0060766

SEVERN TRENT STL

STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

Tel: 314 298 8566 Fax: 314 298 8757
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 200 PW-2/200-PW

F03-006

Lot #: F3H080348
SDG #: W03979

Steve Trent

Fluor Hanford Inc
825 Jadwin Ave.
Richland, WA 99352

SEP 2003
RECEIVED

SEVERN TRENT LABORATORIES, INC.

RECEIVED
NOV 24 2003
EDMC

MWard

MARTI WARD
Project Manager

August 29, 2003

SEVERN TRENT STL

STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

Tel: 314 298 8566 Fax: 314 298 8757
www.stl-inc.com

September 3, 2003

STL LOT NUMBER: **F3H080348**
SDG: **W03979**

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

Dear Steve Trent,

This report contains the analytical results for the two samples received under chain of custody by Severn Trent Laboratories (STL) on August 8, 2003. These samples are associated with your F03-006 project.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

This report shall not be reproduced except in full, without the written approval of the laboratory. This report is incomplete without the Case Narrative. Results are reported "as received" (i.e. wet weight) unless otherwise noted.

If you have any questions, please feel free to call me at (314) 298-8566.

Sincerely,

Marti Ward

Marti Ward
Project Manager

cc: Project File

ACCREDITED IN ACCORDANCE WITH nelac

SEVERN TRENT STL

STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

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LOT NUMBER F3H080348/SDG W03979

8270 Semi-volatiles

Due to limited sample volume, an MS/MSD was not run on a sample from this SDG.

Two compounds requested on the SAF are not part of the laboratories compound list. These compounds, diethyl ether and 2-butoxyethanol, were not detected using the Library Search program.

8015 Volatile Gasoline Range Organics

There were no comments or non-conformances associated with this data.

8015 Alcohols/glycols/ketones and Diesel Range Organics
There was insufficient sample volume to perform MS/MSD analysis. A LCS/LCSD was performed to demonstrate accuracy and replicate precision.

The alcohols/glycols and ketone analysis was done outside holding time.

6010B Metals

The MS/MSD Antimony recoveries are outside the established QC limits. The RPD is within method acceptance criteria indicating matrix interference. Method performance is demonstrated by acceptable LCS recovery.

300.0A Anions

The samples had high rad levels and there was limited volume. A matrix spike and a sample duplicate were not run. An LCS/LCSD was analyzed to show precision. In addition, the prep was done at 1g to 50ml instead of the normal 5g to 50mls.

SAMPLE SUMMARY

F3H080348

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
FV0MP	001	B17978	07/29/03	08:00
FV0M2	002	B174B4	07/29/03	09:15

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

METHODS SUMMARY

F3H080348

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
pH Non-Aqueous	SW846 9045A	
Chloride	MCAWW 300.0A	MCAWW 300.0A
Cyanide, Total	SW846 9012A	SW846 9012A
Extractable Petroleum Hydrocarbons	SW846 8015 MOD	SW846 3550
Fluoride	MCAWW 300.0A	MCAWW 300.0A
Hexavalent Chromium	SW846 7196A	SW846 7196A/DI
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
Nitrate as N	MCAWW 300.0A	MCAWW 300.0A
Nitrate-Nitrite	MCAWW 353.1	
Nitrite as N	MCAWW 300.0A	MCAWW 300.0A
Nitrogen, Ammonia	MCAWW 350.1	MCAWW 350.1
Nonhalogenated Organics Using GC/FID	SW846 8015B	SW846 8015B
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3550B
Sulfate	MCAWW 300.0A	MCAWW 300.0A
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B
Volatile Petroleum Hydrocarbons	SW846 8015 MOD	SW846 5030

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

W03979

STL ST. LOUIS

CUT 1743

237 TMO 8-6-03

FLUOR Hanford Inc.	CENTRAL PLATEAU CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F03-006-236	Page 1 of 1
Collector: Pope/Pfister/Hughes/Johansen	Company Contact: LC Hulstrom	Telephone No.: 373-3928	Project Coordinator: TRENT, SJ	Price Code: 8N
Project Designation: 200-PW-2/200-PW-4 OU - Borehole Soil Sampling	Sampling Location: TMO 8-6-03 216-A-36B (C3248) - ~~30-32.5'~~ 27.5' - 30'		SAF No.: F03-006	Air Quality ☐
Ice Chest No.: ERC .03 .105	Field Logbook No.: HNF-N-3361	COA: 117504ES10	Method of Shipment: Federal Express	Data Turnaround: 45 Days
Shipped To: ST. LOUIS Severn Trent Incorporated, ~~Richland~~ MO 8703	Offsite Property No.: RSR 107199		Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

W03979

Preservation	Cool 4C	Cool 4C	None TMO 8-7-03	Cool 4C	Cool 4C						
Type of Container	G	G TMO 8-6-03	~~G/P~~ G	G/P	G/P						
No. of Container(s)	1	1 2	1 TMO 8-7-03	1	1						
Volume	40mL	60mL	~~125mL~~ ~~125mL~~	40mL	40mL						
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.	NO2/NO3 - 353.1; Oil & Grease - 413.1; Chromium Hex - 7196						

Sample No.	Matrix *	Sample Date	Sample Time										
TMO 8-6-03 ~~B17484~~ B07978	SOIL	7-29-03	0800	X	X	X	X	X					

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: MJohnson/MJohnson	8-6-03 1430	Received By/Stored In: Ret MO-026	8-6-03 1430
Relinquished By/Removed From: Ret MO-026	8-7-03 0900	Received By/Stored In: MJohnson/MJohnson	8-7-03 0800
Relinquished By/Removed From: MJohnson/MJohnson	8-7-03 0900	Received By/Stored In: FED EX	8-7-03 0900
Relinquished By/Removed From: FED EX		Received By/Stored In: [illegible]	8-8-03 0900
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

(1) Alcohols, Glycols, & Ketones - 8015 (1-Butanol, Diethyl ether, Ethylene glycol, Methanol)
(2) Semi-VOA - 8270A (TCL); Semi-VOA -- 8270A (Add-On) (2-Butoxyethanol, Tributyl phosphate); TPH-Diesel Range - WTPH-D; TPH-Gasoline Range - WTPH-G
(3) ICP Metals - 6010A (Supertrace) (Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver); ICP Metals - 6010A (Supertrace Add-On) (Antimony, Beryllium, Bismuth, Boron, Copper, Nickel); Mercury - 7471 - (CV)
(4) IC Anions - 300.0 (Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate); Ammonia - 350.1; pH (Soil) - 9045; Total Cyanide - 9010

Originals chains are attached. The top chain is to be used for all sample analysis. Chains (originals) are attached to show chain of custody was not broken.

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

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

A-6003-618(03/03)

9

W03979

STL ST. LOUIS

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-006-232	Page 1 of 1
Collector: Pope/Pfister/Hughes/Johansen	Company Contact: LC Hulstrom; Telephone No.: 373-3928	Project Coordinator: TRENT, SJ	Price Code: 8N; Air Quality ☐; Data Turnaround: 45 Days
Project Designation: 200-PW-2/200-PW-4 OU - Borehole Soil Sampling	Sampling Location: 216-A-36B (C3248) - 27.5-30'	SAF No.: F03-006	
Ice Chest No.	Field Logbook No.: HNF-N-3361; COA: 117504ES10	Method of Shipment: Federal Express	
Shipped To: EBERLINE SERVICES (Formerly TMA)	Offsite Property No.	Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	None									
Type of Container	sG	sG									
No. of Container(s)	1	1									
Volume	60mL	60mL									
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Tritium - H3									

Sample No.	Matrix *	Sample Date	Sample Time										
B17977	SOIL	7-29-03	0800	X	X								

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: C4160 R. Pfister R. Hughes	7/29/3 1200	SITE FRIG	7/29/3 1200
Relinquished By/Removed From: Site Fridge	8-6-03 1030	Received By/Stored In: [illegible]	Date/Time 1030 8-6-03
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

SPECIAL INSTRUCTIONS

The lab is to achieve a detection limit of 50.0 pCi/g for C-14. FH acknowledges that holding times (less than 14 days) may not be met by the lab due to the radi characteristics.

(1) Technetium-99; Strontium-89,90 – Total Sr; Isotopic Thorium {Thorium-232}; Carbon-14; Iodine-129; Nickel-63; Neptunium-237

Matrix *

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

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

BHI-EE-011 (03/01/2002)

7

W03979

STL ST. LOUIS

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-006-233	Page 1 of 1
Collector: Pope/Pfister/Hughes/Johansen	Company Contact: LC Hulstrom; Telephone No.: 373-3928	Project Coordinator: TRENT, SJ	Price Code: 8N; Data Turnaround: 45 Days
Project Designation: 200-PW-2/200-PW-4 OU - Borehole Soil Sampling	Sampling Location: 216-A-36B (C3248) - 27.5-30'	SAF No.: F03-006	Air Quality ☐
Ice Chest No.	Field Logbook No.: HNF-N-3361; COA: 117504ES10	Method of Shipment: Federal Express	
Shipped To: Severn Trent Incorporated, Richland	Offsite Property No.	Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	Cool 4C										
Type of Container	aG										
No. of Container(s)	1										
Volume	60mL										
SAMPLE ANALYSIS	NO2/NO3 - 353.1; Oil & Grease - 413.1; Chromium Hex - 7196										

Sample No.	Matrix *	Sample Date	Sample Time										
B17978	SOIL	7-29-03	0800	X									

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From: C4160	Date/Time: 7/29/3 1200	Received By/Stored In: SITE FRIG	Date/Time: 7/29/3 1200
Relinquished By/Removed From: Site Fridge	Date/Time: 8-6-03 1030	Received By/Stored In: Johansen/Pfister	Date/Time: 8-6-03 1030
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

SPECIAL INSTRUCTIONS
Report kerosene and diesel range compounds from WTPH-D analysis.

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

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

BHI-EE-011 (03/01/2002)

W03979

STL ST. LOUIS

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-006-230	Page 1 of 1
Collector: Pope/Pfister/Hughes/Johansen	Company Contact: LC Hulstrom — Telephone No.: 373-3928	Project Coordinator: TRENT, SJ	Price Code: 8N — Data Turnaround: 45 Days
Project Designation: 200-PW-2/200-PW-4 OU - Borehole Soil Sampling	Sampling Location: 216-A-36B (C3248) - 27.5-30'	SAF No.: F03-006	Air Quality ☐
Ice Chest No.	Field Logbook No.: HNF-N-3361 — COA: 117504ES10	Method of Shipment: Government Vehicle	
Shipped To: Waste Sampling & Characterization	Offsite Property No.	Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	Cool 4C	Cool 4C	Cool 4C								
Type of Container	sG	Gs*	P								
No. of Container(s)	1	2	1								
Volume	40mL	40mL	125mL								
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	See item (3) in Special Instructions.								

Sample No.	Matrix *	Sample Date	Sample Time										
B17975	SOIL	7-29-03	0800	X	X	X							

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From C4160 R. Pfister Rachel Pfister	7/29/3 1200	Received By/Stored In SITE FRIG	7/29/3 1200
Relinquished By/Removed From SITE FRIDGE 8-6-03	1030	Received By/Stored In M Johansen / Johansen 8-6-03	1030
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

SPECIAL INSTRUCTIONS

Report kerosene and diesel range compounds from WTPH-D analysis. FH acknowledges that holding times (less than 14 days) may not be met by the lab due to the radil characteristics.

(1) Semi-VOA - 8270A (TCL); Semi-VOA – 8270A (Add-On) {2-Butoxyethanol, Tributyl phosphate}; TPH-Diesel Range - WTPH-D; TPH-Gasoline Range - WTPH-G; PCBs - 8082
(2) Alcohols, Glycols, & Ketones - 8015 {Diethyl ether, Ethylene glycol, Methanol}
(3) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Antimony-125, Cesium-134, Radium-226, Radium-228, Tin-126}; Isotopic Plutonium; Americium-241; Isotopic Uranium; Trace Elements ICP/MS - 200.8 (Complete) {Antimony, Arsenic, Barium, Beryllium, Chromium, Copper, Lead, Mercury, Nickel, Silver, Uranium}; ICP Metals - 6010A (Add-on) {Bismuth, Boron}; IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}; Cyanide (Total) - 335.2; Cations (IC) - 300.7 {Nitrogen in ammonium}; pH (Soil) - 9045

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

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

BHI-EE-011 (03/01/2002)

STL ST. LOUIS

RADIOACTIVE SHIPMENT RECORD

107199 3.
Page 1 of 2

1. SHIP FROM U.S. DEPT. OF ENERGY C/O
Company: BECHTEL HANFORD INC.
Address: 372X BLDG, 200 AREA
City, State, Zip: RICHLAND, WA, 79352
Contact: JEFF GALE
Phone: 509-372-9062

Ship: [X] Prepaid [ ] Collect 4.
Via: [ ] Motor [X] Air Psgr [ ] UPS [ ] Rail [X] Air Cargo [ ] Site Carrier
SHIPMENT AUTHORIZATION NUMBER

2. SHIP TO
Company: SEVERN TRENT LAB
Address: 13715 RIDER TRAIL NORTH
City, State, Zip: EARTH CITY, MO, 63045
Attention: MARTI WARD
Phone: 314 298-8566

Markings Applied 6.
- [ ] Radioactive - LSA
- [ ] Radioactive - SCO
- [ ] Type A
- [ ] Type B with trefoil

LSA Description 8.
- [ ] LSA-I
- [ ] LSA-II
- [ ] LSA-III
- [ ] SCO-I
- [ ] SCO-II

Labels Applied 10.
- [ ] Empty
- [ ] Radioactive White - I
- [ ] Radioactive Yellow - II
- [ ] Radioactive Yellow - III
- [ ] Subsidiary Hazard

For Normal Form only 7.
Identify
Physical Form: [ ] Liquid [ ] Gas [X] Solid
Chemical Form: [ ] Elemental [ ] Metal [ ] Nitrate [X] Oxide [ ] Mixture [ ] Other

EMERGENCY RESPONSE 9.
Telephone: 1-888-766-0771
Emergency Response Guide(s): 161

- Highway Route Controlled Quantity [ ]
- Exclusive Use Shipment with instructions [ ]
- Placards Applied [ ]
- If Rail Specify:
- Fissile Excepted, Grams [ ]
- Excepted Package Statement [X]

5. HM Proper Shipping Name: _____ Radioactive Material,

	excepted package - empty packaging	7	UN2910
	excepted package - instruments or articles	7	UN2910
X	excepted package - limited quantity of material	7	UN2910
	excepted package - articles manufactured from natural or depleted uranium or natural thorium	7	UN2910
	Special Form, n.o.s.	7	UN2974
	Low Specific Activity, n.o.s	7	UN2912
	n.o.s.	7	UN2982
	Fissile, n.o.s.	7	UN2918
	Surface Contaminated Object	7	UN2913

Warning -- Fissile Material Controlled Shipment. Do Not Load More Than _____ Packages Per Vehicle. In Loading and Storage Areas, Keep at Least 20 Feet From Other Packages Bearing Radioactive Labels.

11.

No. Pkg.	Model Package	COC/Spec	Serial No.	Seal No.	Isotopes	T.I.	Bq/Package	Gr. Wt. Kg.
1	PLASTIC BOX	STRONG	EXC-03-	TAPE	Cs-137, Sr-90	N/A	9.07×10^{6}	30 kg
	(POLY COOLER)	(EXCEPTED PKG)						
GLASS JARS, BUBBLE WRAPPED, DOUBLE POLY BAGGED, IN WET								
ICE WITH VERMICULITE INSIDE STRONG TIGHT (PEANUTS ALSO)								
(Shipper may describe package in detail on one of the unused lines above) SAF# EC3-026					TOTALS	N/A	9.07×10^{6}	30 kg

12. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.
Certifier's Signature: Stuart Hale — On behalf of DOE-RL — Date: 8-7-03 — Organization: EMC - NFS — Complete Cost Code (Inc. End Function): XE3027 PHMC

13. Surface Dose Rate of Package: [X] <0.005 or _____ mSv/hr; <0.5 or _____ mrem/hr (N+ß γ)
Dose Rate @ 1 Meter from Surface of Package: [X] <0.005 or _____ mSv/hr; <0.5 or _____ mrem/hr (N+ß γ)
Smears of Outer Container: [X] <0.41 Bq (22 dpm) ß γ /cm²; [X] <0.04 Bq (2.2 dpm) α /cm²; [ ] <Tbl. 2-2 HSRCM Onsite Limits
TRUCK LOAD OR EXCLUSIVE USE: Surface [ ] <2 mSv/hr (200 mrem/hr); @ 2 meters [ ] <0.1 mSv/hr (10 mrem/hr); @ Cab or sleeper [ ] <0.02 mSv/hr (2 mrem/hr) (Using N+ß γ)
Additional Data and Instructions (inc. Readings on Internal Packaging)
Signature - Radiation Monitoring: [signature] — Bldg. 3 2 3 — Survey No. REF-03-0170 — Date 8-7-03

14. TRANSPORTER
Vehicle Number: 363 06254
DRIVER SIGNATURE: [signature]
RECEIVER
RECEIVER SIGNATURE
Date

15. OFFSITE AUTHORIZATION
Shipment has been inspected and verified to be in compliance with DOT regulations
Authorized Signature: [signature] — Printed Name: Keith R. Smith — Date 8-7-03

16. AUTHORIZATION FOR SHIPMENT
AIR TRANSPORT CERTIFICATION: [ ] N/A
CARGO AIRCRAFT: [ ] Cargo Aircraft Only, Labels Applied
PASSENGER AIRCRAFT: [X] Ltd Qty; [ ] <3 T.I.; [ ] Research/Medical Diagnosis; [ ] Human Medical Research
Pkg. Dimensions (cm)

17. OFFSITE AUTHORIZATION

Tracking No.	Date Shipped	Routing	ETA
RMB-1 5242B	8-		8-
Surveyed By	**Date**	**Approved for Shipment Offsite**	**Date**
	8/7/03	[signature]	8-7-03

54-6000-088 (06/97)

W03979

W03979

STL ST. LOUIS

Cur 7743

FLUOR Hanford Inc.	CENTRAL PLATEAU CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-006-236	Page 1 of 1

Collector: Pope/Pfister/Hughes/Johansen	Company Contact: LC Hulstrom — Telephone No.: 373-3928	Project Coordinator: TRENT, SJ	Price Code: 8N — Data Turnaround: 45 Days — Air Quality:
Project Designation: 200-PW-2/200-PW-4 OU - Borehole Soil Sampling	Sampling Location: 216-A-36B (C3248) - 30-32.5'	SAF No.: F03-006	
Ice Chest No.: ERC-03-102	Field Logbook No.: HNF-N-3361 — COA: 117504ES10	Method of Shipment: Federal Express	
Shipped To: ST. LOUIS Severn Trent Incorporated, ~~Richland~~ 8/8/03	Offsite Property No.: RSR 107198	Bill of Lading/Air Bill No.: N/A	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

W03979

Preservation	Cool 4C	Cool 4C	None	Cool 4C	Cool 4C						
Type of Container	G	aG	G/P	G/P	G/P						
No. of Container(s)	1	2	1	1	1						
Volume	40mL	60mL	125mL	40mL	40mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions. MD 8-6-03	See item (3) in Special Instructions.	See item (4) in Special Instructions	NO2/NO3 - 353.1, Oil & Grease - 413.1; Chromium Hex - 7196						
Sample No.	Matrix *	Sample Date	Sample Time								
B174B4	SOIL	7-29-03	0915	X	X	X	X	X			

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
TM Johansen / TM Johansen	8-6-03 1430	Kef MO-026	8-6-03 1430
Kef MO-026	8-7-03 0800	TM Johansen / TM Johansen	8-7-03 0800
TM Johansen / TM Johansen	8-7-03 0900	Ed O	8-7-03 0900
ESD Sox		[illegible]	8-8-03 0900

SPECIAL INSTRUCTIONS

(1) Alcohols, Glycols, & Ketones - 8015 {1-Butanol, Diethyl ether, Ethylene glycol, Methanol}
(2) Semi-VOA - 8270A (TCL); Semi-VOA – 8270A (Add-On) {2-Butoxyethanol, Tributyl phosphate}; TPH-Diesel Range - WTPH-D; TPH-Gasoline Range - WTPH-G
(3) ICP Metals - 6010A (Supertrace) {Arsenic, Barium, Cadmium, Chromium, Lead, Selenium, Silver}; ICP Metals - 6010A (Supertrace Add-On) {Antimony, Beryllium, Bismuth, Boron, Copper, Nickel}; Mercury - 7471 - (CV)
(4) IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Sulfate}; Ammonia - 350.1; pH (Soil) - 9045; Total Cyanide - 9010

original chains are attached. The top chain is to be used for all sample analysis. The original chains are attached to show chain of custody was not broken.

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

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

A-6003-618(03/03)

W03979

STL ST. LOUIS

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F03-006-227	Page 1 of 1
Collector Pope/Pfister/Hughes/Johansen	Company Contact LC Hulstrom	Telephone No. 373-3928	Project Coordinator TRENT, SJ	Price Code 8N Air Quality ☐
Project Designation 200-PW-2/200-PW-4 OU - Borehole Soil Sampling	Sampling Location AK 7-(0-03 216-A-36B ~~(C3248) 24-26.5~~ (C4160) 30' - 32.5'		SAF No. F03-006	Data Turnaround 45 Days
Ice Chest No.	Field Logbook No. HNF-N-3361	COA	Method of Shipment Federal Express	
Shipped To Severn Trent Incorporated, Richland	Offsite Property No.		Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS												
Special Handling and/or Storage	Preservation	Cool 4C										
	Type of Container	aG										
	No. of Container(s)	1										
	Volume	60mL										
SAMPLE ANALYSIS		NO2/NO3 - 353.1; Oil & Grease - 413.1; Chromium Hex - 7196										
Sample No.	Matrix *	Sample Date	Sample Time									
B174B4	SOIL	7-29-03	0915	X								

CHAIN OF POSSESSION	Sign/Print Names	SPECIAL INSTRUCTIONS	Matrix *
Relinquished By/Removed From: JS Pope / Date/Time: 7-29-03/1200	Received By/Stored In: Site Fridge / Date/Time: 7-29-03/1200		S=Soil SB=Sediment SO=Solid SL=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Tissue WI=Wipe L=Liquid V=Vegetation X=Other
Relinquished By/Removed From: Site Fridge / Date/Time: 8-6-03 1030	Received By/Stored In: TM Johansen / Date/Time: 8-6-03 1030		
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	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

BHI-EE-011 (03/01/2002)

W03979

STL ST. LOUIS

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-006-211	Page 1 of 1
Collector: Pope/Pfister/Hughes/Johansen	Company Contact: LC Hulstrom — Telephone No.: 373-3928	Project Coordinator: TRENT, SJ	Price Code: 8N — Data Turnaround: 45 Days
Project Designation: 200-PW-2/200-PW-4 OU - Borehole Soil Sampling	Sampling Location: (C4160) 7-28-03 216-A-36B ~~(C3248) 24-26.5'~~ 30'-32.5'	SAF No.: F03-006	Air Quality ☐
Ice Chest No.	Field Logbook No.: HNF-N-3361 — COA: 117504ES10	Method of Shipment: Federal Express	
Shipped To: EBERLINE SERVICES (Formerly TMA)	Offsite Property No.	Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	None	None									
Type of Container	aG	aG									
No. of Container(s)	1	1									
Volume	60mL	60mL									
SAMPLE ANALYSIS	See item (1) in Special Instructions.	Tritium - H3									

Sample No.	Matrix *	Sample Date	Sample Time										
B17488	SOIL	7-29-03	0915	X	X								

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: Site Pick	7-29-03 1200	Site Fridge	7-29-03 1200
Relinquished By/Removed From: Site Fridge	8-6-03 1030	Mathurson/Mathurson	8-6-03 1030
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	
Relinquished By/Removed From		Received By/Stored In	

SPECIAL INSTRUCTIONS

FH acknowledges that holding times (less than 14 days) may not be met by the lab due to the radiological characteristics.

(1) Technetium-99; Strontium-89,90 -- Total Sr; Isotopic Thorium (Thorium-232); Carbon-14; Iodine-129; Nickel-63; Neptunium-237

Matrix *

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

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

BHI-EE-011 (03/01/2002)

W03979

STL ST. LOUIS

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-006-209	Page 1 of 1
Collector: Pope/Pfister/Hughes/Johansen	Company Contact: LC Hulstrom; Telephone No.: 373-3928	Project Coordinator: TRENT, SJ	Price Code: 8N; Data Turnaround: 45 Days
Project Designation: 200-PW-2/200-PW-4 OU - Borehole Soil Sampling	Sampling Location: (C4160) 7-10-03 216-A-36B ~~(C3248) 24-26.5'~~ 30'-32.5'	SAF No.: F03-006	Air Quality ☐
Ice Chest No.	Field Logbook No.: HNF-N-3361; COA: 117504ES10	Method of Shipment: Government Vehicle	
Shipped To: Waste Sampling & Characterization	Offsite Property No.	Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

Preservation	Cool 4C	Cool 4C	Cool 4C	Cool 4C							
Type of Container	Gs*	sG	Gs*	P							
No. of Container(s)	2	1	2	1							
Volume	40mL	40mL	40mL	125mL							
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.							
Sample No. / Matrix * / Sample Date / Sample Time											
B17486 / SOIL / 7-29-03 / 0915	X	X	X	X							

CHAIN OF POSSESSION	Sign/Print Names		
Relinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
J Stahl/[illegible]	7-29-03 1210	Site Fridge	7-29-03 1200
Site Fridge	8-6-03 1030	Mathanson/Mathanson	8-6-03 1030

SPECIAL INSTRUCTIONS

Report kerosene and diesel range compounds from WTPH-D analysis. FH acknowledges that holding times (less than 14 days) may not be met by the lab due to the radi characteristics.

(1) VOA - 8260A (TCL); VOA - 8260A (Add-On) {2-Pentanone, Benzyl alcohol, n-Butylbenzene}
(2) Semi-VOA - 8270A (TCL); Semi-VOA -- 8270A (Add-On) {2-Butoxyethanol, Tributyl phosphate}; TPH-Diesel Range - WTPH-D; TPH-Gasoline Range - WTPH-G; PCBs - 8082
(3) Alcohols, Glycols, & Ketones - 8015 {Diethyl ether, Ethylene glycol, Methanol}
(4) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Antimony-125, Cesium-134, Radium-226, Radium-228, Tin-126}; Isotopic Plutonium; Americium-241; Isotopic Uranium; Trace Elements ICP/MS - 200.8 (Complete) {Antimony, Arsenic, Barium, Beryllium, Chromium, Copper, Lead, Mercury, Nickel, Silver, Uranium}; ICP Metals - 6010A (Add-on) {Bismuth, Boron}; IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}; Cyanide (Total) - 335.2; Cations (IC) - 300.7 {Nitrogen in ammonium}; pH (Soil) - 9045

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

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

BHI-EE-011 (03/01/2002)

STL ST. LOUIS

RADIOACTIVE SHIPMENT RECORD

107198 3.
Page 1 of 2

1. SHIP FROM U.S. DEPT. OF ENERGY C/O
Company: BECHTEL HANFORD INC
Address: 3728 BLDG. 300 AREA
City, State, Zip: RICHLAND, WA. 99352
Contact: JEFF COLE
Phone: 509-372-9062

Ship: [X] Prepaid [ ] Collect 4.
Via: [ ] Motor [X] Air Psgr [ ] UPS [ ] Rail [X] Air Cargo [ ] Site Carrier
SHIPMENT AUTHORIZATION NUMBER

2. SHIP TO
Company: SEVERN TRENT LAB.
Address: 13715 RIDER TRAIL NORTH
City, State, Zip: EARTH CITY, MO. 63045
Attention: MARTI WARD
Phone: 314-298-8566

Markings Applied 6.
- [ ] Radioactive - LSA
- [ ] Radioactive - SCO
- [ ] Type A
- [ ] Type B with trefoil

LSA Description 8.
- [ ] LSA-I
- [ ] LSA-II
- [ ] LSA-III
- [ ] SCO-I
- [ ] SCO-II

Labels Applied 10.
- [ ] Empty
- [ ] Radioactive White - I
- [ ] Radioactive Yellow - II
- [ ] Radioactive Yellow - III
- [ ] Subsidiary Hazard

For Normal Form only 7.
Identify
Physical Form: [ ] Liquid [ ] Gas [X] Solid
Chemical Form: [ ] Elemental [ ] Metal [ ] Nitrate [X] Oxide [ ] Mixture [ ] Other

EMERGENCY RESPONSE 9.
Telephone: 1-888-766-0771
Emergency Response Guide(s): 161

- [ ] Highway Route Controlled Quantity
- [ ] Exclusive Use Shipment with instructions
- [ ] Placards Applied
- If Rail Specify:
- [ ] Fissile Excepted, Grams
- [X] Excepted Package Statement

5. HM Proper Shipping Name: _____ Radioactive Material.

	excepted package - empty packaging	7	UN2910
	excepted package - instruments or articles	7	UN2910
X	excepted package - limited quantity of material	7	UN2910
	excepted package - articles manufactured from natural or depleted uranium or natural thorium	7	UN2910
	Special Form, n.o.s.	7	UN2974
	Low Specific Activity, n.o.s	7	UN2912
	n.o.s.	7	UN2982
	Fissile, n.o.s.	7	UN2918
	Surface Contaminated Object	7	UN2913

Warning -- Fissile Material Controlled Shipment. Do Not Load More Than ____ Packages Per Vehicle. In Loading and Storage Areas, Keep at Least 20 Feet From Other Packages Bearing Radioactive Labels.

11.

No. Pkg.	Model Package	COC/Spec	Serial No.	Seal No.	Isotopes	T.I.	~~Bq~~ TBq/Package	Gr. Wt. Kg.
1	PLASTIC BOX	STRONG	[illegible]	[illegible]	Sr-90	N/A	1.42×10^{-6}	22 Kg
	(POLY COOLER)	(EXCEPTED PKG)						
GLASS JARS, BUBBLE WRAPPED, DOUBLE POLY BAGGED, IN								
WET ICE WITH VERMICULITE [illegible] (PEANUTS ALSO)								
(Shipper may describe package in detail on one of the unused lines above) SAF# 1-03-006					TOTALS	N/A	1.42×10^{-6}	22 kg

12. This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.
Certifier's Signature: [signature] On behalf of DOE-RL | Date: 8-7-03 | Organization: AES (RL) | Complete Cost Code (Inc. End Function): XE 302.7 PHMC

13. Surface Dose Rate of Package: [X] <0.005 or _____ mSv/hr; <0.5 or _____ mrem/hr (N+ß γ)
Dose Rate @ 1 Meter from Surface of Package: [X] <0.005 or _____ mSv/hr; <0.5 or _____ mrem/hr (N+ß γ)
Smears of Outer Container: [X] <0.41 Bq (22 dpm) ß γ /cm² [X] <0.04 Bq (2.2 dpm) α /cm² [ ] <Tbl. 2-2 HSRCM Onsite Limits
TRUCK LOAD OR EXCLUSIVE USE: Surface [ ] <2 mSv/hr (200 mrem/hr); @ 2 meters [ ] <0.1 mSv/hr (10 mrem/hr); @ Cab or sleeper [ ] <0.02 mSv/hr (2 mrem/hr) (Using N+ß γ)
Additional Data and Instructions (inc. Readings on Internal Packaging)
Signature - Radiation Monitoring: [illegible] | Bldg. [illegible] | Survey No. [illegible] | Date [illegible]

14. TRANSPORTER: Vehicle Number [illegible] | DRIVER SIGNATURE [signature]
RECEIVER: RECEIVER SIGNATURE | Date

15. OFFSITE AUTHORIZATION
Shipment has been inspected and verified to be in compliance with DOT regulations
Authorized Signature: [signature] | Printed Name: Keith A. Smith | Date: 8-7-03

16. AUTHORIZATION FOR SHIPMENT
AIR TRANSPORT CERTIFICATION: [ ] N/A
CARGO AIRCRAFT: [ ] Cargo Aircraft Only Labels Applied
PASSENGER AIRCRAFT: [X] Ltd Qty [ ] <3 T.I. [ ] Research/Medical Diagnosis [ ] Human Medical Research
Pkg. Dimensions (cm)

17. OFFSITE AUTHORIZATION

Tracking No.	Date Shipped	Routing	ETA
RMBH-5242A	8-[illegible]	[illegible]	8-[illegible]
Surveyed By	Date	Approved for Shipment Offsite	Date
[illegible]	[illegible]	[signature]	8-7-03

54-6000-088 (06/97)

W03979

STL ST. LOUIS

SEVERN TRENT **STL**

Lot No.: F3H080348
W03979

Condition Upon Receipt Form
St. Louis Laboratory

Client: Richland Date: 8.8.03 Time: 0900

Quote No: 53485 3595 5239 2537 Initiated by: SJ

Shipper/No: FedEx 7925 4465 2938 8378 9544 3060 COC/RFA Numbers: W03008-114, 113, 147, 135, 181

Condition/Variance (Circle "Y" for yes and "N" for no. If "N" is circled, see notes for explanation): F03-004-237, 236

1.	Y N	Sample received in undamaged condition.	5.	Y N	Sample volume sufficient for analysis.
2.	Y N	Sample received within 4°C ± 2°C*	6.	Y N	Sample received with Chain of Custody.
		Record temperature: 2°	7.	Y N	Chain of Custody matches sample IDs on containers.
3.	Y N N/A	Sample received with proper pH**.	8.	Y N	Custody seal received intact and tamper evident on cooler.
4.	Y N	Sample received in proper containers.	9.	Y N	Custody seal received intact and tamper evident on bottles.

* Temperature Variance Does Not Affect the Following Analyses: _____

** For DOE-AL (Pantex, LANL, Sandia, Timet) sites, remember to pH all containers received, except for VOA, TOX, and soils.

Notes:

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor (or designate) Review: [signature] Date: 8.8.03

Project Management Review: MWard Date: 8.8.03

* SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE
THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED
IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIALS AND THE DATE NEXT TO THAT ITEM

SEMI-VOLATILE ORGANICS

FLUOR HANFORD IC

Client Sample ID: B17978

GC/MS Semivolatiles

Lot-Sample #...: F3H080348-001 **Work Order #...:** FV0MP1AD **Matrix.....:** SOLID
Date Sampled...: 07/29/03 **Date Received..:** 08/08/03
Prep Date.....: 08/11/03 **Analysis Date..:** 08/13/03
Prep Batch #...: 3223465
Dilution Factor: 1
% Moisture.....: 3.9 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Phenol	ND	340	ug/kg	91
bis(2-Chloroethyl)-ether	ND	340	ug/kg	14
2-Chlorophenol	ND	340	ug/kg	14
1,3-Dichlorobenzene	ND	340	ug/kg	12
1,4-Dichlorobenzene	ND	340	ug/kg	14
1,2-Dichlorobenzene	ND	340	ug/kg	13
2-Methylphenol	ND	340	ug/kg	20
2,2'-oxybis(1-Chloropropane)	ND	340	ug/kg	16
4-Methylphenol	ND	690	ug/kg	53
N-Nitrosodi-n-propyl-amine	ND	340	ug/kg	20
Hexachloroethane	ND	340	ug/kg	17
Nitrobenzene	ND	340	ug/kg	19
Isophorone	ND	340	ug/kg	19
2-Nitrophenol	ND	340	ug/kg	20
2,4-Dimethylphenol	ND	340	ug/kg	29
bis(2-Chloroethoxy) methane	ND	340	ug/kg	21
2,4-Dichlorophenol	ND	340	ug/kg	27
1,2,4-Trichloro-benzene	ND	340	ug/kg	18
Naphthalene	ND	340	ug/kg	15
4-Chloroaniline	ND	340	ug/kg	32
Hexachlorobutadiene	ND	340	ug/kg	13
4-Chloro-3-methylphenol	ND	340	ug/kg	28
2-Methylnaphthalene	ND	340	ug/kg	15
Hexachlorocyclopenta-diene	ND	1700	ug/kg	74
2,4,6-Trichloro-phenol	ND	340	ug/kg	33
2,4,5-Trichloro-phenol	ND	340	ug/kg	31
2-Chloronaphthalene	ND	340	ug/kg	16
2-Nitroaniline	ND	1700	ug/kg	39
Dimethyl phthalate	ND	340	ug/kg	20
Acenaphthylene	ND	340	ug/kg	17
2,6-Dinitrotoluene	ND	340	ug/kg	21

(Continued on next page)

FLUOR HANFORD IC

Client Sample ID: B17978

GC/MS Semivolatiles

Lot-Sample #...: F3H080348-001 **Work Order #...:** FV0MP1AD **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
3-Nitroaniline	ND	1700	ug/kg	27
Acenaphthene	ND	340	ug/kg	17
2,4-Dinitrophenol	ND	1700	ug/kg	67
4-Nitrophenol	ND	1700	ug/kg	44
Dibenzofuran	ND	340	ug/kg	23
2,4-Dinitrotoluene	ND	340	ug/kg	18
Diethyl phthalate	ND	340	ug/kg	43
Fluorene	ND	340	ug/kg	20
4-Chlorophenyl phenyl ether	ND	340	ug/kg	19
4-Nitroaniline	ND	1700	ug/kg	23
4,6-Dinitro-2-methylphenol	ND	1700	ug/kg	64
N-Nitrosodiphenylamine	ND	340	ug/kg	22
4-Bromophenyl phenyl ether	ND	340	ug/kg	23
Hexachlorobenzene	ND	340	ug/kg	18
Pentachlorophenol	ND	1700	ug/kg	120
Phenanthrene	ND	340	ug/kg	17
Anthracene	ND	340	ug/kg	19
Carbazole	ND	340	ug/kg	21
Di-n-butyl phthalate	ND	340	ug/kg	29
Fluoranthene	ND	340	ug/kg	24
Pyrene	ND	340	ug/kg	23
Butyl benzyl phthalate	ND	340	ug/kg	27
Benzo(a)anthracene	ND	340	ug/kg	24
3,3'-Dichlorobenzidine	ND	1700	ug/kg	24
Chrysene	ND	340	ug/kg	15
bis(2-Ethylhexyl) phthalate	ND	340	ug/kg	36
Di-n-octyl phthalate	ND	340	ug/kg	150
Benzo(b)fluoranthene	ND	340	ug/kg	40
Benzo(k)fluoranthene	ND	340	ug/kg	20
Benzo(a)pyrene	ND	340	ug/kg	20
Indeno(1,2,3-cd)pyrene	ND	340	ug/kg	18
Benzo(ghi)perylene	ND	340	ug/kg	110
Dibenzo(a,h)anthracene	ND	340	ug/kg	84
Tributyl phosphate	ND	340	ug/kg	340

(Continued on next page)

FLUOR HANFORD IC

Client Sample ID: B17978

GC/MS Semivolatiles

Lot-Sample #...: F3H080348-001 **Work Order #...:** FV0MP1AD **Matrix.....:** SOLID

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	70	(19 - 115)
Phenol-d5	78	(27 - 115)
Nitrobenzene-d5	80	(10 - 115)
2-Fluorobiphenyl	86	(10 - 115)
2,4,6-Tribromophenol	71	(19 - 115)
Terphenyl-d14	74	(10 - 115)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

FLUOR HANFORD IC

B17978

GC/MS Semivolatiles

Lot-Sample #: F3H080348-001 **Work Order #:** FV0MP1AD **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Unknown aldol condensate		23000	M	3.205	ug/kg
Unknown organic acid		240	M	13.302	ug/kg
Unknown		140	M	17.132	ug/kg

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

FLUOR HANFORD IC

Client Sample ID: B174B4

GC/MS Semivolatiles

Lot-Sample #...: F3H080348-002 **Work Order #...:** FV0M21AM **Matrix.....:** SOLID
Date Sampled...: 07/29/03 **Date Received..:** 08/08/03
Prep Date.....: 08/11/03 **Analysis Date..:** 08/13/03
Prep Batch #...: 3223465
Dilution Factor: 1
% Moisture.....: 3.0 **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Phenol	ND	340	ug/kg	90
bis(2-Chloroethyl)-ether	ND	340	ug/kg	14
2-Chlorophenol	ND	340	ug/kg	14
1,3-Dichlorobenzene	ND	340	ug/kg	12
1,4-Dichlorobenzene	ND	340	ug/kg	14
1,2-Dichlorobenzene	ND	340	ug/kg	12
2-Methylphenol	ND	340	ug/kg	20
2,2'-oxybis(1-Chloropropane)	ND	340	ug/kg	16
4-Methylphenol	ND	680	ug/kg	52
N-Nitrosodi-n-propyl-amine	ND	340	ug/kg	20
Hexachloroethane	ND	340	ug/kg	17
Nitrobenzene	ND	340	ug/kg	19
Isophorone	ND	340	ug/kg	19
2-Nitrophenol	ND	340	ug/kg	20
2,4-Dimethylphenol	ND	340	ug/kg	29
bis(2-Chloroethoxy) methane	ND	340	ug/kg	21
2,4-Dichlorophenol	ND	340	ug/kg	26
1,2,4-Trichloro-benzene	ND	340	ug/kg	18
Naphthalene	ND	340	ug/kg	15
4-Chloroaniline	ND	340	ug/kg	31
Hexachlorobutadiene	ND	340	ug/kg	13
4-Chloro-3-methylphenol	ND	340	ug/kg	27
2-Methylnaphthalene	ND	340	ug/kg	15
Hexachlorocyclopenta-diene	ND	1600	ug/kg	73
2,4,6-Trichloro-phenol	ND	340	ug/kg	32
2,4,5-Trichloro-phenol	ND	340	ug/kg	31
2-Chloronaphthalene	ND	340	ug/kg	16
2-Nitroaniline	ND	1600	ug/kg	39
Dimethyl phthalate	ND	340	ug/kg	20
Acenaphthylene	ND	340	ug/kg	17
2,6-Dinitrotoluene	ND	340	ug/kg	21

(Continued on next page)

FLUOR HANFORD IC

Client Sample ID: B174B4

GC/MS Semivolatiles

Lot-Sample #...: F3H080348-002 **Work Order #...:** FV0M21AM **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
3-Nitroaniline	ND	1600	ug/kg	27
Acenaphthene	ND	340	ug/kg	17
2,4-Dinitrophenol	ND	1600	ug/kg	66
4-Nitrophenol	ND	1600	ug/kg	43
Dibenzofuran	ND	340	ug/kg	23
2,4-Dinitrotoluene	ND	340	ug/kg	18
Diethyl phthalate	ND	340	ug/kg	42
Fluorene	ND	340	ug/kg	19
4-Chlorophenyl phenyl ether	ND	340	ug/kg	19
4-Nitroaniline	ND	1600	ug/kg	23
4,6-Dinitro-2-methylphenol	ND	1600	ug/kg	64
N-Nitrosodiphenylamine	ND	340	ug/kg	21
4-Bromophenyl phenyl ether	ND	340	ug/kg	23
Hexachlorobenzene	ND	340	ug/kg	18
Pentachlorophenol	ND	1600	ug/kg	120
Phenanthrene	ND	340	ug/kg	17
Anthracene	ND	340	ug/kg	18
Carbazole	ND	340	ug/kg	21
Di-n-butyl phthalate	ND	340	ug/kg	29
Fluoranthene	ND	340	ug/kg	24
Pyrene	ND	340	ug/kg	23
Butyl benzyl phthalate	ND	340	ug/kg	27
Benzo(a)anthracene	ND	340	ug/kg	24
3,3'-Dichlorobenzidine	ND	1600	ug/kg	24
Chrysene	ND	340	ug/kg	15
bis(2-Ethylhexyl) phthalate	ND	340	ug/kg	35
Di-n-octyl phthalate	ND	340	ug/kg	150
Benzo(b)fluoranthene	ND	340	ug/kg	40
Benzo(k)fluoranthene	ND	340	ug/kg	20
Benzo(a)pyrene	ND	340	ug/kg	20
Indeno(1,2,3-cd)pyrene	ND	340	ug/kg	18
Benzo(ghi)perylene	ND	340	ug/kg	100
Dibenzo(a,h)anthracene	ND	340	ug/kg	83
Tributyl phosphate	ND	340	ug/kg	340

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FLUOR HANFORD IC

Client Sample ID: B174B4

GC/MS Semivolatiles

Lot-Sample #...: F3H080348-002 **Work Order #...:** FV0M21AM **Matrix.....:** SOLID

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	71	(19 - 115)
Phenol-d5	80	(27 - 115)
Nitrobenzene-d5	86	(10 - 115)
2-Fluorobiphenyl	91	(10 - 115)
2,4,6-Tribromophenol	71	(19 - 115)
Terphenyl-d14	78	(10 - 115)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

FLUOR HANFORD IC

B174B4

GC/MS Semivolatiles

Lot-Sample #: F3H080348-002 **Work Order #:** FV0M21AM **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Unknown aldol condensate		26000	M	3.205	ug/kg
Unknown		470	M	14.221	ug/kg

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F3H080348 **Work Order #...:** FV3P51AA **Matrix.....:** SOLID
MB Lot-Sample #: F3H110000-465

Prep Date.....: 08/11/03
Analysis Date..: 08/13/03 **Prep Batch #...:** 3223465
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Phenol	ND	330	ug/kg	SW846 8270C
bis(2-Chloroethyl)-ether	ND	330	ug/kg	SW846 8270C
2-Chlorophenol	ND	330	ug/kg	SW846 8270C
1,3-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
1,4-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
1,2-Dichlorobenzene	ND	330	ug/kg	SW846 8270C
2-Methylphenol	ND	330	ug/kg	SW846 8270C
2,2'-oxybis(1-Chloropropa	ND	330	ug/kg	SW846 8270C
4-Methylphenol	ND	660	ug/kg	SW846 8270C
N-Nitrosodi-n-propyl-amine	ND	330	ug/kg	SW846 8270C
Hexachloroethane	ND	330	ug/kg	SW846 8270C
Nitrobenzene	ND	330	ug/kg	SW846 8270C
Isophorone	ND	330	ug/kg	SW846 8270C
2-Nitrophenol	ND	330	ug/kg	SW846 8270C
2,4-Dimethylphenol	ND	330	ug/kg	SW846 8270C
bis(2-Chloroethoxy) methane	ND	330	ug/kg	SW846 8270C
2,4-Dichlorophenol	ND	330	ug/kg	SW846 8270C
1,2,4-Trichloro-benzene	ND	330	ug/kg	SW846 8270C
Naphthalene	ND	330	ug/kg	SW846 8270C
4-Chloroaniline	ND	330	ug/kg	SW846 8270C
Hexachlorobutadiene	ND	330	ug/kg	SW846 8270C
4-Chloro-3-methylphenol	ND	330	ug/kg	SW846 8270C
2-Methylnaphthalene	ND	330	ug/kg	SW846 8270C
Hexachlorocyclopenta-diene	ND	1600	ug/kg	SW846 8270C
2,4,6-Trichloro-phenol	ND	330	ug/kg	SW846 8270C
2,4,5-Trichloro-phenol	ND	330	ug/kg	SW846 8270C
2-Chloronaphthalene	ND	330	ug/kg	SW846 8270C
2-Nitroaniline	ND	1600	ug/kg	SW846 8270C
Dimethyl phthalate	ND	330	ug/kg	SW846 8270C
Acenaphthylene	ND	330	ug/kg	SW846 8270C
2,6-Dinitrotoluene	ND	330	ug/kg	SW846 8270C
3-Nitroaniline	ND	1600	ug/kg	SW846 8270C
Acenaphthene	ND	330	ug/kg	SW846 8270C
2,4-Dinitrophenol	ND	1600	ug/kg	SW846 8270C

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F3H080348 **Work Order #...:** FV3P51AA **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Nitrophenol	ND	1600	ug/kg	SW846 8270C
Dibenzofuran	ND	330	ug/kg	SW846 8270C
2,4-Dinitrotoluene	ND	330	ug/kg	SW846 8270C
Diethyl phthalate	ND	330	ug/kg	SW846 8270C
Fluorene	ND	330	ug/kg	SW846 8270C
4-Chlorophenyl phenyl ether	ND	330	ug/kg	SW846 8270C
4-Nitroaniline	ND	1600	ug/kg	SW846 8270C
4,6-Dinitro-2-methylphenol	ND	1600	ug/kg	SW846 8270C
N-Nitrosodiphenylamine	ND	330	ug/kg	SW846 8270C
4-Bromophenyl phenyl ether	ND	330	ug/kg	SW846 8270C
Hexachlorobenzene	ND	330	ug/kg	SW846 8270C
Pentachlorophenol	ND	1600	ug/kg	SW846 8270C
Phenanthrene	ND	330	ug/kg	SW846 8270C
Anthracene	ND	330	ug/kg	SW846 8270C
Carbazole	ND	330	ug/kg	SW846 8270C
Di-n-butyl phthalate	ND	330	ug/kg	SW846 8270C
Fluoranthene	ND	330	ug/kg	SW846 8270C
Pyrene	ND	330	ug/kg	SW846 8270C
Butyl benzyl phthalate	ND	330	ug/kg	SW846 8270C
Benzo(a)anthracene	ND	330	ug/kg	SW846 8270C
3,3'-Dichlorobenzidine	ND	1600	ug/kg	SW846 8270C
Chrysene	ND	330	ug/kg	SW846 8270C
bis(2-Ethylhexyl) phthalate	ND	330	ug/kg	SW846 8270C
Di-n-octyl phthalate	ND	330	ug/kg	SW846 8270C
Benzo(b)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(k)fluoranthene	ND	330	ug/kg	SW846 8270C
Benzo(a)pyrene	ND	330	ug/kg	SW846 8270C
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	SW846 8270C
Benzo(ghi)perylene	ND	330	ug/kg	SW846 8270C
Dibenzo(a,h)anthracene	ND	330	ug/kg	SW846 8270C
Tributyl phosphate	ND	330	ug/kg	SW846 8270C

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	74	(19 - 115)
Phenol-d5	83	(27 - 115)
Nitrobenzene-d5	87	(10 - 115)
2-Fluorobiphenyl	93	(10 - 115)
2,4,6-Tribromophenol	67	(19 - 115)
Terphenyl-d14	79	(10 - 115)

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F3H080348 **Work Order #...:** FV3P51AA **Matrix.....:** SOLID

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

FLUOR HANFORD IC

Method Blank Report

GC/MS Semivolatiles

Lot-Sample #: F3H110000-465 B **Work Order #:** FV3P51AA **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Unknown aldol condensate		24000	M	3.207	ug/kg
Unknown organic acid		140	M	13.288	ug/kg

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: F3H080348 Work Order #...: FV3P51AC Matrix.....: SOLID
LCS Lot-Sample#: F3H110000-465
Prep Date.....: 08/11/03 Analysis Date..: 08/13/03
Prep Batch #...: 3223465
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Phenol	3330	2510	ug/kg	75	SW846 8270C
bis(2-Chloroethyl)-ether	3330	2460	ug/kg	74	SW846 8270C
2-Chlorophenol	3330	2510	ug/kg	75	SW846 8270C
2-Methylphenol	3330	2450	ug/kg	73	SW846 8270C
2,2'-oxybis(1-Chloropropa	3330	2570	ug/kg	77	SW846 8270C
N-Nitrosodi-n-propyl-amine	3330	2830	ug/kg	85	SW846 8270C
Hexachloroethane	3330	2690	ug/kg	81	SW846 8270C
Nitrobenzene	3330	2770	ug/kg	83	SW846 8270C
Isophorone	3330	2940	ug/kg	88	SW846 8270C
2-Nitrophenol	3330	2640	ug/kg	79	SW846 8270C
2,4-Dimethylphenol	3330	2610	ug/kg	78	SW846 8270C
bis(2-Chloroethoxy) methane	3330	2770	ug/kg	83	SW846 8270C
2,4-Dichlorophenol	3330	2650	ug/kg	79	SW846 8270C
1,2,4-Trichloro-benzene	3330	2760	ug/kg	83	SW846 8270C
Naphthalene	3330	2750	ug/kg	83	SW846 8270C
4-Chloroaniline	3330	2090	ug/kg	63	SW846 8270C
Hexachlorobutadiene	3330	2830	ug/kg	85	SW846 8270C
4-Chloro-3-methylphenol	3330	2690	ug/kg	81	SW846 8270C
2-Methylnaphthalene	3330	2590	ug/kg	78	SW846 8270C
Hexachlorocyclopenta-diene	3330	2960	ug/kg	89	SW846 8270C
2,4,6-Trichloro-phenol	3330	2700	ug/kg	81	SW846 8270C
2,4,5-Trichloro-phenol	3330	2780	ug/kg	83	SW846 8270C
2-Nitroaniline	3330	2790	ug/kg	84	SW846 8270C
Dimethyl phthalate	3330	2750	ug/kg	82	SW846 8270C
Acenaphthylene	3330	2930	ug/kg	88	SW846 8270C
2,6-Dinitrotoluene	3330	2760	ug/kg	83	SW846 8270C
3-Nitroaniline	3330	2220	ug/kg	67	SW846 8270C

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: F3H080348 Work Order #...: FV3P51AC Matrix.....: SOLID
LCS Lot-Sample#: F3H110000-465

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Acenaphthene	3330	2940	ug/kg	88	SW846 8270C
2,4-Dinitrophenol	3330	1900	ug/kg	57	SW846 8270C
4-Nitrophenol	3330	2750	ug/kg	83	SW846 8270C
Dibenzofuran	3330	2800	ug/kg	84	SW846 8270C
2,4-Dinitrotoluene	3330	2890	ug/kg	87	SW846 8270C
Diethyl phthalate	3330	2910	ug/kg	87	SW846 8270C
Fluorene	3330	2860	ug/kg	86	SW846 8270C
4-Chlorophenyl phenyl ether	3330	2840	ug/kg	85	SW846 8270C
4-Nitroaniline	3330	2600	ug/kg	78	SW846 8270C
4,6-Dinitro-2-methylphenol	3330	2280	ug/kg	69	SW846 8270C
N-Nitrosodiphenylamine	3330	3100	ug/kg	93	SW846 8270C
4-Bromophenyl phenyl ether	3330	2860	ug/kg	86	SW846 8270C
Hexachlorobenzene	3330	3040	ug/kg	91	SW846 8270C
Pentachlorophenol	3330	2330	ug/kg	70	SW846 8270C
Phenanthrene	3330	2870	ug/kg	86	SW846 8270C
Anthracene	3330	2850	ug/kg	85	SW846 8270C
Carbazole	3330	2820	ug/kg	85	SW846 8270C
Di-n-butyl phthalate	3330	2840	ug/kg	85	SW846 8270C
Fluoranthene	3330	2770	ug/kg	83	SW846 8270C
Pyrene	3330	2880	ug/kg	86	SW846 8270C
Butyl benzyl phthalate	3330	2840	ug/kg	85	SW846 8270C
Benzo(a)anthracene	3330	2940	ug/kg	88	SW846 8270C
3,3'-Dichlorobenzidine	3330	2300	ug/kg	69	SW846 8270C
Chrysene	3330	2900	ug/kg	87	SW846 8270C
bis(2-Ethylhexyl) phthalate	3330	2800	ug/kg	84	SW846 8270C
Di-n-octyl phthalate	3330	2680	ug/kg	80	SW846 8270C
Benzo(b)fluoranthene	3330	2920	ug/kg	88	SW846 8270C
Benzo(k)fluoranthene	3330	3010	ug/kg	90	SW846 8270C
Benzo(a)pyrene	3330	2850	ug/kg	85	SW846 8270C
Indeno(1,2,3-cd)pyrene	3330	2940	ug/kg	88	SW846 8270C
Benzo(ghi)perylene	3330	2980	ug/kg	90	SW846 8270C
Dibenzo(a,h)anthracene	3330	3040	ug/kg	91	SW846 8270C

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: F3H080348 **Work Order #...:** FV3P51AC **Matrix.....:** SOLID
LCS Lot-Sample#: F3H110000-465

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	77	(30 - 115)
Phenol-d5	77	(41 - 115)
Nitrobenzene-d5	90	(20 - 115)
2-Fluorobiphenyl	100	(23 - 123)
2,4,6-Tribromophenol	86	(41 - 119)
Terphenyl-d14	81	(17 - 120)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

FLUOR HANFORD IC

Client Sample ID: B17978

GC Semivolatiles

Lot-Sample #...:	F3H080348-001	**Work Order #...:**	FV0MP1AF	**Matrix.....:**	SOLID
Date Sampled...:	07/29/03	**Date Received..:**	08/08/03		
Prep Date.....:	08/12/03	**Analysis Date..:**	08/14/03		
Prep Batch #...:	3224223				
Dilution Factor:	1				
% Moisture.....:	3.9	**Method.....:**	SW846 8015 MOD		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
TPH - Diesel Range - WTPH-D	ND	25	mg/kg	1.9
Kerosene	ND	25	mg/kg	25

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	49	(10 - 150)

FLUOR HANFORD IC

Client Sample ID: B174B4

GC Semivolatiles

Lot-Sample #...: F3H080348-002 **Work Order #...:** FV0M21AP **Matrix.....:** SOLID
Date Sampled...: 07/29/03 **Date Received..:** 08/08/03
Prep Date.....: 08/12/03 **Analysis Date..:** 08/14/03
Prep Batch #...: 3224223
Dilution Factor: 1
% Moisture.....: 3.0 **Method.....:** SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
TPH - Diesel Range - WTPH-D	ND	25	mg/kg	1.9
Kerosene	ND	25	mg/kg	25

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	44	(10 - 150)

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F3H080348 **Work Order #...:** FV4GD1AA **Matrix.....:** SOLID
MB Lot-Sample #: F3H120000-223

Prep Date.....: 08/12/03
Analysis Date..: 08/14/03 **Prep Batch #...:** 3224223
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
TPH - Diesel Range - WTPH	ND	25	mg/kg	SW846 8015 MOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	84	(10 - 150)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #...: F3H080348 **Work Order #...:** FV4GD1AC-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F3H120000-223 FV4GD1AD-LCSD
Prep Date.....: 08/12/03 **Analysis Date..:** 08/14/03
Prep Batch #...: 3224223
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
TPH - Diesel Range - WTPH-	**83.3**	**80.3**	**mg/kg**	**96**		**SW846 8015 MOD**
	83.3	**74.0**	**mg/kg**	**89**	**8.2**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	143	(75 - 150)
	138	(75 - 150)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

VOLATILE ORGANICS

FLUOR HANFORD IC

Client Sample ID: B17978

GC Volatiles

Lot-Sample #...: F3H080348-001 **Work Order #...:** FV0MP1AE **Matrix.....:** SOLID
Date Sampled...: 07/29/03 **Date Received..:** 08/08/03
Prep Date.....: 08/12/03 **Analysis Date..:** 08/12/03
Prep Batch #...: 3233200
Dilution Factor: 1
% Moisture.....: 3.9 **Method.....:** SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Volatile Petroleum Hydrocarbons	ND	0.50	mg/kg	0.10

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	60	(10 - 150)

FLUOR HANFORD IC

Client Sample ID: B174B4

GC Volatiles

Lot-Sample #...: F3H080348-002 **Work Order #...:** FV0M21AN **Matrix.....:** SOLID
Date Sampled...: 07/29/03 **Date Received..:** 08/08/03
Prep Date.....: 08/12/03 **Analysis Date..:** 08/12/03
Prep Batch #...: 3233200
Dilution Factor: 1
% Moisture.....: 3.0 **Method.....:** SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Volatile Petroleum Hydrocarbons	ND	0.50	mg/kg	0.10

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	81	(10 - 150)

MATRIX SPIKE SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: F3H080348 **Work Order #...:** FV0M21CF-MS **Matrix.....:** SOLID
MS Lot-Sample #: F3H080348-002 FV0M21CG-MSD
Date Sampled...: 07/29/03 **Date Received..:** 08/08/03
Prep Date.....: 08/12/03 **Analysis Date..:** 08/12/03
Prep Batch #...: 3233200
Dilution Factor: 1 **% Moisture.....:** 3.0

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Volatile Petroleum Hydrocarbons	**ND**	**1.00**	**1.03**	**mg/kg**	**103**		**SW846 8015 MOD**
	ND	**1.00**	**0.961**	**mg/kg**	**96**	**6.6**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	100	(10 - 150)
	95	(10 - 150)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: F3H080348 **Work Order #...:** FWNCV1AA **Matrix.....:** SOLID
MB Lot-Sample #: F3H210000-200
Prep Date.....: 08/12/03
Analysis Date..: 08/12/03 **Prep Batch #...:** 3233200
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Volatile Petroleum Hydrocarbons	ND	0.50	mg/kg	SW846 8015 MOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	79	(10 - 150)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: F3H080348 **Work Order #...:** FWNCV1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F3H210000-200
Prep Date.....: 08/12/03 **Analysis Date..:** 08/12/03
Prep Batch #...: 3233200
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Volatile Petroleum Hydrocarbons	**1.00**	**0.997**	**mg/kg**	**100**	**SW846 8015 MO**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	95	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

FLUOR HANFORD IC

Client Sample ID: B17978

GC Volatiles

Lot-Sample #...: F3H080348-001 **Work Order #...:** FV0MP1AC **Matrix.....:** SOLID
Date Sampled...: 07/29/03 **Date Received..:** 08/08/03
Prep Date.....: 08/20/03 **Analysis Date..:** 08/20/03
Prep Batch #...: 3232431
Dilution Factor: 1
% Moisture.....: 3.9 **Method.....:** SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Methanol	ND	50	mg/kg	7.1
1-Butanol	ND	50	mg/kg	4.9
Ethylene glycol	ND	50	mg/kg	50

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Isobutanol	100	(51 - 130)

FLUOR HANFORD IC

Client Sample ID: B174B4

GC Volatiles

Lot-Sample #...: F3H080348-002 **Work Order #...:** FV0M21AL **Matrix.....:** SOLID
Date Sampled...: 07/29/03 **Date Received..:** 08/08/03
Prep Date.....: 08/20/03 **Analysis Date..:** 08/20/03
Prep Batch #...: 3232431
Dilution Factor: 1
% Moisture.....: 3.0 **Method.....:** SW846 8015B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Methanol	ND	50	mg/kg	7.1
1-Butanol	ND	50	mg/kg	4.9
Ethylene glycol	ND	50	mg/kg	50

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Isobutanol	95	(51 - 130)

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: F3H080348 **Work Order #...:** FWMFC1AA **Matrix.....:** SOLID
MB Lot-Sample #: F3H200000-431

Prep Date.....: 08/20/03
Analysis Date..: 08/20/03 **Prep Batch #...:** 3232431
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methanol	ND	50	mg/kg	SW846 8015B
1-Butanol	ND	50	mg/kg	SW846 8015B
Ethylene glycol	ND	50	mg/kg	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Isobutanol	88	(51 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: F3H080348 **Work Order #...:** FWMFC1AC-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F3H200000-431 FWMFC1AD-LCSD
Prep Date.....: 08/20/03 **Analysis Date..:** 08/20/03
Prep Batch #...: 3232431
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Methanol	**50.0**	**49.0**	**mg/kg**	**98**		**SW846 8015B**
	50.0	**50.0**	**mg/kg**	**100**	**2.0**	**SW846 8015B**
1-Butanol	**50.0**	**49.0**	**mg/kg**	**98**		**SW846 8015B**
	50.0	**47.0**	**mg/kg**	**94**	**4.2**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Isobutanol	98	(70 - 130)
	104	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METALS

FLUOR HANFORD IC

Client Sample ID: B17978

TOTAL Metals

Lot-Sample #...: F3H080348-001 Matrix.....: SOLID
Date Sampled...: 07/29/03 Date Received..: 08/08/03
% Moisture.....: 3.9

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 3223212						
Mercury	0.089	0.035	mg/kg	SW846 7471A	08/11/03	FV0MP1AW
		Dilution Factor: 1		MDL.....: 0.017		
Prep Batch #...: 3224216						
Silver	0.14 B	1.0	mg/kg	SW846 6010B	08/12-08/13/03	FV0MP1AG
		Dilution Factor: 1		MDL.....: 0.041		
Arsenic	2.8	1.0	mg/kg	SW846 6010B	08/12-08/13/03	FV0MP1AH
		Dilution Factor: 1		MDL.....: 0.24		
Barium	51.6	20.8	mg/kg	SW846 6010B	08/12-08/13/03	FV0MP1AJ
		Dilution Factor: 1		MDL.....: 0.44		
Beryllium	0.18 B	0.52	mg/kg	SW846 6010B	08/12-08/13/03	FV0MP1AK
		Dilution Factor: 1		MDL.....: 0.027		
Bismuth	79.7	20.8	mg/kg	SW846 6010B	08/12-08/27/03	FV0MP1AL
		Dilution Factor: 1		MDL.....: 3.1		
Boron	5.1 B,J	20.8	mg/kg	SW846 6010B	08/12-08/27/03	FV0MP1AM
		Dilution Factor: 1		MDL.....: 0.56		
Cadmium	0.11 B	0.52	mg/kg	SW846 6010B	08/12-08/13/03	FV0MP1AN
		Dilution Factor: 1		MDL.....: 0.038		
Chromium	10.6	1.0	mg/kg	SW846 6010B	08/12-08/13/03	FV0MP1AP
		Dilution Factor: 1		MDL.....: 0.058		
Copper	8.9	2.6	mg/kg	SW846 6010B	08/12-08/13/03	FV0MP1AQ
		Dilution Factor: 1		MDL.....: 0.052		
Nickel	9.7	4.2	mg/kg	SW846 6010B	08/12-08/13/03	FV0MP1AR
		Dilution Factor: 1		MDL.....: 0.13		
Lead	4.6 J	0.52	mg/kg	SW846 6010B	08/12-08/13/03	FV0MP1AT
		Dilution Factor: 1		MDL.....: 0.14		
Antimony	0.85 B	1.0	mg/kg	SW846 6010B	08/12-08/13/03	FV0MP1AU
		Dilution Factor: 1		MDL.....: 0.18		

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FLUOR HANFORD IC

Client Sample ID: B17978

TOTAL Metals

Lot-Sample #...: F3H080348-001 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Selenium	**0.46 B**	**0.52**	**mg/kg**	**SW846 6010B**	**08/12-08/13/03**	**FV0MP1AV**

Dilution Factor: 1 MDL.....: 0.22

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F3H080348 **Matrix.....:** SOLID
Date Sampled...: 07/29/03 **Date Received..:** 08/08/03

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F3H080348-001 **Prep Batch #...:** 3223212								**% Moisture.....:** 3.9	
Mercury									
	0.089	0.173	0.295	mg/kg	119		SW846 7471A	08/11/03	FV0MP1CC
	0.089	0.173	0.290	mg/kg	116	1.8	SW846 7471A	08/11/03	FV0MP1CD
			Dilution Factor: 1						
MS Lot-Sample #: F3H080348-001 **Prep Batch #...:** 3224216								**% Moisture.....:** 3.9	
Antimony									
	0.85	52.0	37.9 N	mg/kg	71		SW846 6010B	08/12-08/13/03	FV0MP1C6
	0.85	52.0	38.2 N	mg/kg	72	0.87	SW846 6010B	08/12-08/13/03	FV0MP1C7
			Dilution Factor: 1						
Arsenic									
	2.8	208	199	mg/kg	94		SW846 6010B	08/12-08/13/03	FV0MP1CH
	2.8	208	200	mg/kg	95	0.76	SW846 6010B	08/12-08/13/03	FV0MP1CJ
			Dilution Factor: 1						
Barium									
	51.6	208	251	mg/kg	96		SW846 6010B	08/12-08/13/03	FV0MP1CK
	51.6	208	294	mg/kg	116	16	SW846 6010B	08/12-08/13/03	FV0MP1CL
			Dilution Factor: 1						
Beryllium									
	0.18	5.20	5.27	mg/kg	98		SW846 6010B	08/12-08/13/03	FV0MP1CM
	0.18	5.20	5.28	mg/kg	98	0.23	SW846 6010B	08/12-08/13/03	FV0MP1CN
			Dilution Factor: 1						
Bismuth									
	79.7	208	287	mg/kg	100		SW846 6010B	08/12-08/27/03	FV0MP1CP
	79.7	208	286	mg/kg	99	0.23	SW846 6010B	08/12-08/27/03	FV0MP1CQ
			Dilution Factor: 1						
Boron									
	5.1	208	213	mg/kg	100		SW846 6010B	08/12-08/27/03	FV0MP1CR
	5.1	208	210	mg/kg	98	1.4	SW846 6010B	08/12-08/27/03	FV0MP1CT
			Dilution Factor: 1						
Cadmium									
	0.11	5.20	4.88	mg/kg	92		SW846 6010B	08/12-08/13/03	FV0MP1CU
	0.11	5.20	4.84	mg/kg	91	0.92	SW846 6010B	08/12-08/13/03	FV0MP1CV
			Dilution Factor: 1						

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MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F3H080348 **Matrix.....:** SOLID
Date Sampled...: 07/29/03 **Date Received..:** 08/08/03

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium									
	10.6	20.8	29.1	mg/kg	89		SW846 6010B	08/12-08/13/03	FV0MP1CW
	10.6	20.8	29.5	mg/kg	91	1.2	SW846 6010B	08/12-08/13/03	FV0MP1CX
			Dilution Factor: 1						
Copper									
	8.9	26.0	35.8	mg/kg	103		SW846 6010B	08/12-08/13/03	FV0MP1C0
	8.9	26.0	34.1	mg/kg	97	4.9	SW846 6010B	08/12-08/13/03	FV0MP1C1
			Dilution Factor: 1						
Lead									
	4.6	52.0	54.6	mg/kg	96		SW846 6010B	08/12-08/13/03	FV0MP1C4
	4.6	52.0	54.5	mg/kg	96	0.14	SW846 6010B	08/12-08/13/03	FV0MP1C5
			Dilution Factor: 1						
Nickel									
	9.7	52.0	58.7	mg/kg	94		SW846 6010B	08/12-08/13/03	FV0MP1C2
	9.7	52.0	60.9	mg/kg	98	3.6	SW846 6010B	08/12-08/13/03	FV0MP1C3
			Dilution Factor: 1						
Selenium									
	0.46	208	193	mg/kg	92		SW846 6010B	08/12-08/13/03	FV0MP1C8
	0.46	208	195	mg/kg	94	1.4	SW846 6010B	08/12-08/13/03	FV0MP1C9
			Dilution Factor: 1						
Silver									
	0.14	5.20	6.27	mg/kg	118		SW846 6010B	08/12-08/13/03	FV0MP1CF
	0.14	5.20	6.39	mg/kg	120	1.8	SW846 6010B	08/12-08/13/03	FV0MP1CG
			Dilution Factor: 1						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

FLUOR HANFORD IC

Client Sample ID: B174B4

TOTAL Metals

Lot-Sample #...: F3H080348-002 **Matrix.....:** SOLID
Date Sampled...: 07/29/03 **Date Received..:** 08/08/03
% Moisture.....: 3.0

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 3223212						
Mercury	**0.035**	**0.034**	**mg/kg**	**SW846 7471A**	**08/11/03**	**FV0M21A6**
		Dilution Factor: 1		MDL.....: 0.017		
Prep Batch #...: 3224216						
Silver	**0.11 B**	**1.0**	**mg/kg**	**SW846 6010B**	**08/12-08/13/03**	**FV0M21AQ**
		Dilution Factor: 1		MDL.....: 0.041		
Arsenic	**3.0**	**1.0**	**mg/kg**	**SW846 6010B**	**08/12-08/13/03**	**FV0M21AR**
		Dilution Factor: 1		MDL.....: 0.23		
Barium	**56.1**	**20.6**	**mg/kg**	**SW846 6010B**	**08/12-08/13/03**	**FV0M21AT**
		Dilution Factor: 1		MDL.....: 0.43		
Beryllium	**0.21 B**	**0.52**	**mg/kg**	**SW846 6010B**	**08/12-08/13/03**	**FV0M21AU**
		Dilution Factor: 1		MDL.....: 0.027		
Bismuth	**91.4**	**20.6**	**mg/kg**	**SW846 6010B**	**08/12-08/27/03**	**FV0M21AV**
		Dilution Factor: 1		MDL.....: 3.1		
Boron	**5.8 B,J**	**20.6**	**mg/kg**	**SW846 6010B**	**08/12-08/27/03**	**FV0M21AW**
		Dilution Factor: 1		MDL.....: 0.56		
Cadmium	ND	0.52	mg/kg	SW846 6010B	08/12-08/13/03	FV0M21AX
		Dilution Factor: 1		MDL.....: 0.038		
Chromium	**7.9**	**1.0**	**mg/kg**	**SW846 6010B**	**08/12-08/13/03**	**FV0M21A0**
		Dilution Factor: 1		MDL.....: 0.058		
Copper	**10.6**	**2.6**	**mg/kg**	**SW846 6010B**	**08/12-08/13/03**	**FV0M21A1**
		Dilution Factor: 1		MDL.....: 0.052		
Nickel	**9.8**	**4.1**	**mg/kg**	**SW846 6010B**	**08/12-08/13/03**	**FV0M21A2**
		Dilution Factor: 1		MDL.....: 0.13		
Lead	**3.4 J**	**0.52**	**mg/kg**	**SW846 6010B**	**08/12-08/13/03**	**FV0M21A3**
		Dilution Factor: 1		MDL.....: 0.14		
Antimony	**0.66 B**	**1.0**	**mg/kg**	**SW846 6010B**	**08/12-08/13/03**	**FV0M21A4**
		Dilution Factor: 1		MDL.....: 0.18		

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FLUOR HANFORD IC

Client Sample ID: B174B4

TOTAL Metals

Lot-Sample #...: F3H080348-002 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Selenium	**0.51 B**	**0.52**	**mg/kg**	**SW846 6010B**	**08/12-08/13/03**	**FV0M21A5**

Dilution Factor: 1 MDL.....: 0.22

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F3H080348 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F3H110000-212 **Prep Batch #...:** 3223212						
Mercury	ND	0.033	mg/kg	SW846 7471A	08/11/03	FV2HR1AA
		Dilution Factor: 1				
MB Lot-Sample #: F3H120000-216 **Prep Batch #...:** 3224216						
Antimony	ND	1.0	mg/kg	SW846 6010B	08/12-08/13/03	FV4E31AN
		Dilution Factor: 1				
Arsenic	ND	1.0	mg/kg	SW846 6010B	08/12-08/13/03	FV4E31AC
		Dilution Factor: 1				
Barium	ND	20.0	mg/kg	SW846 6010B	08/12-08/13/03	FV4E31AD
		Dilution Factor: 1				
Beryllium	ND	0.50	mg/kg	SW846 6010B	08/12-08/13/03	FV4E31AE
		Dilution Factor: 1				
Bismuth	ND	20.0	mg/kg	SW846 6010B	08/12-08/27/03	FV4E31AF
		Dilution Factor: 1				
Boron	**2.0 B**	**20.0**	**mg/kg**	**SW846 6010B**	**08/12-08/27/03**	**FV4E31AG**
		Dilution Factor: 1				
Cadmium	ND	0.50	mg/kg	SW846 6010B	08/12-08/13/03	FV4E31AH
		Dilution Factor: 1				
Chromium	ND	1.0	mg/kg	SW846 6010B	08/12-08/13/03	FV4E31AJ
		Dilution Factor: 1				
Copper	ND	2.5	mg/kg	SW846 6010B	08/12-08/13/03	FV4E31AK
		Dilution Factor: 1				
Lead	**0.28 B**	**0.50**	**mg/kg**	**SW846 6010B**	**08/12-08/13/03**	**FV4E31AM**
		Dilution Factor: 1				
Nickel	ND	4.0	mg/kg	SW846 6010B	08/12-08/13/03	FV4E31AL
		Dilution Factor: 1				
Selenium	ND	0.50	mg/kg	SW846 6010B	08/12-08/13/03	FV4E31AP
		Dilution Factor: 1				
Silver	ND	1.0	mg/kg	SW846 6010B	08/12-08/13/03	FV4E31AA
		Dilution Factor: 1				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F3H080348 **Matrix.....:** SOLID

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F3H080348 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F3H110000-212 **Prep Batch #...:** 3223212							
Mercury	9.41	8.28	mg/kg	88	SW846 7471A	08/11/03	FV2HR1AC
			Dilution Factor: 10				
LCS Lot-Sample#: F3H120000-216 **Prep Batch #...:** 3224216							
Silver	79.7	83.8	mg/kg	105	SW846 6010B	08/12-08/13/03	FV4E31AQ
			Dilution Factor: 1				
Arsenic	327	305	mg/kg	93	SW846 6010B	08/12-08/13/03	FV4E31AR
			Dilution Factor: 1				
Barium	803	740	mg/kg	92	SW846 6010B	08/12-08/13/03	FV4E31AT
			Dilution Factor: 1				
Beryllium	69.1	66.0	mg/kg	96	SW846 6010B	08/12-08/13/03	FV4E31AU
			Dilution Factor: 1				
Bismuth	200	200	mg/kg	100	SW846 6010B	08/12-08/27/03	FV4E31AV
			Dilution Factor: 1				
Boron	95.0	100	mg/kg	106	SW846 6010B	08/12-08/27/03	FV4E31AW
			Dilution Factor: 1				
Cadmium	229	219	mg/kg	96	SW846 6010B	08/12-08/13/03	FV4E31AX
			Dilution Factor: 1				
Chromium	152	143	mg/kg	94	SW846 6010B	08/12-08/13/03	FV4E31A0
			Dilution Factor: 1				
Copper	86.7	95.6	mg/kg	110	SW846 6010B	08/12-08/13/03	FV4E31A1
			Dilution Factor: 1				
Nickel	107	104	mg/kg	98	SW846 6010B	08/12-08/13/03	FV4E31A2
			Dilution Factor: 1				
Lead	120	118	mg/kg	98	SW846 6010B	08/12-08/13/03	FV4E31A3
			Dilution Factor: 1				
Antimony	289	323	mg/kg	112	SW846 6010B	08/12-08/13/03	FV4E31A4
			Dilution Factor: 1				

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LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: F3H080348 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Selenium	161	153	mg/kg	95	SW846 6010B	08/12-08/13/03	FV4E31A5

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

WET CHEMISTRY

FLUOR HANFORD IC

Client Sample ID: B17978

General Chemistry

Lot-Sample #...: F3H080348-001 **Work Order #...:** FV0MP **Matrix.....:** SOLID
Date Sampled...: 07/29/03 **Date Received..:** 08/08/03
% Moisture.....: 3.9

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	**8.8**		**No Units**	**SW846 9045A**	**08/12/03**	**3224251**
		Dilution Factor: 1		MDL.....:		
Chloride	**2.9 B,J**	**10.0**	**mg/kg**	**MCAWW 300.0A**	**08/27/03**	**3239560**
		Dilution Factor: 1		MDL.....: 0.45		
Cyanide, Total	ND	0.50	mg/kg	SW846 9012A	08/14-08/15/03	3226455
		Dilution Factor: 1		MDL.....: 0.24		
Fluoride	ND	5.0	mg/kg	MCAWW 300.0A	08/27/03	3239561
		Dilution Factor: 1		MDL.....: 0.40		
Hexavalent Chromium	ND	0.42	mg/kg	SW846 7196A	08/15/03	3227269
		Dilution Factor: 1		MDL.....: 0.056		
Nitrate	**11.2**	**1.0**	**mg/kg**	**MCAWW 300.0A**	**08/27/03**	**3239562**
		Dilution Factor: 1		MDL.....: 0.11		
Nitrate/Nitrite as N	**8.9**	**1.0**	**mg/kg**	**MCAWW 353.1**	**08/18/03**	**3230441**
		Dilution Factor: 2		MDL.....: 0.075		
Nitrite	ND	1.0	mg/kg	MCAWW 300.0A	08/27/03	3239563
		Dilution Factor: 1		MDL.....: 0.074		
Nitrogen, as Ammonia	ND	0.52	mg/kg	MCAWW 350.1	08/12/03	3224240
		Dilution Factor: 1		MDL.....: 0.22		
Oil and Grease (Gravimetric)	**90.0 B**	**200**	**mg/kg**	**SW846 9071B**	**08/12-08/13/03**	**3225093**
		Dilution Factor: 1		MDL.....:		
Percent Moisture	**3.9**	**0.10**	**%**	**MCAWW 160.3 MOD**	**08/12-08/13/03**	**3224506**
		Dilution Factor: 1		MDL.....:		
Sulfate	**17.9 B**	**25.0**	**mg/kg**	**MCAWW 300.0A**	**08/27/03**	**3239564**
		Dilution Factor: 1		MDL.....: 0.54		

NOTE(S):

RL Reporting Limit

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F3H080348 **Work Order #...:** FV0MP-SMP FV0MP-DUP **Matrix.....:** SOLID

Date Sampled...: 07/29/03 **Date Received..:** 08/08/03

% Moisture.....: 3.9

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate/Nitrite as N						SD Lot-Sample #:	F3H080348-001	
	8.9	8.9	mg/kg	0.35	(0-20)	MCAWW 353.1	08/18/03	3230441

Dilution Factor: 2

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

FLUOR HANFORD IC

Client Sample ID: B174B4

General Chemistry

Lot-Sample #...: F3H080348-002 **Work Order #...:** FV0M2 **Matrix.....:** SOLID
Date Sampled...: 07/29/03 **Date Received..:** 08/08/03
% Moisture.....: 3.0

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)	**8.7**		**No Units**	**SW846 9045A**	**08/12/03**	**3224251**
		Dilution Factor: 1		MDL.....:		
Chloride	ND	10.0	mg/kg	MCAWW 300.0A	08/27/03	3239560
		Dilution Factor: 1		MDL.....: 22.4		
Cyanide, Total	ND	0.50	mg/kg	SW846 9012A	08/14-08/15/03	3226455
		Dilution Factor: 1		MDL.....: 0.24		
Fluoride	ND	5.0	mg/kg	MCAWW 300.0A	08/27/03	3239561
		Dilution Factor: 1		MDL.....: 0.40		
Hexavalent Chromium	ND	0.41	mg/kg	SW846 7196A	08/15/03	3227269
		Dilution Factor: 1		MDL.....: 0.056		
Nitrate	**9.1**	**1.0**	**mg/kg**	**MCAWW 300.0A**	**08/27/03**	**3239562**
		Dilution Factor: 1		MDL.....: 0.11		
Nitrate/Nitrite as N	**10.1**	**1.0**	**mg/kg**	**MCAWW 353.1**	**08/18/03**	**3230441**
		Dilution Factor: 2		MDL.....: 0.074		
Nitrite	ND	1.0	mg/kg	MCAWW 300.0A	08/27/03	3239563
		Dilution Factor: 1		MDL.....: 0.074		
Nitrogen, as Ammonia	ND	0.52	mg/kg	MCAWW 350.1	08/12/03	3224240
		Dilution Factor: 1		MDL.....: 0.22		
Oil and Grease (Gravimetric)	ND	200	mg/kg	SW846 9071B	08/12-08/13/03	3225093
		Dilution Factor: 1		MDL.....:		
Percent Moisture	**3.0**	**0.10**	**%**	**MCAWW 160.3 MOD**	**08/12-08/13/03**	**3224506**
		Dilution Factor: 1		MDL.....:		
Sulfate	**16.3 B**	**25.0**	**mg/kg**	**MCAWW 300.0A**	**08/27/03**	**3239564**
		Dilution Factor: 1		MDL.....: 0.54		

NOTE(S):

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F3H080348 **Work Order #...:** FV0M2-SMP FV0M2-DUP **Matrix.....:** SOLID

Date Sampled...: 07/29/03 **Date Received..:** 08/08/03

% Moisture.....: 3.0

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium						SD Lot-Sample #: F3H080348-002		
	ND	ND	mg/kg	0	(0-35)	SW846 7196A	08/15/03	3227269

Dilution Factor: 1

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: F3H080348 **Matrix.....:** SOLID
Date Sampled...: 07/29/03 **Date Received..:** 08/08/03

Percnt Moisture: 44

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium			Work Order #...:		FV0M21CD	MS Lot-Sample #: F3H080348-002		
	ND	41.2	42.9	mg/kg	104	SW846 7196A	08/15/03	3227269
			Dilution Factor: 1					
Nitrate/Nitrite as N			Work Order #...:		FV0MP1DA	MS Lot-Sample #: F3H080348-001		
	8.9	10.4	19.2	mg/kg	100	MCAWW 353.1	08/18/03	3230441
			Dilution Factor: 2					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F3H080348 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #: FW5XF1AA		MB Lot-Sample #:	F3H270000-560	
	2.5 B	**10.0**	**mg/kg**	**MCAWW 300.0A**	**08/27/03**	**3239560**
		Dilution Factor: 1				
Cyanide, Total		Work Order #: FV97P1AA		MB Lot-Sample #:	F3H140000-455	
	ND	0.50	mg/kg	SW846 9012A	08/14-08/15/03	3226455
		Dilution Factor: 1				
Fluoride		Work Order #: FW5XG1AA		MB Lot-Sample #:	F3H270000-561	
	ND	5.0	mg/kg	MCAWW 300.0A	08/27/03	3239561
		Dilution Factor: 1				
Hexavalent Chromium		Work Order #: FWDNM1AA		MB Lot-Sample #:	F3H150000-269	
	ND	0.40	mg/kg	SW846 7196A	08/15/03	3227269
		Dilution Factor: 1				
Nitrate		Work Order #: FW5XH1AA		MB Lot-Sample #:	F3H270000-562	
	ND	1.0	mg/kg	MCAWW 300.0A	08/27/03	3239562
		Dilution Factor: 1				
Nitrate/Nitrite as N		Work Order #: FWGW61AA		MB Lot-Sample #:	F3H180000-441	
	ND	0.50	mg/kg	MCAWW 353.1	08/18/03	3230441
		Dilution Factor: 1				
Nitrite		Work Order #: FW5XJ1AA		MB Lot-Sample #:	F3H270000-563	
	ND	1.0	mg/kg	MCAWW 300.0A	08/27/03	3239563
		Dilution Factor: 1				
Nitrogen, as Ammonia		Work Order #: FV4JT1AA		MB Lot-Sample #:	F3H120000-240	
	ND	0.50	mg/kg	MCAWW 350.1	08/12/03	3224240
		Dilution Factor: 1				
Oil and Grease (Gravimetric)		Work Order #: FV6C41AA		MB Lot-Sample #:	F3H130000-093	
	ND	200	mg/kg	SW846 9071B	08/12-08/13/03	3225093
		Dilution Factor: 1				
Sulfate		Work Order #: FW5XL1AA		MB Lot-Sample #:	F3H270000-564	
	ND	25.0	mg/kg	MCAWW 300.0A	08/27/03	3239564
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: F3H080348 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride			WO#:FW5XF1AC-LCS/FW5XF1AD-LCSD				LCS Lot-Sample#: F3H270000-560	
	50.0	50.4	mg/kg	101		MCAWW 300.0A	08/27/03	3239560
	50.0	49.3	mg/kg	99	2.4	MCAWW 300.0A	08/27/03	3239560
			Dilution Factor: 1					
Cyanide, Total			WO#:FV97P1AC-LCS/FV97P1AD-LCSD				LCS Lot-Sample#: F3H140000-455	
	5.00	5.40	mg/kg	108		SW846 9012A	08/14-08/15/03	3226455
	5.00	4.87	mg/kg	97	10	SW846 9012A	08/14-08/15/03	3226455
			Dilution Factor: 1					
Fluoride			WO#:FW5XG1AC-LCS/FW5XG1AD-LCSD				LCS Lot-Sample#: F3H270000-561	
	25.0	23.5	mg/kg	94		MCAWW 300.0A	08/27/03	3239561
	25.0	22.5	mg/kg	90	4.4	MCAWW 300.0A	08/27/03	3239561
			Dilution Factor: 1					
Nitrate			WO#:FW5XH1AC-LCS/FW5XH1AD-LCSD				LCS Lot-Sample#: F3H270000-562	
	10.0	10.0	mg/kg	100		MCAWW 300.0A	08/27/03	3239562
	10.0	9.74	mg/kg	97	2.9	MCAWW 300.0A	08/27/03	3239562
			Dilution Factor: 1					
Nitrate/Nitrite as N			WO#:FWGW61AC-LCS/FWGW61AD-LCSD				LCS Lot-Sample#: F3H180000-441	
	4.00	3.72	mg/kg	93		MCAWW 353.1	08/18/03	3230441
	4.00	3.60	mg/kg	90	3.3	MCAWW 353.1	08/18/03	3230441
			Dilution Factor: 1					
Nitrite			WO#:FW5XJ1AC-LCS/FW5XJ1AD-LCSD				LCS Lot-Sample#: F3H270000-563	
	4.00	4.00	mg/kg	100		MCAWW 300.0A	08/27/03	3239563
	4.00	3.92	mg/kg	98	2.1	MCAWW 300.0A	08/27/03	3239563
			Dilution Factor: 1					
Nitrogen, as Ammonia			WO#:FV4JT1AC-LCS/FV4JT1AD-LCSD				LCS Lot-Sample#: F3H120000-240	
	4.00	4.13	mg/kg	103		MCAWW 350.1	08/12/03	3224240
	4.00	4.06	mg/kg	102	1.7	MCAWW 350.1	08/12/03	3224240
			Dilution Factor: 1					
Oil and Grease (Gravimetric)			WO#:FV6C41AC-LCS/FV6C41AD-LCSD				LCS Lot-Sample#: F3H130000-093	
	1330	1200	mg/kg	90		SW846 9071B	08/12-08/13/03	3225093
	1330	1200	mg/kg	90	0.0	SW846 9071B	08/12-08/13/03	3225093
			Dilution Factor: 1					

(Continued on next page)

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: F3H080348 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Sulfate		WO#:FW5XL1AC-LCS/FW5XL1AD-LCSD LCS Lot-Sample#: F3H270000-564						
	200	192	mg/kg	96		MCAWW 300.0A	08/27/03	3239564
	200	186	mg/kg	93	3.2	MCAWW 300.0A	08/27/03	3239564

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: F3H080348 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (solid)			Work Order #:	FV5LA1AA	LCS Lot-Sample#:	F3H120000-251	
	7.00	6.99	No Units	100	SW846 9045A	08/12/03	3224251
			Dilution Factor: 1				
Hexavalent Chromium			Work Order #:	FWDNM1AC	LCS Lot-Sample#:	F3H150000-269	
	2.00	1.97	mg/kg	99	SW846 7196A	08/15/03	3227269
			Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.