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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 #: F3H120240
SDG #: W04086

RECEIVED
NOV 24 2003
EDMC

Steve Trent

Fluor Hanford Inc
825 Jadwin Ave.
Richland, WA 99352

SEP 2003
RECEIVED

SEVERN TRENT LABORATORIES, INC.

MARTI WARD
Project Manager

September 18, 2003

Leaders in Environmental Testing

SEVERN TRENT STL

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13715 Rider Trail North
Earth City, MO 63045

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September 18, 2003

STL LOT NUMBER: **F3H120240**
SDG: **W04086**

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

Dear Steve Trent,

This report contains the analytical results for the sample received under chain of custody by Severn Trent Laboratories (STL) on August 12, 2003. This sample is associated with your F03-006 SAF.

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

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SDG: **W04086**/LOT NUMBER F3H120240

Case Narrative:

Due to the RAD levels associated with the sample, limited volume was accepted by the lab. There was insufficient volume to perform matrix QC on the sample.

8015 TPH- Gasoline Range
The sample was analyzed out of hold time. The samplewas collected on 7/30/03 and received at the lab on 8/12/03. There was only one day left in the hold time when the sample arrived at the lab.

SAMPLE SUMMARY

F3H120240

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
FV5HL	001	B17BY9	07/30/03	07:55

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

F3H120240

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Extractable Petroleum Hydrocarbons	SW846 8015 MOD	SW846 3550
Hexavalent Chromium	SW846 7196A	SW846 7196A/DI
Nitrate-Nitrite	MCAWW 353.1	
Semivolatile Organic Compounds by GC/MS	SW846 8270C	SW846 3550B
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.

SDG# W04086

STL ST. LOUIS

Ref 7682

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F03-006-238	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		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~~ St. Louis DMS 8-11-03	Offsite Property No.		Bill of Lading/Air Bill No.	

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

W04086

Preservation	Cool 4C	Cool 4C									
Type of Container	aG	aG									
No. of Container(s)	1 ~~2~~ ~~1~~	1									
Volume	~~400g~~ 40mL	40mL									
SAMPLE ANALYSIS	See item (1) in Special Instructions	See item (2) in special		2x40mL							

Sample No.	Matrix *	Sample Date	Sample Time										
B17BY9	SOIL	07-30-03	0755	X	X								

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: [illegible]	0725 8/11/03	[illegible]	0915 8-11-03
Relinquished By/Removed From: [illegible]	1035 8-11-03	FEDEX	8-11-03 1035
Relinquished By/Removed From: FED EX		[illegible]	8-12-03 0915
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

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

(1) Semi-VOA - 8270A (TCL); Semi-VOA – 8270A (Add-On) {2-Butoxyethanol, Tributyl phosphate}; TPH-Diesel Range - WTPH-D; TPH-Gasoline Range - WTPH-G

(2) 102/1003-3531; Oil + Grease-413.1, Chromium HEX-7196

Sample has been re-routed therefore original chain is attached to show chain of custody has not been broken. Original sample number and lab has been changed.

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)

SDG# W04086

STL ST. LOUIS

9/4/03

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-006-193	Page 1 of 1

Collector Pope/Pfister/Hughes/Johansen	Company Contact LC Hulstrom	Telephone No. 373-3928	Project Coordinator TRENT, SJ
Project Designation 200-PW-2/200-PW-4 OU - Borehole Soil Sampling	Sampling Location 9/4 7-11-03 216-A-36B (~~C3248~~) - 40-42.5' (C4160)		SAF No. F03-006
Ice Chest No.	Field Logbook No. HNF-N-3361	COA 117504ES10	Method of Shipment Federal Express
Shipped To Waste Sampling & Characterization	Offsite Property No.		Bill of Lading/Air Bill No.

Price Code 8N

Air Quality ☐

Data Turnaround 45 Days

POSSIBLE SAMPLE HAZARDS/REMARKS

RADIOACTIVE TIE TO: B173V9, B17494

Special Handling and/or Storage

20031645

Preservation	Cool 4C	Cool 4C	Cool 4C								
Type of Container	aG	Gs*	aG/P 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										
B173V2 W03000NTO	SOIL	7-30-03	0755	X	X	X							

CHAIN OF POSSESSION	Date/Time	Sign/Print Names: Received By/Stored In	Date/Time
Relinquished By/Removed From: R. PFISTER	7/30/3 0935	Received By/Stored In: SITE FRIG	7/30/3 0935
Relinquished By/Removed From: SITE FRIG	8/4/3 1320	Received By/Stored In: R. PFISTER	8/4/3 1320
Relinquished By/Removed From: R. PFISTER	8/4/3 1400	Received By/Stored In:	8/4/03 1400
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

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 radl 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
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)

7

STL ST. LOUIS

RADIOACTIVE SHIPMENT RECORD

106970 3.

Page 1 of 2

1. SHIP FROM U.S. DEPT. OF ENERGY C/O

Company: BICHTEL HANFORD INC.

Address: 2028 BLDG. 300 AREA

City, State, Zip: RICHLAND WA. 99352

Contact: JOE GALE

Phone: (509) 372-7068

Ship: [X] Prepaid [ ] Collect 4.

Via: [ ] Motor [X] Air Psgr [ ] UPS [ ] Rail [X] Air Cargo [ ] Site Carrier

SHIPMENT AUTHORIZATION NUMBER

2. SHIP TO

Company: SAVORAN TRANSIT INC.

Address: 12715 RIDER TRAIL NORTH

City, State, Zip: EARTH CITY, MO. 63045

Attention: MARTI WARD

Phone: (314) 291-2266

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: (509) 766-2771

Emergency Response Guide(s): 161

Highway Route Controlled Quantity [ ]

Exclusive Use Shipment with instructions [ ]

Placards Applied [ ]

If Rail Specify:

Fissile Excepted, Grams: <15g [X]

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	[illegible]	[illegible]	[illegible]	N/A	[illegible]	13 Kg
	(POLY COOLER)	(EXCEPTED PA)	[illegible]		[illegible]			
GLASS	JAR, THREE	WAFFER,	[illegible]	SHOOER,	[illegible]			
WITH	[illegible]	AND	[illegible]		[illegible]			
(Shipper may describe package in detail on one of the unused lines above)					TOTALS	N/A	1.2x10^-7	13 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: [illegible] On behalf of DOE-RL | Date: [illegible] | Organization: [illegible] | Complete Cost Code (Inc. End Function): [illegible]

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: [ ] <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 meters @ Cab or sleeper [ ] <2 mSv/hr (200 mrem/hr) [ ] <0.1 mSv/hr (10 mrem/hr) [ ] <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: [illegible]

RECEIVER

RECEIVER SIGNATURE | Date

15. **OFFSITE AUTHORIZATION**

Shipment has been inspected and verified to be in compliance with DOT regulations

Authorized Signature: [illegible] | Printed Name: [illegible] | Date: 8-11-03

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
BH-5248	8/11/03	[illegible]	8/12/03
Surveyed By	**Date**	**Approved for Shipment Offsite**	**Date**
[illegible]	[illegible]	[illegible]	8/11/03

54-6000-088 (06/97)

SDG# W04086

STL ST. LOUIS

SEVERN TRENT **STL**

Lot No.: F3H120240
W04086

Condition Upon Receipt Form
St. Louis Laboratory

Client: Richland

Date: 8.12.03 Time: 0915

Quote No:

Initiated by: SN

Shipper/No: FedX below

COC/RFA Numbers: below

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

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: 3°, 3°, 2°, 3°	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: 7903 5175 119, 7929 4616 1663, 7929 4639 9684, 8373 5074 7973

F03-006-236

B03-025-08

S03-008-40

W03-008-143, 139, 159, 151, 135, 161, 301, 197, 85, 131

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: Date: 8.12.03

Project Management Review: Date: 8.12.03

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

7682

SL-ADMIN-0004, Revised 6/5/03
\\Qstlmo05\QA\FORMS\ST-LOUIS\ADMIN\Admin004_rev6_05_03.doc

SDG# W04086

VOLATILE ORGANICS

FLUOR HANFORD IC

Client Sample ID: B17BY9

GC Volatiles

Lot-Sample #...:	F3H120240-001	**Work Order #...:**	FV5HL1AG	**Matrix.....:**	SOLID
Date Sampled...:	07/30/03	**Date Received..:**	08/12/03		
Prep Date.....:	09/15/03	**Analysis Date..:**	09/15/03		
Prep Batch #...:	3259173				
Dilution Factor:	1				
% Moisture.....:		**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	84	(10 - 150)

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: F3H120240 **Work Order #...:** F0D411AA **Matrix.....:** SOLID
MB Lot-Sample #: F3I160000-173

Prep Date.....: 09/15/03
Analysis Date..: 09/15/03 **Prep Batch #...:** 3259173
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	81	(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 #...: F3H120240 **Work Order #...:** F0D411AC **Matrix.....:** SOLID
LCS Lot-Sample#: F3I160000-173
Prep Date.....: 09/15/03 **Analysis Date..:** 09/15/03
Prep Batch #...: 3259173
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Volatile Petroleum Hydrocarbons	1.00	0.980	mg/kg	98	SW846 8015 MO

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	99	(70 - 130)

NOTE(S):

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

Bold print denotes control parameters

SEMI-VOLATILE ORGANICS

FLUOR HANFORD IC

Client Sample ID: B17BY9

GC/MS Semivolatiles

Lot-Sample #...: F3H120240-001 **Work Order #...:** FV5HL1AF **Matrix.....:** SOLID
Date Sampled...: 07/30/03 **Date Received..:** 08/12/03
Prep Date.....: 08/13/03 **Analysis Date..:** 08/14/03
Prep Batch #...: 3225274
Dilution Factor: 1
% Moisture.....: **Method.....:** SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Phenol	ND	330	ug/kg	87
bis(2-Chloroethyl)-ether	ND	330	ug/kg	13
2-Chlorophenol	ND	330	ug/kg	14
1,3-Dichlorobenzene	ND	330	ug/kg	12
1,4-Dichlorobenzene	ND	330	ug/kg	14
1,2-Dichlorobenzene	ND	330	ug/kg	12
2-Methylphenol	ND	330	ug/kg	19
2,2'-oxybis(1-Chloropropane)	ND	330	ug/kg	15
4-Methylphenol	ND	660	ug/kg	51
N-Nitrosodi-n-propyl-amine	ND	330	ug/kg	20
Hexachloroethane	ND	330	ug/kg	16
Nitrobenzene	ND	330	ug/kg	18
Isophorone	ND	330	ug/kg	18
2-Nitrophenol	ND	330	ug/kg	19
2,4-Dimethylphenol	ND	330	ug/kg	28
bis(2-Chloroethoxy) methane	ND	330	ug/kg	21
2,4-Dichlorophenol	ND	330	ug/kg	26
1,2,4-Trichloro-benzene	ND	330	ug/kg	17
Naphthalene	ND	330	ug/kg	15
4-Chloroaniline	ND	330	ug/kg	31
Hexachlorobutadiene	ND	330	ug/kg	12
4-Chloro-3-methylphenol	ND	330	ug/kg	27
2-Methylnaphthalene	ND	330	ug/kg	15
Hexachlorocyclopenta-diene	ND	1600	ug/kg	71
2,4,6-Trichloro-phenol	ND	330	ug/kg	31
2,4,5-Trichloro-phenol	ND	330	ug/kg	30
2-Chloronaphthalene	ND	330	ug/kg	16
2-Nitroaniline	ND	1600	ug/kg	38
Dimethyl phthalate	ND	330	ug/kg	20
Acenaphthylene	ND	330	ug/kg	16
2,6-Dinitrotoluene	ND	330	ug/kg	20

(Continued on next page)

FLUOR HANFORD IC

Client Sample ID: B17BY9

GC/MS Semivolatiles

Lot-Sample #...: F3H120240-001 Work Order #...: FV5HL1AF Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
3-Nitroaniline	ND	1600	ug/kg	26
Acenaphthene	ND	330	ug/kg	16
2,4-Dinitrophenol	ND	1600	ug/kg	64
4-Nitrophenol	ND	1600	ug/kg	42
Dibenzofuran	ND	330	ug/kg	22
2,4-Dinitrotoluene	ND	330	ug/kg	18
Diethyl phthalate	ND	330	ug/kg	41
Fluorene	ND	330	ug/kg	19
4-Chlorophenyl phenyl ether	ND	330	ug/kg	18
4-Nitroaniline	ND	1600	ug/kg	22
4,6-Dinitro-2-methylphenol	ND	1600	ug/kg	62
N-Nitrosodiphenylamine	ND	330	ug/kg	21
4-Bromophenyl phenyl ether	ND	330	ug/kg	22
Hexachlorobenzene	ND	330	ug/kg	18
Pentachlorophenol	ND	1600	ug/kg	120
Phenanthrene	ND	330	ug/kg	16
Anthracene	ND	330	ug/kg	18
Carbazole	ND	330	ug/kg	20
Di-n-butyl phthalate	ND	330	ug/kg	28
Fluoranthene	ND	330	ug/kg	23
Pyrene	ND	330	ug/kg	22
Butyl benzyl phthalate	ND	330	ug/kg	26
Benzo(a)anthracene	ND	330	ug/kg	23
3,3'-Dichlorobenzidine	ND	1600	ug/kg	23
Chrysene	ND	330	ug/kg	14
bis(2-Ethylhexyl) phthalate	ND	330	ug/kg	34
Di-n-octyl phthalate	ND	330	ug/kg	140
Benzo(b)fluoranthene	ND	330	ug/kg	38
Benzo(k)fluoranthene	ND	330	ug/kg	19
Benzo(a)pyrene	ND	330	ug/kg	19
Indeno(1,2,3-cd)pyrene	ND	330	ug/kg	17
Benzo(ghi)perylene	ND	330	ug/kg	100
Dibenzo(a,h)anthracene	ND	330	ug/kg	81
Tributyl phosphate	ND	330	ug/kg	330

(Continued on next page)

FLUOR HANFORD IC

Client Sample ID: B17BY9

GC/MS Semivolatiles

Lot-Sample #...: F3H120240-001 Work Order #...: FV5HL1AF Matrix.....: SOLID

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	67	(19 - 115)
Phenol-d5	74	(27 - 115)
Nitrobenzene-d5	77	(10 - 115)
2-Fluorobiphenyl	81	(10 - 115)
2,4,6-Tribromophenol	76	(19 - 115)
Terphenyl-d14	77	(10 - 115)

FLUOR HANFORD IC

B17BY9

GC/MS Semivolatiles

Lot-Sample #: F3H120240-001 **Work Order #:** FV5HL1AF **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Unknown aldol condensate		26000	M	3.189	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 #...: F3H120240 Work Order #...: FV6Q31AA Matrix.....: SOLID
MB Lot-Sample #: F3H130000-274

Prep Date.....: 08/13/03
Analysis Date..: 08/14/03 Prep Batch #...: 3225274
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 #...: F3H120240 **Work Order #...: FV6Q31AA** **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	71	(19 - 115)
Phenol-d5	81	(27 - 115)
Nitrobenzene-d5	83	(10 - 115)
2-Fluorobiphenyl	87	(10 - 115)
2,4,6-Tribromophenol	62	(19 - 115)
Terphenyl-d14	78	(10 - 115)

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METHOD BLANK REPORT

GC/MS Semivolatiles

Client Lot #...: F3H120240 **Work Order #...:** FV6Q31AA **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 #: F3H130000-274 B **Work Order #:** FV6Q31AA **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Unknown aldol condensate		800	M	3.194	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 #...: F3H120240 Work Order #...: FV6Q31AC Matrix.....: SOLID
LCS Lot-Sample#: F3H130000-274
Prep Date.....: 08/13/03 Analysis Date..: 08/14/03
Prep Batch #...: 3225274
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Phenol	3330	2660	ug/kg	80	SW846 8270C
bis(2-Chloroethyl)-ether	3330	2410	ug/kg	72	SW846 8270C
2-Chlorophenol	3330	2540	ug/kg	76	SW846 8270C
2-Methylphenol	3330	2690	ug/kg	81	SW846 8270C
2,2'-oxybis(1-Chloropropa	3330	3250	ug/kg	97	SW846 8270C
N-Nitrosodi-n-propyl-amine	3330	2920	ug/kg	87	SW846 8270C
Hexachloroethane	3330	2540	ug/kg	76	SW846 8270C
Nitrobenzene	3330	2830	ug/kg	85	SW846 8270C
Isophorone	3330	3130	ug/kg	94	SW846 8270C
2-Nitrophenol	3330	2690	ug/kg	81	SW846 8270C
2,4-Dimethylphenol	3330	2610	ug/kg	78	SW846 8270C
bis(2-Chloroethoxy) methane	3330	2990	ug/kg	90	SW846 8270C
2,4-Dichlorophenol	3330	2590	ug/kg	78	SW846 8270C
1,2,4-Trichloro-benzene	3330	2530	ug/kg	76	SW846 8270C
Naphthalene	3330	2770	ug/kg	83	SW846 8270C
4-Chloroaniline	3330	2080	ug/kg	62	SW846 8270C
Hexachlorobutadiene	3330	2420	ug/kg	73	SW846 8270C
4-Chloro-3-methylphenol	3330	2670	ug/kg	80	SW846 8270C
2-Methylnaphthalene	3330	3380	ug/kg	101	SW846 8270C
Hexachlorocyclopenta-diene	3330	2710	ug/kg	81	SW846 8270C
2,4,6-Trichloro-phenol	3330	2570	ug/kg	77	SW846 8270C
2,4,5-Trichloro-phenol	3330	2640	ug/kg	79	SW846 8270C
2-Nitroaniline	3330	3050	ug/kg	91	SW846 8270C
Dimethyl phthalate	3330	2830	ug/kg	85	SW846 8270C
Acenaphthylene	3330	2930	ug/kg	88	SW846 8270C
2,6-Dinitrotoluene	3330	2880	ug/kg	87	SW846 8270C
3-Nitroaniline	3330	2410	ug/kg	72	SW846 8270C

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: F3H120240 Work Order #...: FV6Q31AC Matrix.....: SOLID
LCS Lot-Sample#: F3H130000-274

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Acenaphthene	3330	2920	ug/kg	88	SW846 8270C
2,4-Dinitrophenol	3330	1450	ug/kg	44	SW846 8270C
4-Nitrophenol	3330	2670	ug/kg	80	SW846 8270C
Dibenzofuran	3330	2790	ug/kg	84	SW846 8270C
2,4-Dinitrotoluene	3330	3070	ug/kg	92	SW846 8270C
Diethyl phthalate	3330	3000	ug/kg	90	SW846 8270C
Fluorene	3330	2840	ug/kg	85	SW846 8270C
4-Chlorophenyl phenyl ether	3330	2730	ug/kg	82	SW846 8270C
4-Nitroaniline	3330	2990	ug/kg	90	SW846 8270C
4,6-Dinitro-2-methylphenol	3330	1980	ug/kg	59	SW846 8270C
N-Nitrosodiphenylamine	3330	3000	ug/kg	90	SW846 8270C
4-Bromophenyl phenyl ether	3330	2660	ug/kg	80	SW846 8270C
Hexachlorobenzene	3330	2800	ug/kg	84	SW846 8270C
Pentachlorophenol	3330	2430	ug/kg	73	SW846 8270C
Phenanthrene	3330	2900	ug/kg	87	SW846 8270C
Anthracene	3330	2860	ug/kg	86	SW846 8270C
Carbazole	3330	2960	ug/kg	89	SW846 8270C
Di-n-butyl phthalate	3330	2910	ug/kg	87	SW846 8270C
Fluoranthene	3330	2780	ug/kg	84	SW846 8270C
Pyrene	3330	2920	ug/kg	88	SW846 8270C
Butyl benzyl phthalate	3330	3010	ug/kg	90	SW846 8270C
Benzo(a)anthracene	3330	2950	ug/kg	88	SW846 8270C
3,3'-Dichlorobenzidine	3330	2260	ug/kg	68	SW846 8270C
Chrysene	3330	2840	ug/kg	85	SW846 8270C
bis(2-Ethylhexyl) phthalate	3330	3010	ug/kg	90	SW846 8270C
Di-n-octyl phthalate	3330	2830	ug/kg	85	SW846 8270C
Benzo(b)fluoranthene	3330	2830	ug/kg	85	SW846 8270C
Benzo(k)fluoranthene	3330	3060	ug/kg	92	SW846 8270C
Benzo(a)pyrene	3330	2780	ug/kg	84	SW846 8270C
Indeno(1,2,3-cd)pyrene	3330	2830	ug/kg	85	SW846 8270C
Benzo(ghi)perylene	3330	2990	ug/kg	90	SW846 8270C
Dibenzo(a,h)anthracene	3330	3020	ug/kg	91	SW846 8270C

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Semivolatiles

Client Lot #...: F3H120240 **Work Order #...:** FV6Q31AC **Matrix.....:** SOLID
LCS Lot-Sample#: F3H130000-274

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	84	(30 - 115)
Phenol-d5	88	(41 - 115)
Nitrobenzene-d5	87	(20 - 115)
2-Fluorobiphenyl	89	(23 - 123)
2,4,6-Tribromophenol	80	(41 - 119)
Terphenyl-d14	76	(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: B17BY9

GC Semivolatiles

Lot-Sample #...:	F3H120240-001	**Work Order #...:**	FV5HL1AH	**Matrix.....:**	SOLID
Date Sampled...:	07/30/03	**Date Received..:**	08/12/03		
Prep Date.....:	08/13/03	**Analysis Date..:**	08/15/03		
Prep Batch #...:	3225551				
Dilution Factor:	1				
% Moisture.....:		**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	39	(10 - 150)

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F3H120240
MB Lot-Sample #: F3H130000-551
Work Order #...: FV78G1AA
Matrix.....: SOLID
Prep Date.....: 08/13/03
Analysis Date..: 08/15/03
Prep Batch #...: 3225551
Dilution Factor: 1

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

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	73	(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 #...: F3H120240 **Work Order #...:** FV78G1AC-LCS **Matrix.....:** SOLID
LCS Lot-Sample#: F3H130000-551 FV78G1AD-LCSD
Prep Date.....: 08/13/03 **Analysis Date..:** 08/15/03
Prep Batch #...: 3225551
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
TPH - Diesel Range - WTPH-	**83.3**	**61.4**	**mg/kg**	**74**		**SW846 8015 MOD**
	83.3	**57.4**	**mg/kg**	**69**	**6.8**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
o-Terphenyl	119	(75 - 150)
	118	(75 - 150)

NOTE(S):

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

Bold print denotes control parameters

WET CHEMISTRY

FLUOR HANFORD IC

Client Sample ID: B17BY9

General Chemistry

Lot-Sample #...: F3H120240-001 **Work Order #...:** FV5HL **Matrix.....:** SOLID
Date Sampled...: 07/30/03 **Date Received..:** 08/12/03
% Moisture.....:

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	ND	0.40	mg/kg	SW846 7196A	08/15/03	3227269
		Dilution Factor: 1		MDL.....: 0.054		
Nitrate/Nitrite as N	24.3	5.0	mg/kg	MCANW 353.1	08/18/03	3230441
		Dilution Factor: 10		MDL.....: 0.36		
Oil and Grease (Gravimetric)	ND	200	mg/kg	SW846 9071B	08/22/03	3232480
		Dilution Factor: 1		MDL.....: 30.5		

MW
9-18-03

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F3H120240 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
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/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				
Oil and Grease (Gravimetric)		Work Order #: FWMPW1AA		MB Lot-Sample #:	F3H200000-480	
	ND	200	mg/kg	SW846 9071B	08/22/03	3232480
		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

Lot-Sample #...: F3H120240 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
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					
Oil and Grease (Gravimetric)		WO#:FWMPW1AC-LCS/FWMPW1AD-LCSD				LCS Lot-Sample#: F3H200000-480		
	1330	1200	mg/kg	90		SW846 9071B	08/22/03	3232480
	1330	1200	mg/kg	90	0.0	SW846 9071B	08/22/03	3232480
			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 #...: F3H120240 Matrix.....: SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
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.