
10. All matrix spike (MS) recoveries were within the 75-125% control limits. Refer to the Inorganics Accuracy Report.
11. The duplicate analyses for 3 analytes were outside the 20% Relative Percent Difference (RPD) control limits. Refer to the Inorganics Precision Report.
12. 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

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 18 pages.

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region of less-certain quantification.

13. 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.



Iain Daniels  
Laboratory Manager  
Lionville Laboratory Incorporated

jjw/m12-484

1/25/05  
Date



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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  
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, approximately 0.3 grams of sample is taken to a final volume of 50 mL (including all reagents).
3. Flame AA.
4. Graphite Furnace AA.

L-WI-033/N-04/98

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## Lionville Laboratory, Inc.

## INORGANICS DATA SUMMARY REPORT 01/21/05

CLIENT: TNUHANFORD F04-015 H2905

LVL LOT #: 0412L484

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
-----	-----	-----	-----	-----	-----	-----
-004	B19PT5	Silver, Total	0.09 u	MG/KG	0.09	1.0
		Cadmium, Total	0.03 u	MG/KG	0.03	1.0
		Chromium, Total	5.4	MG/KG	0.07	1.0
		Copper, Total	10.4	MG/KG	0.13	1.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Lead, Total	3.6	MG/KG	0.20	1.0

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## Lionville Laboratory, Inc.

INORGANICS ACCURACY REPORT 01/21/05

CLIENT: TNUHANFORD F04-015 H2905

LVL LOT #: 0412L484

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
=====	=====	=====	=====	=====	=====	=====	=====
-004	B19PTS	Silver, Total	4.2	0.09u	4.8	87.5	1.0
		Cadmium, Total	4.3	0.03u	4.8	89.6	1.0
		Chromium, Total	24.6	5.4	19.3	99.5	1.0
		Copper, Total	34.4	10.4	24.1	99.6	1.0
		Mercury, Total	0.16	0.01u	0.15	110.1	1.0
		Lead, Total	48.1	3.6	48.2	92.3	1.0

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Lionville Laboratory, Inc.

## INORGANICS PRECISION REPORT 01/21/05

CLIENT: TNUHANFORD F04-015 H2905

LVL LOT #: 0412L484

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	INITIAL			DILUTION FACTOR (REP)
			RESULT	REPLICATE RPD		
-----	-----	-----	-----	-----	-----	
-004REP	B19PT5	Silver, Total	0.09u	0.09u	NC	1.0
		Cadmium, Total	0.03u	0.03u	NC	1.0
		Chromium, Total	5.4	6.9	24.4	1.0
		Copper, Total	10.4	12.9	21.5	1.0
		Mercury, Total	0.01u	0.02u	NC	1.0
		Lead, Total	3.6	4.5	22.2	1.0

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Lionville Laboratory, Inc.

## INORGANICS LABORATORY CONTROL STANDARDS REPORT 01/21/05

CLIENT: TNUHANFORD F04-015 H2905

LVL LOT #: 0412L484

WORK ORDER: 11343-606-001-9999-00

SAMPLE	SITE ID	ANALYTE	SPIKED	SPIKED	UNITS	%RECOV
			SAMPLE	AMOUNT		
=====	=====	=====	=====	=====	=====	=====
LCS1	05L0002-LC1	Silver, LCS	47.4	50.0	MG/KG	94.8
		Cadmium, LCS	24.2	25.0	MG/KG	96.8
		Chromium, LCS	50.1	50.0	MG/KG	100.2
		Copper, LCS	121	125	MG/KG	96.6
		Lead, LCS	241	250	MG/KG	96.6
LCS1	04C0284-LC1	Mercury, LCS	6.4	6.2	MG/KG	103.0

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FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F04-015-065	PAGE 1 OF 1
COLLECTOR Pope/Pfister/Tyra/Wiberg	COMPANY CONTACT CS Clearlock	TELEPHONE NO. 372-9638	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days		
SAMPLING LOCATION 216-U-3; 12-5FT-15FT	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil	FIELD LOGBOOK NO. HNF-N-386.1	SAF NO. F04-015	AIR QUALITY			
ICE CHEST NO. GHP-03-016	COA 119144ES10	OFFSITE PROPERTY NO. 200-14591	METHOD OF SHIPMENT Federal Express				
SHIPPED TO 200-14591 EBC/ST-3			BILL OF LADING/AIR BILL NO. 200 PTK 14591				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WF=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS N/A	PRESERVATION Cool 4C	None				
		TYPE OF CONTAINER aG	aG				
		NO. OF CONTAINER(S) 1	1				
		VOLUME 120ml	60ml				
		SAMPLE ANALYSIS Radioactive Tl To: B19951	SEE ITEM (1) IN SPECIAL INSTRUCTIONS Section - H3;				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME				
B19960	SOIL	12/10/04	10:50	X			
B19961	SOIL	12/10/04	10:50	X			
CHAIN OF POSSESSION				SIGN/ PRINT NAMES			
RELINQUISHED BY/REMOVED FROM <i>Handwritten signature</i>	DATE/TIME 12/10/04 13:30	RECEIVED BY/STORED IN <i>Handwritten signature</i>	DATE/TIME 12/10/04 13:30				
RELINQUISHED BY/REMOVED FROM <i>Handwritten signature</i>	DATE/TIME 12/10/04 1:00	RECEIVED BY/STORED IN <i>Handwritten signature</i>	DATE/TIME 12/10/04 1:15				
RELINQUISHED BY/REMOVED FROM <i>Handwritten signature</i>	DATE/TIME 12/10/04 11:15	RECEIVED BY/STORED IN <i>Handwritten signature</i>	DATE/TIME 12/10/04 11:15				
RELINQUISHED BY/REMOVED FROM <i>Handwritten signature</i>	DATE/TIME 12/10/04 11:15	RECEIVED BY/STORED IN <i>Handwritten signature</i>	DATE/TIME 12/10/04 11:15				
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME				
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME				
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME				
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME			
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME			

SPECIAL INSTRUCTIONS  
(1)NO2/NO3 - 353.2; Oil & Grease - 413.1; Chromium Hex - 7196;





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FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F04-015-067	PAGE 1 OF 1	
COLLECTOR Pope/Mfister/Tyra/Wiberg		COMPANY CONTACT CS Cearlock		TELEPHONE NO. 372-9638		PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION 216-U-3; 35FT-37.5FT		PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil		SAF NO. F04-015		AIR QUALITY <input type="checkbox"/>		
ICE CHEST NO. GAP-03-015		FIELD LOGBOOK NO. HNF-N-386 1		COA 119144ES10		METHOD OF SHIPMENT Federal Express		
SHIPPED TO MPC Chemical Eberhard		OFFSITE PROPERTY NO. see PTR 14591		BILL OF LADING/AIR BILL NO. see PTR 14591				
MATRIX*	POSSIBLE SAMPLE HAZARDS/REMARKS	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS		
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	N/A	Cool 4C	3G	1	120ml	SEE ITEM (1) IN SPECIAL INSTRUCTIONS Technetium-99; Thorium-232;		
SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: B19953								
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME					
B19963	SOIL	12/14/04	0700					
CHAIN OF POSSESSION		SIGN/PRINT NAMES		SPECIAL INSTRUCTIONS (1) NO2/NO3 - 353.2; Oil & Grease - 413.1; Chromium Hex - 7196;				
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME					
IR. PE STOR/PA...	12/14/04 0900	MPC-226 (2216)	12-14-04 0900					
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME					
MPC-226 TR...	12/14/04 1200	MPC-226 TR...	12/14/04 1200					
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME					
MPC-226 TR...	12/14/04 1200	MPC-226 TR...	12/14/04 1200					
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME					
PEACE	12-18-04 11:15	MPC-226 TR...	12-18-04 11:15					
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME					
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME					
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME					
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME				
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME				





Lionville Laboratory Incorporated  
 SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TWC Hartford

Date: 12-18-04

Purchase Order / Project# /  
SAF# / SOW# / Release #: F04-015

LVL1 Batch #:

0412484

Sample Custodian: J. Smith

NOTE: EXPLAIN ALL DISCREPANCIES

- |   |   |  |
|---|---|--|
| 1. Samples Hand Delivered or Shipped  | Carrier Fed Ex  | Airbill# 7903 6982 1101                              |
| 2. Custody seals on coolers or shipping container intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals      Comments      |
| 3. Outside of coolers or shipping containers are free from damage?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 5. Samples received cooled or ambient?  | Temp 3.7 °C   | Cooler # GEP03 015                                   |
| 6. Custody seals on sample containers intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals                    |
| 7. coc signed and dated?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 8. Sample containers are intact?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 9. All samples on coc received? All samples received on coc?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 10. All sample label information matches coc?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 11. Samples properly preserved?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 12. Samples received within hold times? Short holds taken to wet lab?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 13. VOA, TOC, TOX free of headspace?  | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 14. QC stickers placed on bottles designated by client?   | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 15. Shipment meets LVL1 Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)     | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)                             | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> No Discrepancies |

Lionville Laboratory, Inc.  
 GRO ANALYTICAL DATA PACKAGE FOR  
 TNUHANFORD F04-015 H2905

DATE RECEIVED: 12/18/04

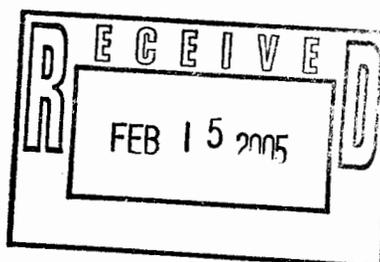
LVL LOT # :0412L484

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B19PT5	004	S	04LVJC27	12/13/04	N/A	12/27/04
B19PT5	004 MS	S	04LVJC27	12/13/04	N/A	12/27/04
B19PT5	004 MSD	S	04LVJC27	12/13/04	N/A	12/27/04

## LAB QC:

TBLKSK	MB1	S	04LVJC27	N/A	N/A	12/27/04
TBLKSK	MB1 BS	S	04LVJC27	N/A	N/A	12/27/04

*Handwritten signature and date: 1/13/05*



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## Analytical Report

**Client:** TNU HANFORD F04-015  
**LVL#:** 0412L484  
**SDG/SAF#:** H2905/F04-015

**W.O.#:** 11343-606-001-9999-00  
**Date Received:** 12-18-2004

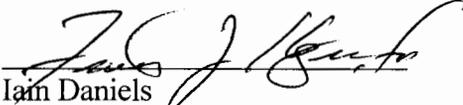
**GRO**

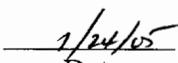
One (1) soil sample was collected on 12-13-2004.

The sample and its associated QC samples were analyzed according to Lionville Laboratory SOPs based on SW-846 method 8015 for Gasoline Range Organics (GRO) on 12-27-2004. The analysis met the intent of method WTPH-G.

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

1. All results presented in this report are derived from a sample that met LVL's sample acceptance policy.
2. The sample was analyzed within required holding time.
3. The method blank was below the reporting limits for the target compound.
4. All surrogate recoveries were within acceptance criteria.
5. The blank spike recovery was within acceptance criteria.
6. The matrix spike recoveries were within acceptance criteria.
7. All initial calibrations associated with this data set were within acceptance criteria.
8. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
9. 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.

  
 Iain Daniels  
 Laboratory Manager  
 Lionville Laboratory Incorporated

  
 Date

som\vr\group\data\gro\tmu-hanford\0408-484.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 1 2 pages.

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GLOSSARY OF DATADATA 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.
- .I** - Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

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.
- NS** - Not Spiked.
- SP** - Indicates Spiked Compound.
- P** - This flag is used for an PESTICIDE/PCB 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.
- NPM** - No pattern match for multi-component target analytes.

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Lionville Laboratory, Inc.

Report Date: 01/11/05 10:33

GAS RANGE ORGANICS

Client: TNUHANFORD F04-015 H2905 Work Order: 11343606001 Page: 1

RFW Batch Number: 0412L484

Cust ID: B19PT5 B19PT5 B19PT5 B19PT5 TBLKSK BS

Sample Information  
 RFW#: 004 004 MS 004 MSD 04LVJC27-MB1  
 Matrix: SOIL SOIL SOIL SOIL  
 D.F.: 1.00 1.00 1.00 1.00  
 Units: UG/KG UG/KG UG/KG UG/KG

Fluorobenzene	79 %	95 %	93 %	97 %	97 %
Gasoline Range Organics (GRO)	30 U	90 %	84 %	30 U	106 %

*Handwritten signature*

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



FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F04-015-065	PAGE 1 OF 1
COLLECTOR Pope/Pfister/Tyra/Wiberg	COMPANY CONTACT CS Clearlock	TELEPHONE NO. 372-9638	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION 216-U-3; 12-5FF-55T	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil	SAF NO. F04-015			
ICE CHEST NO. GFP-03-016	FIELD LOGBOOK NO. HNF-N-386 1	COA 11914E510	METHOD OF SHIPMENT Federal Express		
SHIPPED TO Becca	OFFSITE PROPERTY NO. 20 PTR 14591	BILL OF LADING/AIR BILL NO. 20 PTR 14591			
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SF=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/REMARKS N/A	PRESERVATION Cool 4C	None		
		TYPE OF CONTAINER aG	aG		
		NO. OF CONTAINER(S) 1	1		
		VOLUME 120mL	60mL		
		SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS THROUGH 143;	100% 139; 100% 140; 100% 141; 100% 142;		
	SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: B19951				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B19960	SOIL	12/10/04	1050	X	
B19961	SOIL	12/10/04	1050	X	

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	(1)NO2/NO3 - 353.2; Oil & Grease - 413.1; Chromium Hex - 7196;	
<i>[Signature]</i>	12/10/04 11:30	S. J. Trent	12/10/04 13:30		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<i>[Signature]</i>	12/10/04 11:50	J. H. Bunker	12/10/04 11:50		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<i>[Signature]</i>	12/10/04 11:15	S. J. Trent	12/10/04 11:15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<i>[Signature]</i>	12/10/04 11:15	S. J. Trent	12/10/04 11:15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<i>[Signature]</i>	12/10/04 11:15	S. J. Trent	12/10/04 11:15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<i>[Signature]</i>	12/10/04 11:15	S. J. Trent	12/10/04 11:15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<i>[Signature]</i>	12/10/04 11:15	S. J. Trent	12/10/04 11:15		
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		



**COLLECTOR**  
Pope/Pfister/Hughes/Wiberg

**COMPANY CONTACT**  
CS Clearlock

**TELEPHONE NO.**  
372-9638

**PROJECT COORDINATOR**  
TRENT, SJ

**PRICE CODE**  
8N

**DATA TURNAROUND**  
45 Days / 45 Days

**SAMPLING LOCATION**  
216-U-3; 22.5ft-25ft

**PROJECT DESIGNATION**  
200-MW-1 Characterization Sampling and Analysis - Soil

**SAF NO.**  
F04-015

**AIR QUALITY**

**ICE CHEST NO.**  
APP-03-015

**FIELD LOGBOOK NO.**  
COA 119144ES10

**METHOD OF SHIPMENT**  
Federal Express

**SHIPPED TO**  
Percy

**BILL OF LADING/AIRBILL NO.**  
SUPPL 14591

MATRIX*	POSSIBLE SAMPLE HAZARDS/REMARKS	PRESERVATION	Cool 4C	None					
N/A									

TYPE OF CONTAINER	PRESCRIPTION	COOL 4C							
		1	1	1	1	1	1	1	1

NO. OF CONTAINER(S)	VOLUME	COOL 4C							
1	250ml	1	1	1	1	1	1	1	1

SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	SEE ITEM (5) IN SPECIAL INSTRUCTIONS
Alcohols, Glycols, Ketones - 8015 (1-Butanol)	PCBS - 8082;				

SPECIAL HANDLING AND/OR STORAGE	Radioactive Tl To: 499953	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
B19975 12/14/04		12-13-04 0750			

SAMPLE NO.	MATRIX*	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
B19PT5	SOIL	12-13-04 0750			

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	12-13-04 1415	12-13-04 1315	12-13-04 1415
RELINQUISHED BY/REMOVED FROM	12-13-04 1220	12-13-04 1315	12-13-04 1415
RELINQUISHED BY/REMOVED FROM	12-18-04 1115	12-18-04 1115	12-18-04 1115
RELINQUISHED BY/REMOVED FROM	12-18-04 1115	12-18-04 1115	12-18-04 1115
RELINQUISHED BY/REMOVED FROM	12-18-04 1115	12-18-04 1115	12-18-04 1115
RELINQUISHED BY/REMOVED FROM	12-18-04 1115	12-18-04 1115	12-18-04 1115
RELINQUISHED BY/REMOVED FROM	12-18-04 1115	12-18-04 1115	12-18-04 1115

**SPECIAL INSTRUCTIONS**

\*\* The laboratory is to report both kerosene and diesel range compounds from the WTPH-D analysis.

(1)IC Anions - 300.0 (Fluoride, Nitrate, Nitrite, Phosphate, Sulfate) Total Cyanide - 9010; pH (Soil) - 9045;

(2)ICP Metals - 6010A (Supertrace) {Cadmium, Chromium, Lead, Silver} ICP Metals - 6010A (Supertrace Add-On) {Copper} Mercury - 7471 - (CV);

(3)VOA - 8260A (TCL); VOA - 8260A (Add-On) {cis-1,2-Dichloroethylene, n-Butylbenzene, trans-1,2-Dichloroethylene}

(4)Semi-VOA -- 8270A (Add-On) (Tributyl phosphate) TPH-Gasoline Range - WTPH-G; TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}

(5)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Tritium-3, Americium-241, Isotope Plutonium-Isotope Uranium, Strontium-89,90} Total Uranium

**LABORATORY SECTION**

**RECEIVED BY**

**DATE/TIME**

**FINAL SAMPLE DISPOSITION**

**DISPOSAL METHOD**

**DISPOSED BY**

**DATE/TIME**

FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F04-015-067	PAGE 1 OF 1
COLLECTOR Pope/Pfister/Tyrs/Wiberg		COMPANY CONTACT CS Clearlock		TELEPHONE NO. 372-9638		PROJECT COORDINATOR TRENT, SJ	
SAMPLING LOCATION 2.16-U-3; 35FT-37.5FT		PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil		SAF NO. F04-015		PRICE CODE 8N AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. GRR-03-015		FIELD LOGBOOK NO. HNF-N-386 1		COA 119144ES10		METHOD OF SHIPMENT Federal Express	
SHIPPED TO M. H. PAULSON Beera		OFFSITE PROPERTY NO. See PTR 14591		BILL OF LADING/AIRBILL NO. See PTR 14591			
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/REMARKS N/A	PRESERVATION None	Cool °C				
		TYPE OF CONTAINER ag	ag				
		NO. OF CONTAINER(S) 1	1				
		VOLUME 120ml	60ml				
		SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS (Tribium - H3);	100ml-129; Technolum-99;				
	SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: B19953						
SAMPLE NO. B19963	MATRIX* SOIL	SAMPLE DATE 12/14/04	SAMPLE TIME 0700				

CHAIN OF POSSESSION		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS (1)NO2/NO3 - 353.2; Oil & Grease - 413.1; Chromium Hex - 7196;	
RELINQUISHED BY/REMOVED FROM R. Pfister/Pfister	DATE/TIME 12/14/04 0900	RECEIVED BY/STORED IN M. H. Paulson	DATE/TIME 12-14-04 0900		
RELINQUISHED BY/REMOVED FROM M. H. Paulson	DATE/TIME 12/14/04 1200	RECEIVED BY/STORED IN M. H. Paulson	DATE/TIME 12/16/04		
RELINQUISHED BY/REMOVED FROM M. H. Paulson	DATE/TIME 12/18/04 11:15	RECEIVED BY/STORED IN M. H. Paulson	DATE/TIME 12-18-04 11:15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	TITLE				DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD				DATE/TIME





Lionville Laboratory Incorporated  
 SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TWC + hamford

Date: 12-18-04

Purchase Order / Project# /  
 SAF# / SOW# / Release #: F04-015

LvLI Batch #:

0412L484

Sample Custodian:

D. Smith

NOTE: EXPLAIN ALL DISCREPANCIES

- |   |   |                             |  |                |
|---|---|-----------------------------|--|----------------|
| 1. Samples Hand Delivered or Shipped  | Carrier                                 | Fed Ex                      | Airbill#   | 7903 6982 1101 |
| 2. Custody seals on coolers or shipping container intact, signed and dated?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> No Seals                    | Comments       |
| 3. Outside of coolers or shipping containers are free from damage?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 5. Samples received cooled or ambient?  | Temp                                    | 3.7 °C                      | Cooler #   | GEP 03 015     |
| 6. Custody seals on sample containers intact, signed and dated?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> No Seals                    |                |
| 7. coc signed and dated?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 8. Sample containers are intact?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 9. All samples on coc received? All samples received on coc?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 10. All sample label information matches coc?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 11. Samples properly preserved?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 12. Samples received within hold times? Short holds taken to wet lab?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 13. VOA, TOC, TOX free of headspace?  | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A              |                |
| 14. QC stickers placed on bottles designated by client?   | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> N/A              |                |
| 15. Shipment meets LvLI Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)     | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |  |                |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)                             | <input type="checkbox"/> Yes            | <input type="checkbox"/> No | <input checked="" type="checkbox"/> No Discrepancies |                |

Lionville Laboratory, Inc.  
DRO ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD F04-015 H2905

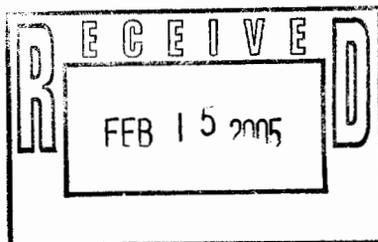
DATE RECEIVED: 12/18/04

LVL LOT # :0412L484

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B19PT5	004	S	04LE1537	12/13/04	12/21/04	01/05/05
B19PT5	004 MS	S	04LE1537	12/13/04	12/21/04	01/05/05
B19PT5	004 MSD	S	04LE1537	12/13/04	12/21/04	01/05/05

## LAB QC:

BLK	MB1	S	04LE1537	N/A	12/21/04	01/05/05
BLK	MB1 BS	S	04LE1537	N/A	12/21/04	01/05/05



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## Case Narrative

**Client:** TNU-HANFORD F04-015  
**LVL #:** 0412L484  
**SDG/SAF #** H2905/F04-015

**W.O. #:** 11343-606-001-9999-00  
**Date Received:** 12-18-2004

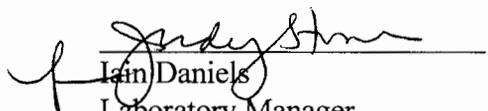
**DIESEL RANGE ORGANICS**

One (1) soil sample was collected on 12-13-2004.

The sample and its associated QC samples were extracted on 12-21-2004 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedure on 01-05-2005. The analysis was based on method 8015B. The analysis met the intent of method WTPH-D.

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

1. All results presented in this report are derived from a sample that met LVL's sample acceptance policy.
2. The sample was extracted and analyzed within required holding time.
3. The method blank was below the reporting limits for the target compounds.
4. All surrogate recoveries were within acceptance criteria.
5. The blank spike recovery was within acceptance criteria.
6. The matrix spike recoveries were within acceptance criteria.
7. All initial calibrations associated with this data set were within acceptance criteria.
8. All continuing calibration standards analyzed prior to sample extracts were within acceptance criteria.
9. 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.

  
 Ian Daniels  
 Laboratory Manager  
 Lionville Laboratory Incorporated

  
 Date

som\vr\group\data\dro\tnu hanford\0412-484.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 1 2 pages.

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## GLOSSARY OF 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.
- .I** = Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

### 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.
- NS** = Not Spiked.
- SP** = Indicates Spiked Compound.
- P** = This flag is used for an PESTICIDE/PCB 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.
- NPM** = No pattern match for multi-component target analytes.

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Sample Information	RFW#:	Matrix:	D.F.:	Units:	B19PT5	B19PT5	B19PT5	B19PT5	B19PT5	BLK	BLK BS
	004	SOIL	1.00	ug/kg	102	%	97	%	100	%	101
	004	SOIL	1.00	ug/kg	12500	U	75	%	91	%	94
	004	SOIL	1.00	ug/kg	15000	U	NS		NS		NS
p-Terphenyl											
Diesel Range Organics											
Motor Oil Range Organics											

*Spiked*

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







CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

FLUOR Hanford Inc.

COLLECTOR: Pope/Pfister/Hughes/Wiberg  
 COMPANY CONTACT: CS Cearlock  
 TELEPHONE NO.: 372-9638  
 PROJECT COORDINATOR: TRENT, SJ  
 PRICE CODE: 8N  
 DATA TURNAROUND: 45 Days / 45 Days

SAMPLING LOCATION: 216-U-3; 22.5ft-25ft  
 PROJECT DESIGNATION: 200-MW-1 Characterization Sampling and Analysis - Soil  
 SAF NO.: F04-015  
 AIR QUALITY:

ICE CHEST NO.: *APP. 03-016*  
 FIELD LOGBOOK NO.: HNF-N-386 1  
 COA: 119144ES10  
 METHOD OF SHIPMENT: Federal Express

SHIPPED TO: *PERCRA*  
 OFFSITE PROPERTY NO.: *2017K 14591*  
 BILL OF LADING/AIRBILL NO.: *2017K 14591*

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	Cool 4C	Cool 4C				
N/A			ag	ag	ag	ag	ag	None
			1	1	3	1	1	P
			250ml	250ml	40ml	120ml	120ml	500ml
			SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	SEE ITEM (4) IN SPECIAL INSTRUCTIONS	SEE ITEM (5) IN SPECIAL INSTRUCTIONS	

SPECIAL HANDLING AND/OR STORAGE: Radioactive Tie To: *849982 MAB B19975 12/14/04*

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	RECEIVED BY/STORED IN	DATE/TIME
B19PT5	SOIL	12-13-04	0750	<i>M.C. BROWN</i>	12-13-04 13:30
				<i>M.H. DALRYMPLE</i>	12-14-04 12:20
				<i>M.C. BROWN</i>	12-14-04 12:20
				<i>M.H. DALRYMPLE</i>	12-16-04 12:20
				<i>M.C. BROWN</i>	12-18-04 11:15
				<i>M.H. DALRYMPLE</i>	12-18-04 11:15
				<i>M.C. BROWN</i>	12-18-04 11:15
				<i>M.H. DALRYMPLE</i>	12-18-04 11:15

RECEIVED BY: RECEIVED BY/STORED IN  
 LABORATORY SECTION: RECEIVED BY/STORED IN  
 FINAL SAMPLE DISPOSITION: RECEIVED BY/STORED IN

TITLE: TITLE  
 DISPOSED BY: DISPOSED BY  
 DATE/TIME: DATE/TIME

SPECIAL INSTRUCTIONS: \*\* The laboratory is to report both kerosene and diesel range compounds from the WTPH-D analysis.  
 (1) IC Anions - 300.0 {Fluoride, Nitrate, Nitrite, Phosphate, Sulfate} Total Cyanide - 9010; pH (Soil) - 9045;  
 (2) JIC Metals - 6010A (Supertrace) {Cadmium, Chromium, Lead, Silver} ICP Metals - 6010A (Supertrace Add-On) {Copper} Mercury - 7471 - (CV);  
 (3) VOA - 8260A (TCL); VOA - 8260A (Add-On) {cis-1,2-Dichloroethylene, n-Butylbenzene, trans-1,2-Dichloroethylene}  
 (4) Semi-VOA -- 8270A (Add-On) (Tributyl phosphate) TPH-Gasoline Range - WTPH-G; TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}  
 (5) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Plutonium-239, Americium-241, Isotopic Uranium, Strontium-90, Sr-90} Total Uranium





PRICE CODE 8N AIR QUALITY  DATA TURNAROUND 45 Days / 45 Days

PROJECT COORDINATOR TRENT, SJ SAF NO. F04-015

METHOD OF SHIPMENT Federal Express

BILL OF LADING-AIR BY NO. *20 PTK 14591*

FLUOR Hanford Inc.

CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST

COMPANY CONTACT CS Clearlock TELEPHONE NO. 372-9638

PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil

FIELD LOGBOOK NO. HNF-N-386 1 COA 119144ES10

OFFSITE PROPERTY NO. *20 PTK 14591*

PRESERVATION Cool 4C

TYPE OF CONTAINER 8G

NO. OF CONTAINER(S) 1

VOLUME 120mL

SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE DATE 12-16-04

SAMPLE TIME 0810

MATRIX\* SOIL

RELINQUISHED BY/REMOVED FROM *R. Pfister* DATE/TIME 12/16/04 1030

RELINQUISHED BY/REMOVED FROM *M. P. ...* DATE/TIME 12/16/04 1210

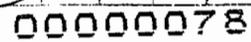
RELINQUISHED BY/REMOVED FROM *M. P. ...* DATE/TIME 12/16/04 1210

RELINQUISHED BY/REMOVED FROM *M. P. ...* DATE/TIME 12/18/04 1115

RELINQUISHED BY/REMOVED FROM *M. P. ...* DATE/TIME 12/18/04 1115

RELINQUISHED BY/REMOVED FROM DATE/TIME

LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME



Lionville Laboratory Incorporated  
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU + turnford

Date: 12-18-04

Purchase Order / Project # /  
SAF# / SOW# / Release #: 704-015

LVL Batch #:

0412484

Sample Custodian: D. Smith

NOTE: EXPLAIN ALL DISCREPANCIES

- |   |   |  |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u>   | Carrier <u>Fed Ex</u>   | Airbill# <u>7903 6982 1101</u>                       |
| 2. Custody seals on coolers or shipping container intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals      Comments      |
| 3. Outside of coolers or shipping containers are free from damage?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 5. Samples received <u>cooled</u> or ambient?   | Temp <u>3.7 °C</u>  | Cooler # <u>GLP 03 015</u>                           |
| 6. Custody seals on sample containers intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals                    |
| 7. coc signed and dated?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 8. Sample containers are intact?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 9. All samples on coc received? All samples received on coc?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 10. All sample label information matches coc?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 11. Samples properly preserved?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 12. Samples received within hold times? Short holds taken to wet lab?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 13. VOA, TOC, TOX free of headspace?  | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 14. QC stickers placed on bottles designated by client?   | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 15. Shipment meets Lvl Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)                             | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> No Discrepancies |

Lionville Laboratory, Inc.  
GCSC ANALYTICAL DATA PACKAGE FOR  
TNUHANFORD F04-015 H2905

DATE RECEIVED: 12/18/04

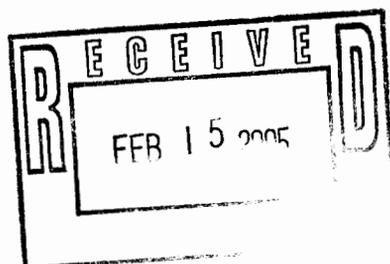
LVL LOT # :0412L484

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B19PT5	004	S	04GCX048	12/13/04	12/27/04	12/30/04
B19PT5	004 MS	S	04GCX048	12/13/04	12/27/04	12/30/04
B19PT5	004 MSD	S	04GCX048	12/13/04	12/27/04	12/30/04

LAB QC:

BLK	MB1	S	04GCX048	N/A	12/27/04	12/30/04
BLK	MB1 BS	S	04GCX048	N/A	12/27/04	12/30/04

*For 2/2/05*



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## Case Narrative

Client: TNU-HANFORD F04-015  
 LVL #: 0412L484  
 SDG/SAF # H2905/F04-015

W.O. #: 11343-606-001-9999-00  
 Date Received: 12-18-2004

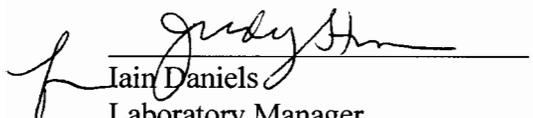
**GC SCAN BY FID**

One (1) soil sample was collected on 12-13-2004.

The sample and its associated QC samples were prepared on 12-24-2004 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedures based on method 8015B for 1-Butanol on 12-30-2004.

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

1. All results presented in this report are derived from a sample that met LvLI's sample acceptance policy.
2. The sample was extracted and analyzed within required holding time.
3. The method blank was below the reporting limits for the target compound.
4. All surrogate recoveries were within acceptance criteria.
5. The blank spike recovery was within acceptance criteria.
6. The matrix spike recoveries were within acceptance criteria.
7. Confirmation was not required because target compounds were not detected in the sample.
8. All initial calibrations were within acceptance criteria.
9. 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.

  
 Jaim Daniels  
 Laboratory Manager  
 Lionville Laboratory Incorporated

  
 Date

som:\group\data\gcsc\0412-484.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 1 2 pages.

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## GLOSSARY OF 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.
- .I** = Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

### 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.
- NS** = Not Spiked.
- SP** = Indicates Spiked Compound.
- P** = This flag is used for an PESTICIDE/PCB 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.
- NPM** = No pattern match for multi-component target analytes.

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Lionville Laboratory, Inc.

Report Date: 02/02/05 15:20

GC SCAN

RFW Batch Number: 0412L484 Client: TNUHANFORD F04-015 H2905 Work Order: 11343606001 Page: 1

Cust ID:	B19PT5	B19PT5	B19PT5	B19PT5	BLK	BLK BS
RFW#:	004	004 MS	004 MSD	04GCX048-MB1	04GCX048-MB1	
Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
D.F.:	1.00	1.00	1.00	1.00	1.00	
Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	

3-Pentanol	125	%	144	%	140	%	122	%	139	%
-----	-----	fl								
1-Butanol	5.0	U	145	%	145	%	5.0	U	143	%

*Handwritten signature and date: 2/2/05*

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



Lionville Laboratory Use Only  
04122484

# Custody Transfer Record/Lab Work Request

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Client: TNU Hamford F04-015  
 Est. Final Proj. Sampling Date: \_\_\_\_\_  
 Project #: 11343-606-001-9999-00  
 Project Contact/Phone #: \_\_\_\_\_  
 Lionville Laboratory Project Manager: Debbie Johnson  
 QC Spec Del: Std. TAT 30 Days  
 Date Rec'd: 12-18-04 Date Due: 1/17/05

Refrigerator #	#/Type Container		Volume	Preservatives	ANALYSES REQUESTED			
	Liquid	Solid			VOA	BNA	PCB	Herb
1	3	3						
3	19	19	39					
3	350	350	40					
3								

Lab ID	Client ID/Description	Matrix QC Chosen (V)	Date Collected	Time Collected	Lionville Laboratory Use Only			
					MS	MSD	ORGANIC	INORG
001	B19960		12-18-04	1050				
002	B19961		12-18-04	1050				
003	B19962		12-18-04	1050				
004	B19965		12-18-04	1050				
005	B19963		12-18-04	1050				
006	B19964		12-18-04	1050				
007	B19965		12-18-04	1050				

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

DATE/REVISIONS:  
 1. 12/21/04  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_  
 5. \_\_\_\_\_  
 6. \_\_\_\_\_

Special Instructions:  
 T.C.O. = FL, NO<sub>3</sub>, NO<sub>2</sub>, PO<sub>4</sub>, SO<sub>4</sub>  
 METALLO = Cd, Cr, Pb, Ag, Cu, Hg  
 RUN MATRIX QC

Relinquished by	Received by	Date	Time
<u>Debbie Johnson</u>	<u>[Signature]</u>	12-18-04	11:15

Relinquished by	Received by	Date	Time

Relinquished by	Received by	Date	Time
"COMPOSITE WASTE"	ORIGINAL		
	REWRITTEN		

PART 1

00000000004

FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		PROJECT COORDINATOR TRENT, SJ		PRICE CODE 8N		DATA TURNAROUND 45 Days / 45 Days	
COLLECTOR Pope/Pfister/Tyra/Wiberg		COMPANY CONTACT CS Clearlock		TELEPHONE NO. 372-9638		SAF NO. F04-015		AIR QUALITY <input type="checkbox"/>	
SAMPLING LOCATION 216-U-3; 12-5FF-15FT 17.5-20ft 15 12/7/04		PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil		COA 119144ES10		METHOD OF SHIPMENT Federal Express		BILL OF LADING/AIR BILL NO. 20 PTK 14591	
ICE CHEST NO. GFP-03-016		FIELD LOGBOOK NO. HNF-N-386 1		OFFSITE PROPERTY NO. 20 PTK 14591					
SHIPPED TO CITY & STATE SERVICES		PRESERVATION Cool 4C		TYPE OF CONTAINER aG		NO. OF CONTAINER(S) 1		VOLUME 60ml.	
MATRIX* A=Air DL=Drum L=Liquids DS=Drum S=Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other		POSSIBLE SAMPLE HAZARDS/REMARKS N/A		SAMPLE ANALYSIS SEE ITEM (1) IN LOGBOOK-99; SPECIAL INSTRUCTIONS 10-11-12;					
SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: B19951									
SAMPLE NO.		MATRIX*		SAMPLE DATE		SAMPLE TIME			
B19960		SOIL		12/10/04		10:50		X	
B19961		SOIL		12/10/04		10:50		X	

CHAIN OF POSSESSION		SIGN/PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	(1.)NO2/NO3 - 353.2; Oil & Grease - 413.1; Chromium Hex - 7196;	
<i>M. J. Bunker</i>	12/10/04 13:30	<i>S. J. Trent</i>	12/10/04 13:30		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<i>M. J. Bunker</i>	12/10/04 11:50	<i>M. J. Bunker</i>	12/10/04 11:50		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<i>M. J. Bunker</i>	12/10/04 11:15	<i>M. J. Bunker</i>	12/10/04 11:15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<i>M. J. Bunker</i>	12/10/04 11:15	<i>M. J. Bunker</i>	12/10/04 11:15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<i>M. J. Bunker</i>	12/10/04 11:15	<i>M. J. Bunker</i>	12/10/04 11:15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<i>M. J. Bunker</i>	12/10/04 11:15	<i>M. J. Bunker</i>	12/10/04 11:15		
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		

10000000

PART 1

**FLUOR Hanford Inc.**      **CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST**      **F04-015-121**      **PAGE 1 OF 1**

**COLLECTOR**  
Pope/Pfister/Tyra/Wiberg

**COMPANY CONTACT**  
CS Clearlock

**TELEPHONE NO.**  
372-9638

**PROJECT COORDINATOR**  
TRENT, SJ

**PRICE CODE** 8N      **DATA TURNAROUND**  
45 Days / 45 Days

**SAMPLING LOCATION**  
216-U-3; 22.5R-25R

**PROJECT DESIGNATION**  
200-MW-1 Characterization Sampling and Analysis - Soil

**SAF NO.**  
F04-015

**AIR QUALITY**       **PRICE CODE** 8N

**ICE CHEST NO.** GHP-03-015

**FIELD LOGBOOK NO.**  
HNF-N-386 1

**COA**  
119144ES10

**METHOD OF SHIPMENT**  
Federal Express

**SHIPPED TO**  
Lionville Laboratory Incorporated

**OFFSITE PROPERTY NO.**  
SUBTR 14591

**BILL OF LADING/AIR BILL NO.**  
SUBPTL 14591

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS	SAMPLE DATE	SAMPLE TIME	SEE ITEM (1) IN SPECIAL INSTRUCTIONS
A=Air DL=Drum L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	N/A	Cool °C	3G	1	120mL		12-13-04	0750	X
<b>SPECIAL HANDLING AND/OR STORAGE</b> Radioactive Tie To: <del>049992</del> <b>010975</b> <b>2/16/04</b>									

**CHAIN OF POSSESSION**

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
R. PASTER / <i>[Signature]</i>	2-13-04 1415	MO-026 <i>[Signature]</i>	02-18-04 1415
MO-026 <i>[Signature]</i>	2/19/04 1200	M.A. DANIELSON <i>[Signature]</i>	2/19/04 1200
M.A. DANIELSON <i>[Signature]</i>	2/19/04 1415	Red SA	
Red SA	1218041115	W. J. Smith	121804 1115
W. J. Smith	1218041115		

**SPECIAL INSTRUCTIONS**  
(1)NO2/NO3 - 353.2; Chromium Hex - 7196; Oil & Grease - 413.1;

**LABORATORY SECTION**      **RECEIVED BY**      **TITLE**      **DATE/TIME**

**FINAL SAMPLE DISPOSITION**      **DISPOSAL METHOD**      **DATE/TIME**

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FLUOR Hanford Inc. CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST F04-015-118 PAGE 1 OF 1

COLLECTOR Pope/Pfister/Hughes/Wiberg COMPANY CONTACT CS Clearlock TELEPHONE NO. 372-9638 PROJECT COORDINATOR TRENT, SJ PRICE CODE 8N DATA TURNAROUND 45 Days / 45 Days

SAMPLING LOCATION 216-U-3; 22.5ft-25ft PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil SAF NO. F04-015 AIR QUALITY  METHOD OF SHIPMENT Federal Express

ICE CHEST NO. **HRP-03-015** FIELD LOGBOOK NO. HNF-N-386 1 COA 119144ES10

SHIPPED TO **WDA 12-24-04** OFFSITE PROPERTY NO. **26177R 14591** BILL OF LADING/AIRBILL NO. **26177R 14591**

MATRIX*	POSSIBLE SAMPLE HAZARDS/ REMARKS	PRESERVATION	Cool 4C				
N/A			ag	ag	ag	ag	None
		TYPE OF CONTAINER	ag	ag	ag	ag	P
		NO. OF CONTAINER(S)	1	1	3	1	1
		VOLUME	250ml	250ml	40ml	120ml	500ml

SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: **849952 MAB B19976 12/14/04**

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B19PT5	SOIL	12-13-04	0750

CHAIN OF POSSESSION		SIGN / PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	** The laboratory is to report both kerosene and diesel range compounds from the WTPH-D analysis.	
<i>R. P. Stebbins</i>	12-13-04 14:15	<i>M. O. Ziegler</i>	12-13-04 14:15	(1) IC Anions - 300.0 {Fluoride, Nitrate, Nitrite, Phosphate, Sulfate} Total Cyanide - 9010; pH (Soil) - 9045;	
<i>M. G. G. G.</i>	12-13-04 12:20	<i>M. G. G. G.</i>	12-13-04 12:20	(2) ICP Metals - 6010A (Supertrace) {Cadmium, Chromium, Lead, Silver} ICP Metals - 6010A (Supertrace Add-On) {Copper} Mercury - 7471 - (CV);	
<i>M. G. G. G.</i>	12-18-04 11:15	<i>M. G. G. G.</i>	12-18-04 11:15	(3) VOA - 8260A (TCL); VOA - 8260A (Add-On) {cis-1,2-Dichloroethylene, n-Butylbenzene, trans-1,2-Dichloroethylene}	
<i>M. G. G. G.</i>	12-18-04 11:15	<i>M. G. G. G.</i>	12-18-04 11:15	(4) Semi-VOA -- 8270A (Add-On) (Tributyl phosphate) TPH-Gasoline Range - WTPH-G; TPH-Diesel Range - WTPH-D (Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range)	
				(5) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155} Americium-241, Isotopic Plutonium, Isotopic Uranium, Strontium-90-99 Total Sr, Total Uranium	

LABORATORY SECTION RECEIVED BY TITLE DATE/TIME  
 FINAL SAMPLE DISPOSITION DISPOSAL METHOD DATE/TIME

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PART 1

FLUOR Hanford Inc.		CHAIN OF CUSTODY / SAMPLE ANALYSIS REQUEST				F04-015-067	PAGE 1 OF 1
COLLECTOR Pope/Pfister/Tyra/Wilberg		COMPANY CONTACT CS Clearlock		TELEPHONE NO. 372-9638		PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N
SAMPLING LOCATION 216-U-3; 35FT-37.5FT		PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil		SAF NO. F04-015		DATA TURNAROUND 45 Days / 45 Days	
ICE CHEST NO. GRR-03-015		FIELD LOGBOOK NO. HNF-N-386 1		COA 119144ES10		METHOD OF SHIPMENT Federal Express	
SHIPPED TO Eberline Services 12/14/04 Peters		OFFSITE PROPERTY NO. See PTR 14591		BILL OF LADING/AIR BILL NO. See PTR 14591			
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS N/A	PRESERVATION Cool +C	None				
		TYPE OF CONTAINER ag	ag				
		NO. OF CONTAINER(S) 1	1				
		VOLUME 120mL	60mL				
		SAMPLE ANALYSIS	SEE ITEM (1) IN Tech Item-99; Tribim-113;				
	SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: 819953						
SAMPLE NO. B19963	MATRIX* SOIL	SAMPLE DATE 12/14/04	SAMPLE TIME 0700				
CHAIN OF POSSESSION		SIGN / PRINT NAMES		SPECIAL INSTRUCTIONS (1)NO2/NO3 - 353-2; Oil & Grease - 413.1; Chromium Hex - 7196;			
RELINQUISHED BY/REMOVED FROM R. Pfister	DATE/TIME 12/14/04 0900	RECEIVED BY/STORED IN M.H. Bouchard	DATE/TIME 12/14/04 0900				
RELINQUISHED BY/REMOVED FROM M.H. Bouchard	DATE/TIME 12/14/04 1200	RECEIVED BY/STORED IN M.H. Bouchard	DATE/TIME 12/16/04				
RELINQUISHED BY/REMOVED FROM M.H. Bouchard	DATE/TIME 12/16/04	RECEIVED BY/STORED IN M.H. Bouchard	DATE/TIME 12/16/04				
RELINQUISHED BY/REMOVED FROM M.H. Bouchard	DATE/TIME 12/18/04 11:15	RECEIVED BY/STORED IN M.H. Bouchard	DATE/TIME 12/18/04 11:15				
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME				
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME				
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME				
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME			
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME			

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COLLECTOR: Pope/Pfister/Tyra/Wiberg  
 COMPANY CONTACT: CS Clearlock  
 TELEPHONE NO.: 372-9638  
 PROJECT COORDINATOR: TRENT, SJ  
 PRICE CODE: 8N  
 DATA TURNAROUND: 45 Days / 45 Days

SAMPLING LOCATION: 2.16-U-3; 97.5FT-100FT  
 PROJECT DESIGNATION: 200-MW-1 Characterization Sampling and Analysis - Soil  
 SAF NO.: F04-015  
 AIR QUALITY:

ICE CHEST NO: 61R-03-015  
 FIELD LOGBOOK NO.: HNF-N-386 1  
 COA: 119144ES10  
 METHOD OF SHIPMENT: Federal Express

SHIPPER: 12/16/04  
 OFFSITE PROPERTY NO.: 200 PTR 14591  
 BILL OF LADING-AIR BICYCLE NO.: 200 PTR 14591

MATRIX*	PRESERVATION	TYPE OF CONTAINER	NO. OF CONTAINER(S)	VOLUME	SAMPLE ANALYSIS
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	Cool 4C	aG	1	120ml	SEE ITEM (1) IN SPECIAL INSTRUCTIONS THROUGH HB;
POSSIBLE SAMPLE HAZARDS/REMARKS: N/A					

SPECIAL HANDLING AND/OR STORAGE: Radioactive Tie To: B99955  
 B19984 12/16/04

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B19965	SOIL	12-16-04	0910

CHAIN OF POSSESSION		SIGN/PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	(1)NO2/NO3 - 353.2; Oil & Grease - 413.1; Chromium Hex - 7196;	
Relinquished by/removed from	12/16/04 1030	M.O. 026 FR/6 <sup>th</sup>	12/16/04 1030		
Relinquished by/removed from	12/16/04 1210	M.A. P... M.L. B...	12/16/04 1210		
Relinquished by/removed from	12/18/04 11:15	Ex	12/18/04 11:15		
Relinquished by/removed from	12/18/04 11:15	Smith	12/18/04 11:15		
Relinquished by/removed from					
Relinquished by/removed from					
Relinquished by/removed from					

LABORATORY SECTION: RECEIVED BY  
 FINAL SAMPLE DISPOSITION: DISPOSAL METHOD

TITLE: PART 1  
 DATE/TIME: DISPOSED BY: DATE/TIME

Lionville Laboratory Incorporated  
SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU + hamford

Date: 12-18-04

Purchase Order / Project# /  
SAF# / SOW# / Release #: F04-015

LVL Batch #:

0412484

Sample Custodian: D. Smith

NOTE: EXPLAIN ALL DISCREPANCIES

- |   |   |  |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u>   | Carrier <u>Fed Ex</u>   | Airbill# <u>7903 6982 1101</u>                       |
| 2. Custody seals on coolers or shipping container intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals      Comments      |
| 3. Outside of coolers or shipping containers are free from damage?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 5. Samples received <u>cooled</u> or ambient?   | Temp <u>3.7 °C</u>  | Cooler# <u>GLP 03 015</u>                            |
| 6. Custody seals on sample containers intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals                    |
| 7. coc signed and dated?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 8. Sample containers are intact?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 9. All samples on coc received? All samples received on coc?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 10. All sample label information matches coc?   | <input type="checkbox"/> Yes <input type="checkbox"/> No            |  |
| 11. Samples properly preserved?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 12. Samples received within hold times? Short holds taken to wet lab?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 13. VOA, TOC, TOX free of headspace?  | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 14. QC stickers placed on bottles designated by client?   | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 15. Shipment meets LVL Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)                             | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> No Discrepancies |

Lionville Laboratory, Inc.  
 PCB ANALYTICAL DATA PACKAGE FOR  
 TNU-HANFORD F04-015, # 2905

DATE RECEIVED: 12/18/04

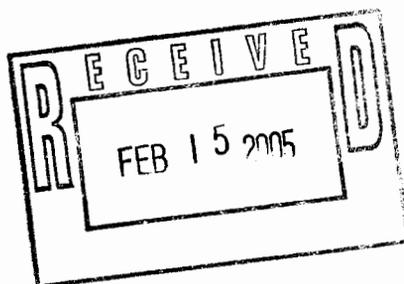
LVL LOT # :0412L484

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B19PT5	004	S	04LE1534	12/13/04	12/21/04	12/23/04
B19PT5	004 MS	S	04LE1534	12/13/04	12/21/04	12/23/04
B19PT5	004 MSD	S	04LE1534	12/13/04	12/21/04	12/23/04

LAB QC:

PBLKDQ	MB1	S	04LE1534	N/A	12/21/04	12/22/04
PBLKDQ	MB1 BS	S	04LE1534	N/A	12/21/04	12/22/04

*John J. Jorley*



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## Case Narrative

Client: TNU HANFORD F04-015  
 LVL#: 0412L484  
 SDG/SAF#: H2905/F04-015

W.O.#: 11343-606-001-9999-00  
 Date Received: 12-18-2004

## PCB

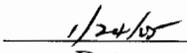
One (1) soil sample was collected on 12-13-2004.

The sample and its associated QC samples were extracted on 12-21-2004 and analyzed according to Lionville Laboratory SOPs based on SW846, 3rd Edition procedures on 12-22,23-2004. The extraction procedure was based on method 3540C and the extracts were analyzed based on method 8082.

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

1. All results presented in this report are derived from a sample that met LvLI's sample acceptance policy.
2. The sample was extracted and analyzed within required holding time.
3. The sample and its associated QC samples received Copper-Sulfur and Sulfuric Acid cleanups according to Lionville Laboratory SOPs based on SW846 methods 3660A and 3665A respectively.
4. The method blank was below the reporting limits for all target compounds.
5. All surrogate recoveries were within acceptance criteria.
6. The blank spike recoveries were within acceptance criteria.
7. All matrix spike recoveries were within acceptance criteria.
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.

  
 Ian Daniels  
 Laboratory Manager  
 Lionville Laboratory Incorporated

  
 Date

som\vr\group\data\pest\tnu hanford\0412-484.pcb

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 1 2 pages.

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GLOSSARY OF DATADATA 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.
- .I** - Indicates an interference on one analytical column only. Result is reported from remaining analytical column.

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.
- NS** - Not Spiked.
- SP** - Indicates Spiked Compound.
- P** - This flag is used for an PESTICIDE/PCB 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.
- NPM** - No pattern match for multi-component target analytes.

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COLLECTOR: Pope/Pfister/Hughes/Wiberg  
 COMPANY CONTACT: CS Clearlock TELEPHONE NO.: 372-9638 PROJECT COORDINATOR: TRENT, SJ  
 PROJECT DESIGNATION: 200-MW-1 Characterization Sampling and Analysis - Soil SAF NO.: F04-015  
 FIELD LOGBOOK NO.: HNF-N-386 1 COA: 119144ES10 METHOD OF SHIPMENT: Federal Express

ICE CHEST NO: **ARP-03-015**  
 SHIPPED TO: **Becca**  
 OFFSITE PROPERTY NO: **200-13-04**  
 BILL OF LADING/AIRBILL NO.: **200-13-04 SUPTRK 14591**

MATRIX*	POSSIBLE SAMPLE HAZARDS/REMARKS	PRESERVATION	Cool 4C	None					
A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	N/A	aG	aG	aG	aG	aG	aG	aG	None
		1	1	3	3	1	1	1	P
		250mL	250mL	40mL	40mL	120mL	120mL	120mL	500mL

SPECIAL HANDLING AND/OR STORAGE: Radioactive Tie To: **499963**  
**819975 12/16/04**

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME	RECEIVED BY/STORED IN	DATE/TIME	RELINQUISHED BY/REMOVED FROM	DATE/TIME
B19PT5	SOIL	12-13-04	0750	<b>MO-076 RELIEF</b>	12-13-04 1415	<b>RELINQUISHED BY/REMOVED FROM</b>	12-13-04 1415
				<b>M.H. BROWN</b>	12/16/04 1220	<b>RELINQUISHED BY/REMOVED FROM</b>	12/16/04 1220
				<b>RELINQUISHED BY/REMOVED FROM</b>	12/18/04 1115	<b>RELINQUISHED BY/REMOVED FROM</b>	12/18/04 1115
				<b>RELINQUISHED BY/STORED IN</b>	12-18-04 11-15	<b>RELINQUISHED BY/REMOVED FROM</b>	12-18-04 11-15
				<b>RELINQUISHED BY/STORED IN</b>		<b>RELINQUISHED BY/REMOVED FROM</b>	
				<b>RELINQUISHED BY/STORED IN</b>		<b>RELINQUISHED BY/REMOVED FROM</b>	

SPECIAL INSTRUCTIONS: \*\* The laboratory is to report both kerosene and diesel range compounds from the WTPH-D analysis.  
 (1)IC Anions - 300.0 {Fluoride, Nitrate, Nitrite, Phosphate, Sulfate} Total Cyanide - 9010; pH (Soil) - 9045;  
 (2)IC Metals - 6010A (Supertrace) {Cadmium, Chromium, Lead, Silver} ICP Metals - 6010A (Supertrace Add-On) {Copper} Mercury - 7471 - (CV);  
 (3)VOA - 8260A (TCL); VOA - 8260A (Add-On) {cis-1,2-Dichloroethylene, n-Butylbenzene, trans-1,2-Dichloroethylene}  
 (4)Semi-VOA -- 8270A (Add-On) {Tributyl phosphate} TPH-Gasoline Range - WTPH-G; TPH-Diesel Range - WTPH-D {Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range}  
 (5)Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Americium-241, Americium-244, Isotopic Plutonium, Isotopic Uranium, Strontium-89, Sr-90} Total Uranium



FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F04-015-067	PAGE 1 OF 1
COLLECTOR Pope/Pfister/Tyra/Wiberg	COMPANY CONTACT CS Ceatlock	TELEPHONE NO. 372-9638	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION 2.16-U-3; 35FT-37.5FT	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil	FIELD LOGBOOK NO. HNF-N-386 1	SAF NO. F04-015	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. 61R-03-015	COA 119144ES10	METHOD OF SHIPMENT Federal Express	BILL OF LADING/AIRBILL NO. See PTK 14591		
SHIPPED TO Eberline Services	OFFSITE PROPERTY NO. See PTK 14591				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	PRESERVATION Cool 4C	TYPE OF CONTAINER aG	NO. OF CONTAINER(S) 1	VOLUME 60ml	
POSSIBLE SAMPLE HAZARDS/REMARKS N/A	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS (129; Truhlm-H3)				
SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: B19953	SAMPLE DATE 12/14/04	SAMPLE TIME 0700			
SAMPLE NO. B19963	MATRIX*				

CHAIN OF POSSESSION		SIGN/PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	(1)NO2/NO3 - 353.2; Oil & Grease - 413.1; Chromium Hex - 7196;	
R. PC [Signature]	12/14/04 0900	M. G. [Signature]	12-14-04 0900		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
M. G. [Signature]	12/14/04 0900	M. G. [Signature]	12/14/04 0900		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
M. G. [Signature]	12/14/04 0900	M. G. [Signature]	12/14/04 0900		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
M. G. [Signature]	12-18-04 11:15	M. G. [Signature]	12-18-04 11:15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
M. G. [Signature]	12-18-04 11:15	M. G. [Signature]	12-18-04 11:15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
M. G. [Signature]	12-18-04 11:15	M. G. [Signature]	12-18-04 11:15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
M. G. [Signature]	12-18-04 11:15	M. G. [Signature]	12-18-04 11:15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
M. G. [Signature]	12-18-04 11:15	M. G. [Signature]	12-18-04 11:15		
LABORATORY SECTION	RECEIVED BY	TITLE		DATE/TIME	
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY		DATE/TIME	





Lionville Laboratory Incorporated  
 SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TNU + hamford

Date: 12-18-04

Purchase Order / Project# /

SAF# / SOW# / Release #: F04-015

LVL Batch #:

0412L484

Sample Custodian:

D. Smith

NOTE: EXPLAIN ALL DISCREPANCIES

- |   |   |  |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u>   | Carrier <u>Fed Ex</u>   | Airbill# <u>7903 6982 1101</u>                       |
| 2. Custody seals on coolers or shipping container intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals    Comments        |
| 3. Outside of coolers or shipping containers are free from damage?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 5. Samples received <u>cooled</u> or ambient?   | Temp <u>3.7 °C</u>  | Cooler # <u>GEP 03 015</u>                           |
| 6. Custody seals on sample containers intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals                    |
| 7. coc signed and dated?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 8. Sample containers are intact?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 9. All samples on coc received? All samples received on coc?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 10. All sample label information matches coc?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 11. Samples properly preserved?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 12. Samples received within hold times? Short holds taken to wet lab?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 13. VOA, TOC, TOX free of headspace?  | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 14. QC stickers placed on bottles designated by client?   | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 15. Shipment meets LVL Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)                             | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> No Discrepancies |

Lionville Laboratory, Inc.  
 BNA ANALYTICAL DATA PACKAGE FOR  
 TNU-HANFORD F04-015, #2905

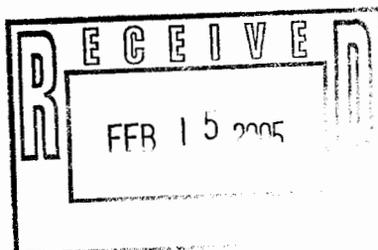
DATE RECEIVED: 12/18/04

LVL LOT # :0412L484

CLIENT ID	LVL #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B19PT5	004	S	04LE1538	12/13/04	12/21/04	12/22/04
B19PT5	004 MS	S	04LE1538	12/13/04	12/21/04	12/22/04
B19PT5	004 MSD	S	04LE1538	12/13/04	12/21/04	12/22/04

## LAB QC:

SBLKCW	MB1	S	04LE1538	N/A	12/21/04	12/21/04
SBLKCW	MB1 BS	S	04LE1538	N/A	12/21/04	12/21/04
SBLKCW	MB1 BSD	S	04LE1538	N/A	12/21/04	12/21/04



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## Case Narrative

Client: TNU HANFORD B04-015  
 LVL#: 0412L484  
 SDG/SAF#: H2905/B04-015

W.O.#: 11343-606-001-9999-00  
 Date Received: 12-18-2004

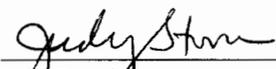
## SEMIVOLATILE

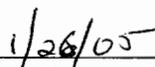
One (1) soil sample was collected on 12-13-2004.

The sample and its associated QC samples were extracted according to Lionville Laboratory SOPs based on SW 846 method 3550B on 12-21-2004 and analyzed according to criteria set forth in Lionville Laboratory SOPs based on SW 846 Method 8270C for client specified Semivolatile target compounds on 12-21,22-2004.

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

1. All results presented in this report are derived from a sample that met LvLI's sample acceptance policy.
2. The sample was extracted and analyzed within required holding time.
3. Non-target compounds were detected in the sample.
4. All surrogate recoveries were within acceptance criteria.
5. All matrix spike recoveries were within acceptance criteria.
6. All blank spike recoveries were within acceptance criteria.
7. The method blank contained the common laboratory contaminants Bis (2-Ethylhexyl) phthalate and Di-n-butylphthalate at levels less than the CRQL.
8. Internal standard area criteria were not met for sample B19PT5 MS. The analysis of associated matrix spike duplicate fulfills the reanalysis requirement.
9. Manual integrations are performed according to SOP QA-125 to produce quality data with the utmost integrity. All manual integrations are required to be technically valid and properly documented. Appropriate technical flags are defined in the Glossary ("Technical Flags For Manual Integration").
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.

  
 Iain Daniels  
 Laboratory Manager  
 Lionville Laboratory Incorporated

  
 Date

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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 17 pages.

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## GLOSSARY

### 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.

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## GLOSSARY

### 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.

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## TECHNICAL FLAGS FOR MANUAL INTEGRATION

Manual quan modifications or integrations are performed routinely to improve the data quality for a variety of technical reasons. Documentation of these modifications should be clear and concise. The following 'flags' are used to indicate the technical reasons for quan modifications:

- MP - **Missed Peak:** Manually added peak not found by automatic quan program.
- PA - **Peak Assignment:** Quan report was changed to reflect correct peak assignment.
- RI - **Routine Integration:** Routine integrations are performed for some analytes that are consistently integrated improperly by the automatic integration programs. Examples are the Dichlorobenzene isomers on the VOA packed column and Benzo (b) fluoranthene /Benzo (k) fluoranthene which are poorly resolve on the BNA column.
- SP - **Split Peak:** The automatic integration improperly split the peak; a manual integration was performed to get the correct area.
- CB - **Co-elution/ Background:** Peak was manually integrated to eliminate contribution from co-eluting compounds, background signal, or other interference.
- PI - **Proper Integration:** A peak with poor or inconsistent integration (i.e., excessive tail) was properly integrated manually.

LVL-21-21-035/A-08/93



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Lionville Laboratory, Inc.

Semivolatiles by GC/MS, Special List

Report Date: 12/27/04 11:01

RFW Batch Number: 0412L484

Client: TNU-HANFORD F04-015, H2005 Work Order: 11343606001

Page: 1a

PART 1

Sample Information	RFW#:	Matrix:	D.F.:	Units:	B19PT5 SOIL	004 MS SOIL	B19PT5 SOIL	004 MSD SOIL	04LE1538-MB1 SOIL	SBLKCW	SBLKCW BS SOIL	04LE1538-MB1 SOIL	SBLKCW BSD SOIL
					ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Nitrobenzene-d5					74 %	68 %	62 %	84 %	66 %	84 %	66 %	74 %	
2-Fluorobiphenyl					74 %	69 %	68 %	80 %	63 %	80 %	63 %	73 %	
p-Terphenyl-d14					94 %	84 %	93 %	87 %	76 %	87 %	76 %	70 %	
Phenol-d5					79 %	70 %	69 %	90 %	72 %	90 %	72 %	81 %	
2-Fluorophenol					72 %	68 %	59 %	79 %	66 %	79 %	66 %	76 %	
2,4,6-Tribromophenol					83 %	81 %	86 %	91 %	74 %	91 %	74 %	84 %	
Phenol					350 U	66 %	65 %	330 U	64 %	330 U	64 %	77 %	
bis(2-Chloroethyl) ether					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
2-Chlorophenol					350 U	68 %	64 %	330 U	64 %	330 U	64 %	77 %	
1,3-Dichlorobenzene					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
1,4-Dichlorobenzene					350 U	64 %	53 %	330 U	58 %	330 U	58 %	72 %	
1,2-Dichlorobenzene					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
2-Methylphenol					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
2,2'-oxybis(1-Chloropropane)					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
3/4-Methylphenol					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
N-Nitroso-Di-n-propylamine					350 U	68 %	70 %	330 U	78 %	330 U	78 %	88 %	
Hexachloroethane					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
Nitrobenzene					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
Isophorone					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
2-Nitrophenol					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
2,4-Dimethylphenol					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
bis(2-Chloroethoxy)methane					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
2,4-Dichlorophenol					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
1,2,4-Trichlorobenzene					350 U	65 %	60 %	330 U	58 %	330 U	58 %	71 %	
Naphthalene					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
4-Chloroaniline					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
Hexachlorobutadiene					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
4-Chloro-3-methylphenol					350 U	70 %	78 %	330 U	69 %	330 U	69 %	81 %	
2-Methylnaphthalene					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
Hexachlorocyclopentadiene					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
2,4,6-Trichlorophenol					350 U	350 U	350 U	330 U	330 U	330 U	330 U	330 U	
2,4,5-Trichlorophenol					870 U	870 U	870 U	840 U	840 U	840 U	840 U	840 U	

\* = Outside of EPA CLP QC limits.

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Cust ID:

SBLKCW

SBLKCW BS

SBLKCW BSD

RFW#:

004

004 MS

004 MSD

04LE1538-MB1

04LE1538-MB1

04LE1538-MB1

2-Chloronaphthalene	350	U	350	U	350	U	330	U	330	U	330	U
2-Nitroaniline	870	U	870	U	870	U	840	U	840	U	840	U
Dimethylphthalate	350	U	350	U	350	U	330	U	330	U	330	U
Acenaphthylene	350	U	350	U	350	U	330	U	330	U	330	U
2,6-Dinitrotoluene	350	U	350	U	350	U	330	U	330	U	330	U
3-Nitroaniline	870	U	870	U	870	U	840	U	840	U	840	U
Acenaphthene	350	U	66	%	67	%	330	U	57	%	72	%
2,4-Dinitrophenol	870	U	870	U	870	U	840	U	840	U	840	U
4-Nitrophenol	870	U	57	%	81	%	840	U	75	%	97	%
Dibenzofuran	350	U	350	U	350	U	330	U	330	U	330	U
2,4-Dinitrotoluene	350	U	62	%	78	%	330	U	67	%	82	%
Diethylphthalate	350	U	350	U	350	U	330	U	330	U	330	U
4-Chlorophenyl-phenylether	350	U	350	U	350	U	330	U	330	U	330	U
Fluorene	350	U	350	U	350	U	330	U	330	U	330	U
4-Nitroaniline	870	U	870	U	870	U	840	U	840	U	840	U
4,6-Dinitro-2-methylphenol	870	U	870	U	870	U	840	U	840	U	840	U
N-Nitrosodiphenylamine (1)	350	U	350	U	350	U	330	U	330	U	330	U
4-Bromophenyl-phenylether	350	U	350	U	350	U	330	U	330	U	330	U
Hexachlorobenzene	350	U	350	U	350	U	330	U	330	U	330	U
Pentachlorophenol	870	U	67	%	80	%	840	U	69	%	86	%
Phenanthrene	350	U	350	U	350	U	330	U	330	U	330	U
Anthracene	350	U	350	U	350	U	330	U	330	U	330	U
Carbazole	350	U	350	U	350	U	330	U	330	U	330	U
Di-n-Butylphthalate	52	JB	45	JB	86	JB	51	J	59	JB	110	JB
Fluoranthene	350	U	350	U	350	U	330	U	330	U	330	U
Pyrene	350	U	76	%	87	%	330	U	66	%	68	%
Butylbenzylphthalate	350	U	350	U	350	U	330	U	330	U	330	U
3,3'-Dichlorobenzidine	350	U	350	U	350	U	330	U	330	U	330	U
Benzo(a)anthracene	350	U	350	U	350	U	330	U	330	U	330	U
Chrysene	350	U	350	U	350	U	330	U	330	U	330	U
bis(2-Ethylhexyl)phthalate	51	JB	350	U	58	JB	27	J	26	JB	40	JB
Di-n-Octyl phthalate	350	U	350	U	350	U	330	U	330	U	330	U
Benzo(b)fluoranthene	350	U	350	U	350	U	330	U	330	U	330	U
Benzo(k)fluoranthene	350	U	350	U	350	U	330	U	330	U	330	U
Benzo(a)pyrene	350	U	350	U	350	U	330	U	330	U	330	U
Indeno(1,2,3-cd)pyrene	350	U	350	U	350	U	330	U	330	U	330	U
Dibenzo(a,h)anthracene	350	U	350	U	350	U	330	U	330	U	330	U
Benzo(g,h,i)perylene	350	U	350	U	350	U	330	U	330	U	330	U
Tributylphosphate	350	U	350	U	350	U	330	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

PART 1  
CLIENT SAMPLE NO.

B19PT5

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNU-HANFORD F04-015

Matrix: (soil/water) SOIL

Lab Sample ID: 0412L484-004

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D122210

Level: (low/med) LOW

Date Received: 12/18/04

% Moisture: 4 decanted: (Y/N)

Date Extracted: 12/21/04

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 12/22/04

Injection Volume: 2.0(uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

Number TICs found: 5 (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 78-95-5	1-CHLORO-2-PROPANONE	1.754	100	JN
2.	ALDOL CONDENSATE	3.701	10000	JAB
3.	UNKNOWN	19.765	100	JB
4.	UNKNOWN	20.876	1000	JB
5.	UNKNOWN	22.685	1000	JB

1F  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO. **PART 1**

SBLKCW

Lab Name: Lionville Labs, Inc. Work Order: 11343606001

Client: TNU-HANFORD F04-015

Matrix: (soil/water) SOIL

Lab Sample ID: 04LE1538-MB1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: D122113

Level: (low/med) LOW

Date Received: 12/21/04

% Moisture:        decanted: (Y/N)    

Date Extracted: 12/21/04

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 12/21/04

Injection Volume: 2.0 (uL)

Dilution Factor: 1.00

GPC Cleanup: (Y/N) N

pH:       

CONCENTRATION UNITS:

Number TICs found: 5

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	1.607	3000	J
2.	ALDOL CONDENSATE	3.812	10000	JA
3.	UNKNOWN	19.885	100	J
4.	UNKNOWN	20.988	1000	J
5.	UNKNOWN	22.805	1000	J



FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F04-015-065	PAGE 1 OF 1
COLLECTOR Pope/Pfister/Tyra/Wiberg	COMPANY CONTACT CS Clearlock	TELEPHONE NO. 372-9638	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION 216-U-3; 12-5F-45T 17.5-20ft 15 12/7/04	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil	SAF NO. F04-015	METHOD OF SHIPMENT Federal Express	AIR QUALITY	
ICE CHEST NO. GFP-03-016	FIELD LOGBOOK NO. HNF-N-386 1	COA 119144ES10	BILL OF LADING/AIR BILL NO. 2u PTR 14591		
SHIPPED TO FLUOR SERVICES	OFFSITE PROPERTY NO. 2u PTR 14591				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/REMARKS N/A	PRESERVATION Cool 4C			
		TYPE OF CONTAINER gG			
		NO. OF CONTAINER(S) 1			
		VOLUME 120ml			
		SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS (100-119); (100-118); (100-117);			
	SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: B19951				
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B19960	SOIL	12/10/04	1050	X	
B19961	SOIL	12/10/04	1050	X	

CHAIN OF POSSESSION		SIGN/PRINT NAMES		SPECIAL INSTRUCTIONS	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME	(1)NO2/NO3 - 353.2; Oil & Grease - 413.1; Chromium Hex - 7196;	
<i>[Signature]</i>	12/10/04 11:30	S. J. Trent	12/10/04 11:30		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<i>[Signature]</i>	12/10/04 11:50	M. J. D'Amico	12/10/04 11:50		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
<i>[Signature]</i>	12/18/04 11:15	S. J. Trent	12/18/04 11:15		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME		
LABORATORY SECTION	RECEIVED BY	TITLE	DATE/TIME		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME		



FLUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				PAGE 1 OF 1
COLLECTOR Pope/Pfister/Hughes/Wiberg	COMPANY CONTACT CS Cearlock	TELEPHONE NO. 372-9638	PROJECT COORDINATOR TRENT, SJ		PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION 216-U-3; 22.5R-25ft	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil	SAF NO. F04-015		AIR QUALITY <input type="checkbox"/>		
ICE CHESTING ARP-03-015	FIELD LOGBOOK NO. HNF-N-386 1	COA 119144ES10	METHOD OF SHIPMENT Federal Express			
SHIPPED TO 15000 12th St Beverly Hills, CA 90212 Pecora	OFFSITE PROPERTY NO. 201 PTK 14591	BILL OF LADING/AIRBILL NO. 201 PTK 14591				
MATRIX* A=Air DL=Drum L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/ REMARKS N/A	PRESERVATION Cool 4C	Cool 4C	Cool 4C	Cool 4C	Cool 4C
		TYPE OF CONTAINER aG	aG	aGs*	aG	None
		NO. OF CONTAINER(S) 1	1	3	1	1
		VOLUME 250mL	250mL	40mL	120mL	500mL
SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: 849952 B19975 12/14/04	SAMPLE ANALYSIS SEE ITEM (1) IN SPECIAL INSTRUCTIONS	SEE ITEM (2) IN SPECIAL INSTRUCTIONS	SEE ITEM (3) IN SPECIAL INSTRUCTIONS	Alcohols, Glycols, Ketones - 8015 (1-Butanol)	SEE ITEM (4) IN SPECIAL INSTRUCTIONS (PCBs - 8082)	SEE ITEM (5) IN SPECIAL INSTRUCTIONS
SAMPLE NO. B19PT5	MATRIX* SOIL	SAMPLE DATE 12-13-04	SAMPLE TIME 0750			
CHAIN OF POSSESSION						
RELINQUISHED BY/REMOVED FROM		SIGN/ PRINT NAMES		SPECIAL INSTRUCTIONS		
RECEIVED BY/STORED IN		DATE/TIME		** The laboratory is to report both kerosene and diesel range compounds from the WTPH-D analysis.		
M.A. DAVENPORT 12-13-04 1415		M.D. KELLY 12-13-04 1415		(1) IC Anions - 300.0 (Fluoride, Nitrate, Nitrite, Phosphate, Sulfate) Total Cyanide - 9010; pH (Soil) - 9045;		
M.A. DAVENPORT 12-13-04 1220		M.A. DAVENPORT 12-13-04 1220		(2) ICP Metals - 6010A (Supertrace) (Cadmium, Chromium, Lead, Silver) ICP Metals - 6010A (Supertrace Add-On) (Copper) Mercury - 7471 - (CV);		
M.A. DAVENPORT 12-13-04 1220		M.A. DAVENPORT 12-13-04 1220		(3) VOA - 8260A (TCL); VOA - 8260A (Add-On) (cis-1,2-Dichloroethylene, n-Butylbenzene, trans-1,2-Dichloroethylene)		
M.A. DAVENPORT 12-18-04 1115		M.A. DAVENPORT 12-18-04 1115		(4) Semi-VOA - 8270A (Add-On) (Tributyl phosphate) TPH-Gasoline Range - WTPH-G; TPH-Diesel Range - WTPH-D (Total petroleum hydrocarbons - diesel range, Total petroleum hydrocarbons - kerosene range)		
M.A. DAVENPORT 12-18-04 1115		M.A. DAVENPORT 12-18-04 1115		(5) Gamma Spectroscopy (Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-157, Americium-241, Isotope Plutonium, Isotope Uranium, Strontium-89,90 - Total Strontium)		
RELINQUISHED BY/REMOVED FROM		DATE/TIME				
RELINQUISHED BY/REMOVED FROM		DATE/TIME				
RELINQUISHED BY/REMOVED FROM		DATE/TIME				
RELINQUISHED BY/REMOVED FROM		DATE/TIME				
RELINQUISHED BY/REMOVED FROM		DATE/TIME				
RELINQUISHED BY/REMOVED FROM		DATE/TIME				
RELINQUISHED BY/REMOVED FROM		DATE/TIME				
RELINQUISHED BY/REMOVED FROM		DATE/TIME				
RECEIVED BY		DATE/TIME		TITLE		
DISPOSAL METHOD		DATE/TIME		DISPOSED BY		

ELUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST				F04-015-067	PAGE 1 OF 1
COLLECTOR Pope/Pfister/Tyra/Wiberg	COMPANY CONTACT CS Clearlock	TELEPHONE NO. 372-9638	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days		
SAMPLING LOCATION 216-U-3; 35FT-37.5FT	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil	FIELD LOGBOOK NO. HNF-N-386 1	SAF NO. F04-015	AIR QUALITY <input type="checkbox"/>			
ICE CHEST NO. GRR-03-015	COA 119144ES10	METHOD OF SHIPMENT Federal Express					
SHIPPED TO ECHOLOGICAL SERVICES Peters	OFFSITE PROPERTY NO. See PTR 14591	BILL OF LADING/AIR BILL NO. See PTR 14591					
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SE=Sediment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	POSSIBLE SAMPLE HAZARDS/REMARKS N/A	PRESERVATION Cool 4C	None				
SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: B19953	NO. OF CONTAINER(S) 1	TYPE OF CONTAINER 8G	1				
	VOLUME 120mL		60mL				
	SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS Tech edum-99; Tritium - H3;	100mL 129;				
SAMPLE NO. B19963	MATRIX* SOIL	SAMPLE DATE 12/14/04	SAMPLE TIME 0700				
CHAIN OF POSSESSION							
SIGN/PRINT NAMES							
RELINQUISHED BY/REMOVED FROM R. Pfister	DATE/TIME 12/14/04 0900	RECEIVED BY/STORED IN M. G. ...	DATE/TIME 12-14-04 0900				
RELINQUISHED BY/REMOVED FROM M. G. ...	DATE/TIME 12/14/04 1200	RECEIVED BY/STORED IN M. G. ...	DATE/TIME 12/16/04				
RELINQUISHED BY/REMOVED FROM M. G. ...	DATE/TIME 12/14/04 1115	RECEIVED BY/STORED IN M. G. ...	DATE/TIME 12-18-04 11:15				
RELINQUISHED BY/REMOVED FROM M. G. ...	DATE/TIME 12-18-04 11:15	RECEIVED BY/STORED IN M. G. ...	DATE/TIME 12-18-04 11:15				
RELINQUISHED BY/REMOVED FROM M. G. ...	DATE/TIME 12-18-04 11:15	RECEIVED BY/STORED IN M. G. ...	DATE/TIME 12-18-04 11:15				
RELINQUISHED BY/REMOVED FROM M. G. ...	DATE/TIME 12-18-04 11:15	RECEIVED BY/STORED IN M. G. ...	DATE/TIME 12-18-04 11:15				
RELINQUISHED BY/REMOVED FROM M. G. ...	DATE/TIME 12-18-04 11:15	RECEIVED BY/STORED IN M. G. ...	DATE/TIME 12-18-04 11:15				
LABORATORY SECTION	RECEIVED BY	TITLE			DATE/TIME		
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY			DATE/TIME		

SPECIAL INSTRUCTIONS  
(1)NO2/NO3 - 353.2; Oil & Grease - 413.1; Chromium Hex - 7196;



ELUOR Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F04-015-069	PAGE 1 OF 1
COLLECTOR Pope/Pfister/Tyra/Wilberg	COMPANY CONTACT CS Clearlock	TELEPHONE NO. 372-9638	PROJECT COORDINATOR TRENT, SJ	PRICE CODE 8N	DATA TURNAROUND 45 Days / 45 Days
SAMPLING LOCATION 216-U-3; 97.5FT-100FT	PROJECT DESIGNATION 200-MW-1 Characterization Sampling and Analysis - Soil	COA 119144ES10	SAF NO. F04-015	AIR QUALITY <input type="checkbox"/>	
ICE CHEST NO. 619-03-015	FIELD LOGBOOK NO. HNF-N-386 1	METHOD OF SHIPMENT Federal Express	BILL OF LADING-AIR BY NO. <i>200 PTL 14591</i>		
SHIPPED TO <i>Beura</i>	OFFSITE PROPERTY NO. <i>200 PTL 14591</i>				
MATRIX* A=Air DL=Drum Liquids DS=Drum Solids L=Liquid O=Oil S=Soil SC=Scumment T=Tissue V=Vegetation W=Water WI=Wipe X=Other	PRESERVATION Cool 4C	None			
POSSIBLE SAMPLE HAZARDS/ REMARKS N/A	TYPE OF CONTAINER 8G	8G			
	NO. OF CONTAINER(S) 1	1			
	VOLUME 120mL	60mL			
SPECIAL HANDLING AND/OR STORAGE Radioactive Tie To: B49999 <i>191904 12/16/04</i>	SAMPLE ANALYSIS SEE ITEM (1) IN SECTION 29; TECHNICAL INSTRUCTIONS THROUGH - P5;	<i>10/16/04</i>			
SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME		
B19965	SOIL	12-16-04	0810		
CHAIN OF POSSESSION					
RELINQUISHED BY/REMOVED FROM		DATE/TIME	SIGN/ PRINT NAMES		DATE/TIME
<i>R. PASTER</i>		12/16/04 1030			
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME
<i>M. B. BAUM</i>		12/16/04 1210	<i>M. B. BAUM</i>		12/16/04 1210
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME
<i>M. B. BAUM</i>		12/18/04 1115	<i>M. B. BAUM</i>		12/18/04 1115
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME
<i>M. B. BAUM</i>		12/18/04 1115	<i>M. B. BAUM</i>		12/18/04 1115
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME
<i>M. B. BAUM</i>		12/18/04 1115	<i>M. B. BAUM</i>		12/18/04 1115
RELINQUISHED BY/REMOVED FROM		DATE/TIME	RECEIVED BY/STORED IN		DATE/TIME
<i>M. B. BAUM</i>		12/18/04 1115	<i>M. B. BAUM</i>		12/18/04 1115
LABORATORY SECTION	RECEIVED BY				DATE/TIME
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD				DATE/TIME
TITLE					DATE/TIME
DISPOSED BY					DATE/TIME

SPECIAL INSTRUCTIONS  
(1)NO2/NO3 - 353.2; Oil & Grease - 413.1; Chromium Hex - 7196;

Lionville Laboratory Incorporated  
 SAMPLE RECEIPT CHECKLIST (SRC)

CLIENT: TWC + Hamford

Date: 12-18-04

Purchase Order / Project# /  
 SAF# / SOW# / Release #: F04-015

LVL Batch #:

0412484

Sample Custodian: D. Smith

NOTE: EXPLAIN ALL DISCREPANCIES

- |   |   |  |
|---|---|--|
| 1. Samples Hand Delivered or <u>Shipped</u>   | Carrier <u>Fed Ex</u>   | Airbill# <u>7903 6982 1101</u>                       |
| 2. Custody seals on coolers or shipping container intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals    Comments        |
| 3. Outside of coolers or shipping containers are free from damage?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 4. All expected paperwork received (coc and other client specific information) sealed in plastic bag and easily accessible? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 5. Samples received <u>cooled</u> or ambient?   | Temp <u>3.7 °C</u>  | Cooler # <u>GEP 03 015</u>                           |
| 6. Custody seals on sample containers intact, signed and dated?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input type="checkbox"/> No Seals                    |
| 7. coc signed and dated?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 8. Sample containers are intact?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 9. All samples on coc received? All samples received on coc?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 10. All sample label information matches coc?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 11. Samples properly preserved?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 12. Samples received within hold times? Short holds taken to wet lab?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 13. VOA, TOC, TOX free of headspace?  | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 14. QC stickers placed on bottles designated by client?   | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> N/A              |
| 15. Shipment meets LVL Sample Acceptance Policy? (Identify all bottles not within policy. See reverse side for policy)      | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  |
| 16. Project Manager contacted concerning discrepancies? name/date (or samples outside criteria)                             | <input type="checkbox"/> Yes <input type="checkbox"/> No            | <input checked="" type="checkbox"/> No Discrepancies |