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SEVERN TRENT STL

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

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ANALYTICAL REPORT

PROJECT NO. 200 PW-2/200-PW

F03-006

Lot #: F4L020421
SDG #: W04382

Steve Trent

Fluor Hanford Inc
825 Jadwin Ave.
Richland, WA 99352

RECEIVED
AUG 2 2 2005
EDMC

SEVERN TRENT LABORATORIES, INC.

MARTI WARD
Project Manager

RECEIVED
JAN 1 2 2004

January 6, 2005

Case Narrative
SDG: W04382
Lot # F4L020421, F4L070259

This report contains the analytical results for the four samples received under chain of custody by STL St. Louis between December 2, 2004 and December 7, 2004. These samples are associated with your F03-006 SAF.

The analytical results included in this report meet all applicable quality control procedure requirements except as noted below.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by STL St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of this report.

All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Volatiles

The samples were collected on 11/15/04 and received at the laboratory on 12/07/04. The samples were out of holding time when received.

The target compound (add-on) 2-pentaonone is not run by the lab. A Library Search was performed and this compound was not found in the samples.

The Method Blank surrogate recovery for 1,2-Dichloroethane-d4 is (139.23%) outside the upper acceptance limits. The target analytes are below the reporting limits in the Blank.

The surrogate recovery foe 1,2-Dichloroethane-d4 in sample "B1B573" is outside the upper QC limit, indicating a potential positive bias. There were no target analytes associated with this surrogate observed above the reporting limit in the sample; therefore the sample data was not adversely affected by this excursion. The MS/MSD run on this sample had acceptable surrogate recovery.

Sample B1B575 had surrogate recoveries outside the lower established QC limits in the initial run. The sample was re-prepared/re-analyzed within holding time. The reanalysis yielded comparable results and confirmed the initial run. The initial run is reported.

The LCS recoveries for batch 4345350 are outside QC limits for less than 10% of the compounds spiked. Laboratory QC practices, based on federal guidance documents, allow for up to 10% of the spike compounds to be outside QC criteria without necessitating re-preparation/re-analysis. Sample purge efficiency and compliance is demonstrated by the remaining acceptable LCS recoveries.

TPH- Gasoline

The samples were received by the lab after the 14-day holding time had expired. Results are provided with this narrative.

Case Narrative
SDG: W04382

Oil & Grease

The LCS Duplicate failed low. The LCS and two Matrix Spikes were within the QC limits. Sample is out of hold and there will be no re-analysis.

Nitrate/Nitrite-N

The MS recovery was above the control limit. The sample was non-detect and was not adversely affected by the high bias in the MS. LCS recovery met criteria.

SAMPLE SUMMARY

W04382 : F4L020421

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
GX64X	001	B1B5F9	11/18/04	08:15

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.

(Continued on next page)

SAMPLE SUMMARY

W04382 : F4L070259

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
G0FPR	001	B1B573	11/15/04	09:30
G0FQL	002	B1B574	11/16/04	13:55
G0FQR	003	B1B575	11/16/04	13:55

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

W04382

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Nitrate-Nitrite	MCAWW 353.1	
Oil & Grease (Gravimetric)	SW846 9071A	
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
Volatile Organics by GC/MS	SW846 8260B	SW846 5030B/826
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.

STL ST. LOUIS

FLUOR Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F03-006-312	PAGE 1 OF 1
COLLECTOR: Pope/Pfister/Wiberg/Tyra	COMPANY CONTACT: LC Hulstrom	TELEPHONE NO.: 373-3928	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8N; AIR QUALITY: ☐; DATA TURNAROUND: 45 Days / 45 Days
SAMPLING LOCATION: 200-PW2/216-S-7, 44-46.5 ft	PROJECT DESIGNATION: 200-PW-2/200-PW-4 OU - Borehole Soil Sampling		SAF NO.: F03-006	
ICE CHEST NO.: GRP-04-018	FIELD LOGBOOK NO.: HNF-N-336 1	COA: 119153ES10	METHOD OF SHIPMENT: Federal Express	
SHIPPED TO: Severn Trent St. Louis	OFFSITE PROPERTY NO.: See PTR 14509		BILL OF LADING/AIR BILL NO.: See PTR 14509	

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS

SPECIAL HANDLING AND/OR STORAGE: RADIOACTIVE TIE TO: B1B588

PRESERVATION	Cool 4C
TYPE OF CONTAINER	aG
NO. OF CONTAINER(S)	1
VOLUME	60mL
SAMPLE ANALYSIS	NO2/NO3 - 353.1; Oil - Grease - 413.1;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME									
B1B5F9	SOIL	11-18-04	08:15	✓								

CHAIN OF POSSESSION		SIGN/ PRINT NAMES	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Kevin D. Hughes [signature]	11:30 11-18-04	S-7 Site fridge	11-18-04 11:30
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
S-7 Site fridge	11-23-04 14:30	Kevin Hughes [signature]	11-23-04 14:30
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
Kevin D. Hughes [signature]	11-23-04 15:40	MO-026 Site fridge #3	11-23-04 15:40
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
M.H. Baechler [signature]	12/1/04 1110	M.H. Baechler [signature]	12/1/04 1110
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
M.H. Baechler [signature]	12/1/04 1110	Fed Ex	
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
		B-[illegible]	12/2/04 12:30
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS: W04382

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

LOT# F4L020421

SDG# W04382

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
Project: F03-006: 200-PW-2/PW-4

Group #: WSCF20042191

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
Radiochemistry														
W040002226	B1B588	TRENT	12587-46-1	Gross alpha	SOIL	LA-508-421	U	-5.20	pCi/g	1.00	1.0	11/22/04	11/18/04	11/18/04
W040002226	B1B588	TRENT	E,T,C	Alpha error by LC	SOIL	LA-508-421		+- 5.2	pCi/g	1.00	0.0	11/22/04	11/18/04	11/18/04
W040002226	B1B588	TRENT	12587-47-2	Gross beta	SOIL	LA-508-421		140	pCi/g	1.00	1.4	11/22/04	11/18/04	11/18/04
W040002226	B1B588	TRENT	E,T,C	Beta error by LC	SOIL	LA-508-421		+- 17	pCi/g	1.00	0.0	11/22/04	11/18/04	11/18/04

MDL=Minimum Detection Limit U - Analyzed for but not detected above limiting criteria.
RQ=Result Qualifier

DF=Dilution Factor

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 1.1
Groundwater Remediation Program

SEVERN TRENT **STL**

Lot No: F4L020421
W04382

Condition Upon Receipt Form
St. Louis Laboratory

Client: Richland
Quote No: 53485
Shipper/No: See below

Date: 12.02.04 Time: 08:30
Initiated by: JL / BD
COC/RFA Numbers: See below

Condition/Variance (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	Y N	Sample received in undamaged condition?	7.	Y N	Sample received with Chain of Custody?
2.	Y N	Sample received within 4-C ± 2-C* ?	8.	Y N	Chain of Custody matches sample IDs on containers?
		Record See below	9.	Y N N/A	Custody seal received intact on cooler.?
3.	Y N N/A	Sample received with proper pH [1]?	10.	Y N N/A	Custody seal tamper evident on cooler.?
4.	Y N	If N/A – Was pH taken by original STL lab?	11.	Y N N/A	Custody seal on bottles received intact?
5.	Y N	Sample received in proper containers?	12.	Y N N/A	Custody seal tamper evident on bottles?
6.	Y N	Sample volume sufficient for analysis?	13.	Y N	Was CUR (equivalent) rec' d from original STL lab?

* Temperature Variance Does Not Affect the Following Analyses:

[1]For DOE-AL (Pantex, LANL, Sandia) sites, verify pH all containers received, except for VOA, TOX, and soils.

Notes: Fed Ex TRK# 7914 0385 3834 FORM 0201 - 3° W05-012-2
7903 5304 8243 3° W05-012-23
8254 3° W05-012-19
7914 0385 3801 4° W05-012-4
7927 9043 5492 3° W05-012-15
7919 9249 9061 ~~4°~~ 5°
7914 0385 3812 2° W05-012-27
7927 9043 5492 5° F03-006-312

Corrective Action:

☐ Client's Name: Informed by: By:

☐ Sample(s) processed "as is".

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

Project Management Review: MWard Date: 12-3-04

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

ADMIN-0004, Revised 2/17/04
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Fluor Hanford Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST		F03-006-318	PAGE 1 OF 1
COLLECTOR: J Pope/Pfister/Wiberg/Tyra	COMPANY CONTACT: TRENT, SJ	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ	PRICE CODE: 8N; AIR QUALITY: ☐; DATA TURNAROUND: 45 Days / 45 Days
SAMPLING LOCATION: 200-PW2/216-S-7	PROJECT DESIGNATION: 200-PW-2/200-PW-4 OU - Borehole Soil Sampling		SAF NO.: F03-006	
ICE CHEST NO.: GRP-04-017	FIELD LOGBOOK NO.:	COA: 119153ES10	METHOD OF SHIPMENT: Federal Express	
SHIPPED TO: Severn Trent St. Louis	OFFSITE PROPERTY NO.: 2u RSR DD78		BILL OF LADING/AIR BILL NO.: 2u RSIC DD78	

MATRIX*: A=Air, DL=Drum Liquids, DS=Drum Solids, L=Liquid, O=Oil, S=Soil, SE=Sediment, T=Tissue, V=Vegitation, W=Water, WI=Wipe, X=Other

POSSIBLE SAMPLE HAZARDS/ REMARKS: W04382

SPECIAL HANDLING AND/OR STORAGE: RADIOACTIVE TIE TO: B1B573, B1B574, B1B575

PRESERVATION	Cool 4C	Cool 4C
TYPE OF CONTAINER	aGs*	aGs*
NO. OF CONTAINER(S)	1	1
VOLUME	40mL	40mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS	TPH-Gasoline Range - WTPH-G;

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME			
B1B573	SOIL	11/15/04	0930	X	X	2x vial 40
B1B574	SOIL	11/16/04	1335	X	X	↓
B1B575	SOIL	11/16/04	1335	X	X	↓

CHAIN OF POSSESSION — SIGN/ PRINT NAMES

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
MP-826 RLB 12/6/04	0845	M.H. Bauchlin M.G. Bauchlin	12/6/04 0845
M.H. Bauchlin M.G. Bauchlin	12/6/04 0845	Lid	

SPECIAL INSTRUCTIONS

** The laboratory is to report both kerosene and diesel range compounds from WTPH-D analysis. FH acknowledges that the analytical holding times (less than 14 days) may not be met by the labs due to the radiological characteristics of the samples.
(1)VOA - 8260B (TCL); VOA - 8260B (Add-On) {1-Butanol, 2-Pentanone, n-Butylbenzene}

Original COCs Attached for documentation

LABORATORY SECTION	RECEIVED BY: Jill Clarke STL	TITLE: 12-07-04	DATE/TIME: @ 08:45
FINAL SAMPLE DISPOSITION	DISPOSAL METHOD	DISPOSED BY	DATE/TIME

A-6003-618(03/03)

LOT # 04LF02 07.21

SDG # W04382

STL ST. LOUIS

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SEVERN TRENT STL

Lot No: F4L070259
W04382

Condition Upon Receipt Form
St. Louis Laboratory

Client: Richland
Date: 12·07·04 Time: 09:45
Quote No: 53485
Initiated by: [illegible]
Shipper/No: Fed Ex 8484 8369 8087
COC/RFA Numbers: F03-006-318

Condition/Variance (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	(Y) N	Sample received in undamaged condition?	7.	(Y) N	Sample received with Chain of Custody?
2.	(Y) N	Sample received within 4·C ± 2·C* ?	8.	(Y) N	Chain of Custody matches sample IDs on containers?
		Record 3	9.	(Y) N N/A	Custody seal received intact on cooler.?
3.	Y N (N/A)	Sample received with proper pH [1]?	10.	(Y) N N/A	Custody seal tamper evident on cooler.?
4.	Y N	If N/A – Was pH taken by original STL lab?	11.	(Y) N N/A	Custody seal on bottles received intact?
5.	(Y) N	Sample received in proper containers?	12.	(Y) N N/A	Custody seal tamper evident on bottles?
6.	(Y) N	Sample volume sufficient for analysis?	13.	Y N	Was CUR (equivalent) rec' d from original STL lab?

* Temperature Variance Does Not Affect the Following Analyses:

[1]For DOE-AL (Pantex, LANL, Sandia) sites, verify pH all containers received, except for VOA, TOX, and soils.

Notes:

Corrective Action:

☐ Client's Name: Informed by: By:

☐ Sample(s) processed "as is".

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

Project Management Review: MWard Date: 12·9·04

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

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VOLATILE ORGANICS

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FLUOR HANFORD IC

Client Sample ID: B1B573

GC/MS Volatiles

Lot-Sample #...: F4L070259-001 **Work Order #...:** G0FPR1AC **Matrix.....:** SOLID
Date Sampled...: 11/15/04 **Date Received..:** 12/07/04
Prep Date.....: 12/08/04 **Analysis Date..:** 12/08/04
Prep Batch #...: 4344048
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Chloromethane	ND	12	ug/kg	0.27
Vinyl chloride	ND	5.8	ug/kg	0.74
Bromomethane	**1.1 J**	**12**	**ug/kg**	**1.0**
Chloroethane	ND	12	ug/kg	0.65
Acetone	ND	23	ug/kg	1.5
1,1-Dichloroethene	ND	5.8	ug/kg	0.79
Methylene chloride	**4.4 J,B**	**5.8**	**ug/kg**	**3.1**
Carbon disulfide	ND	5.8	ug/kg	0.31
1,1-Dichloroethane	ND	5.8	ug/kg	0.24
2-Butanone	ND	23	ug/kg	1.3
1,2-Dichloroethene (total)	ND	12	ug/kg	0.71
Chloroform	ND	5.8	ug/kg	0.14
1,1,1-Trichloroethane	ND	5.8	ug/kg	0.13
Carbon tetrachloride	ND	5.8	ug/kg	0.16
1,2-Dichloroethane	ND	5.8	ug/kg	0.16
Benzene	ND	5.8	ug/kg	0.13
Trichloroethene	ND	5.8	ug/kg	0.070
1,2-Dichloropropane	ND	5.8	ug/kg	0.12
Bromodichloromethane	ND	5.8	ug/kg	0.081
4-Methyl-2-pentanone	ND	23	ug/kg	1.0
cis-1,3-Dichloropropene	ND	5.8	ug/kg	0.17
Toluene	ND	5.8	ug/kg	0.68
trans-1,3-Dichloropropene	ND	5.8	ug/kg	0.61
1,1,2-Trichloroethane	ND	5.8	ug/kg	0.89
2-Hexanone	ND	23	ug/kg	1.5
Tetrachloroethene	ND	5.8	ug/kg	0.23
Dibromochloromethane	ND	5.8	ug/kg	0.68
Chlorobenzene	ND	5.8	ug/kg	0.14
Ethylbenzene	ND	5.8	ug/kg	0.44
Xylenes (total)	ND	12	ug/kg	0.95
Styrene	ND	5.8	ug/kg	0.23
Bromoform	ND	5.8	ug/kg	0.72
1,1,2,2-Tetrachloroethane	ND	5.8	ug/kg	0.85
1,2-Dichlorobenzene	ND	5.8	ug/kg	1.0
1,3-Dichlorobenzene	ND	5.8	ug/kg	0.60
1,4-Dichlorobenzene	ND	5.8	ug/kg	0.45
1-Butanol	ND	120	ug/kg	38

(Continued on next page)

FLUOR HANFORD IC

Client Sample ID: B1B573

GC/MS Volatiles

Lot-Sample #...: F4L070259-001 **Work Order #...:** G0FPR1AC **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
n-Butylbenzene	ND	5.8	ug/kg	0.87

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	94	(80 - 130)
Dibromofluoromethane	115	(78 - 130)
1,2-Dichloroethane-d4	144 *	(72 - 134)
4-Bromofluorobenzene	87	(68 - 150)

NOTE(S):

* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

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

FLUOR HANFORD IC

B1B573

GC/MS Volatiles

Lot-Sample #: F4L070259-001 **Work Order #:** G0FPR1AC **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT		RETENTION TIME	UNITS
Silanol, trimethyl-	1066-40-6	5.9	M	5.025	ug/kg
Ethyl acetate	141-78-6	21	M	6.94	ug/kg

NOTE(S):

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

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W04382 **Work Order #...:** G0FPR1AF-MS **Matrix.....:** SOLID
MS Lot-Sample #: F4L070259-001 G0FPR1AG-MSD
Date Sampled...: 11/15/04 **Date Received..:** 12/07/04
Prep Date.....: 12/08/04 **Analysis Date..:** 12/08/04
Prep Batch #...: 4344048
Dilution Factor: 1 **% Moisture.....:** 14

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Chloromethane	ND	58.6	41.1	ug/kg	70		SW846 8260B
	ND	58.2	36.6	ug/kg	63	11	SW846 8260B
Vinyl chloride	ND	58.6	46.6	ug/kg	80		SW846 8260B
	ND	58.2	39.1	ug/kg	67	18	SW846 8260B
Bromomethane	1.1	58.6	26.7	ug/kg	44		SW846 8260B
	1.1	58.2	26.1	ug/kg	43	2.1	SW846 8260B
Chloroethane	ND	58.6	54.8	ug/kg	93		SW846 8260B
	ND	58.2	48.1	ug/kg	83	13	SW846 8260B
Acetone	ND	58.6	65.2	ug/kg	111		SW846 8260B
	ND	58.2	64.8	ug/kg	111	0.69	SW846 8260B
1,1-Dichloroethene	ND	58.6	51.4	ug/kg	88		SW846 8260B
	ND	58.2	46.2	ug/kg	79	11	SW846 8260B
Methylene chloride	4.4	58.6	55.4	ug/kg	87		SW846 8260B
	4.4	58.2	52.8	ug/kg	83	4.8	SW846 8260B
Carbon disulfide	ND	58.6	66.8	ug/kg	114		SW846 8260B
	ND	58.2	57.0	ug/kg	98	16	SW846 8260B
1,1-Dichloroethane	ND	58.6	63.3	ug/kg	108		SW846 8260B
	ND	58.2	57.5	ug/kg	99	9.6	SW846 8260B
2-Butanone	ND	58.6	72.8	ug/kg	124		SW846 8260B
	ND	58.2	64.5	ug/kg	111	12	SW846 8260B
1,2-Dichloroethene (total)	ND	117	116	ug/kg	99		SW846 8260B
	ND	116	107	ug/kg	92	8.0	SW846 8260B
Chloroform	ND	58.6	65.7	ug/kg	112		SW846 8260B
	ND	58.2	59.7	ug/kg	103	9.5	SW846 8260B
1,1,1-Trichloroethane	ND	58.6	63.1	ug/kg	108		SW846 8260B
	ND	58.2	58.1	ug/kg	100	8.2	SW846 8260B
Carbon tetrachloride	ND	58.6	62.2	ug/kg	106		SW846 8260B
	ND	58.2	57.5	ug/kg	99	7.8	SW846 8260B
1,2-Dichloroethane	ND	58.6	68.3	ug/kg	117		SW846 8260B
	ND	58.2	61.9	ug/kg	106	9.8	SW846 8260B
Benzene	ND	58.6	64.7	ug/kg	110		SW846 8260B
	ND	58.2	58.7	ug/kg	101	9.8	SW846 8260B
Trichloroethene	ND	58.6	63.6	ug/kg	109		SW846 8260B
	ND	58.2	62.4	ug/kg	107	1.9	SW846 8260B
1,2-Dichloropropane	ND	58.6	58.9	ug/kg	100		SW846 8260B
	ND	58.2	52.3	ug/kg	90	12	SW846 8260B
Bromodichloromethane	ND	58.6	53.0	ug/kg	90		SW846 8260B
	ND	58.2	48.1	ug/kg	83	9.5	SW846 8260B

(Continued on next page)

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W04382 **Work Order #...:** G0FPR1AF-MS **Matrix.....:** SOLID
MS Lot-Sample #: F4L070259-001 G0FPR1AG-MSD

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
4-Methyl-2-pentanone	ND	58.6	45.2	ug/kg	77		SW846 8260B
	ND	58.2	41.8	ug/kg	72	7.9	SW846 8260B
cis-1,3-Dichloropropene	ND	58.6	56.4	ug/kg	96		SW846 8260B
	ND	58.2	49.2	ug/kg	85	14	SW846 8260B
Toluene	ND	58.6	50.3	ug/kg	86		SW846 8260B
	ND	58.2	47.1	ug/kg	81	6.6	SW846 8260B
trans-1,3-Dichloropropene	ND	58.6	59.1	ug/kg	101		SW846 8260B
	ND	58.2	52.4	ug/kg	90	12	SW846 8260B
1,1,2-Trichloroethane	ND	58.6	51.9	ug/kg	89		SW846 8260B
	ND	58.2	49.4	ug/kg	85	5.1	SW846 8260B
2-Hexanone	ND	58.6	64.7	ug/kg	110		SW846 8260B
	ND	58.2	64.4	ug/kg	111	0.39	SW846 8260B
Tetrachloroethene	ND	58.6	42.2	ug/kg	72		SW846 8260B
	ND	58.2	39.3	ug/kg	67	7.2	SW846 8260B
Dibromochloromethane	ND	58.6	51.7	ug/kg	88		SW846 8260B
	ND	58.2	55.2	ug/kg	95	6.6	SW846 8260B
Chlorobenzene	ND	58.6	57.1	ug/kg	98		SW846 8260B
	ND	58.2	52.1	ug/kg	89	9.2	SW846 8260B
Ethylbenzene	ND	58.6	56.3	ug/kg	96		SW846 8260B
	ND	58.2	50.9	ug/kg	87	10	SW846 8260B
Styrene	ND	58.6	55.9	ug/kg	96		SW846 8260B
	ND	58.2	53.7	ug/kg	92	4.0	SW846 8260B
Bromoform	ND	58.6	55.0	ug/kg	94		SW846 8260B
	ND	58.2	54.8	ug/kg	94	0.38	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	58.6	38.6	ug/kg	66		SW846 8260B
	ND	58.2	32.2	ug/kg	55	18	SW846 8260B
1,2-Dichlorobenzene	ND	58.6	55.3	ug/kg	94		SW846 8260B
	ND	58.2	55.0	ug/kg	94	0.54	SW846 8260B
1,3-Dichlorobenzene	ND	58.6	54.5	ug/kg	93		SW846 8260B
	ND	58.2	54.0	ug/kg	93	0.96	SW846 8260B
1,4-Dichlorobenzene	ND	58.6	52.3	ug/kg	89		SW846 8260B
	ND	58.2	53.5	ug/kg	92	2.4	SW846 8260B
n-Butylbenzene	ND	58.6	60.0	ug/kg	102		SW846 8260B
	ND	58.2	57.8	ug/kg	99	3.7	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	99	(80 - 130)
	86	(80 - 130)
Dibromofluoromethane	96	(78 - 130)
	87	(78 - 130)

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MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W04382 **Work Order #...:** G0FPR1AF-MS **Matrix.....:** SOLID
MS Lot-Sample #: F4L070259-001 G0FPR1AG-MSD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	124	(72 - 134)
	114	(72 - 134)
4-Bromofluorobenzene	96	(68 - 150)
	96	(68 - 150)

NOTE(S):

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

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

FLUOR HANFORD IC

Client Sample ID: B1B574

GC/MS Volatiles

Lot-Sample #...: F4L070259-002 **Work Order #...:** G0FQL1AC **Matrix.....:** SOLID
Date Sampled...: 11/16/04 **Date Received..:** 12/07/04
Prep Date.....: 12/08/04 **Analysis Date..:** 12/08/04
Prep Batch #...: 4344048
Dilution Factor: 1
% Moisture.....: 2.0 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Chloromethane	ND	10	ug/kg	0.23
Vinyl chloride	ND	5.1	ug/kg	0.65
Bromomethane	**0.93 J**	**10**	**ug/kg**	**0.91**
Chloroethane	ND	10	ug/kg	0.57
Acetone	ND	20	ug/kg	1.3
1,1-Dichloroethene	ND	5.1	ug/kg	0.69
Methylene chloride	**2.8 J,B**	**5.1**	**ug/kg**	**2.7**
Carbon disulfide	ND	5.1	ug/kg	0.28
1,1-Dichloroethane	ND	5.1	ug/kg	0.21
2-Butanone	ND	20	ug/kg	1.1
1,2-Dichloroethene (total)	ND	10	ug/kg	0.62
Chloroform	ND	5.1	ug/kg	0.12
1,1,1-Trichloroethane	ND	5.1	ug/kg	0.11
Carbon tetrachloride	ND	5.1	ug/kg	0.14
1,2-Dichloroethane	ND	5.1	ug/kg	0.14
Benzene	ND	5.1	ug/kg	0.11
Trichloroethene	ND	5.1	ug/kg	0.061
1,2-Dichloropropane	ND	5.1	ug/kg	0.10
Bromodichloromethane	ND	5.1	ug/kg	0.071
4-Methyl-2-pentanone	ND	20	ug/kg	0.92
cis-1,3-Dichloropropene	ND	5.1	ug/kg	0.15
Toluene	ND	5.1	ug/kg	0.60
trans-1,3-Dichloropropene	ND	5.1	ug/kg	0.54
1,1,2-Trichloroethane	ND	5.1	ug/kg	0.79
2-Hexanone	ND	20	ug/kg	1.3
Tetrachloroethene	ND	5.1	ug/kg	0.20
Dibromochloromethane	ND	5.1	ug/kg	0.60
Chlorobenzene	ND	5.1	ug/kg	0.12
Ethylbenzene	ND	5.1	ug/kg	0.39
Xylenes (total)	ND	10	ug/kg	0.84
Styrene	ND	5.1	ug/kg	0.20
Bromoform	ND	5.1	ug/kg	0.63
1,1,2,2-Tetrachloroethane	ND	5.1	ug/kg	0.75
1,2-Dichlorobenzene	ND	5.1	ug/kg	0.89
1,3-Dichlorobenzene	ND	5.1	ug/kg	0.53
1,4-Dichlorobenzene	ND	5.1	ug/kg	0.40
1-Butanol	ND	100	ug/kg	34

(Continued on next page)

FLUOR HANFORD IC

Client Sample ID: B1B574

GC/MS Volatiles

Lot-Sample #...: F4L070259-002 **Work Order #...:** G0FQL1AC **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
n-Butylbenzene	ND	5.1	ug/kg	0.77

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	84	(80 - 130)
Dibromofluoromethane	79	(78 - 130)
1,2-Dichloroethane-d4	119	(72 - 134)
4-Bromofluorobenzene	88	(68 - 150)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

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

FLUOR HANFORD IC

B1B574

GC/MS Volatiles

Lot-Sample #: F4L070259-002 **Work Order #:** G0FQL1AC **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/kg

FLUOR HANFORD IC

Client Sample ID: B1B575

GC/MS Volatiles

Lot-Sample #...: F4L070259-003 **Work Order #...:** G0FQR1AC **Matrix.....:** SOLID
Date Sampled...: 11/16/04 **Date Received..:** 12/07/04
Prep Date.....: 12/09/04 **Analysis Date..:** 12/09/04
Prep Batch #...: 4345350
Dilution Factor: 1
% Moisture.....: 3.8 **Method.....:** SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Chloromethane	ND	10	ug/kg	0.24
Vinyl chloride	ND	5.2	ug/kg	0.66
Bromomethane	ND	10	ug/kg	0.92
Chloroethane	ND	10	ug/kg	0.58
Acetone	ND	21	ug/kg	1.4
1,1-Dichloroethene	ND	5.2	ug/kg	0.71
Methylene chloride	**3.0 J**	**5.2**	**ug/kg**	**2.7**
Carbon disulfide	ND	5.2	ug/kg	0.28
1,1-Dichloroethane	ND	5.2	ug/kg	0.22
2-Butanone	ND	21	ug/kg	1.2
1,2-Dichloroethene (total)	ND	10	ug/kg	0.63
Chloroform	ND	5.2	ug/kg	0.12
1,1,1-Trichloroethane	ND	5.2	ug/kg	0.11
Carbon tetrachloride	ND	5.2	ug/kg	0.15
1,2-Dichloroethane	ND	5.2	ug/kg	0.15
Benzene	ND	5.2	ug/kg	0.11
Trichloroethene	ND	5.2	ug/kg	0.062
1,2-Dichloropropane	ND	5.2	ug/kg	0.10
Bromodichloromethane	ND	5.2	ug/kg	0.073
4-Methyl-2-pentanone	ND	21	ug/kg	0.94
cis-1,3-Dichloropropene	ND	5.2	ug/kg	0.16
Toluene	ND	5.2	ug/kg	0.61
trans-1,3-Dichloropropene	ND	5.2	ug/kg	0.55
1,1,2-Trichloroethane	ND	5.2	ug/kg	0.80
2-Hexanone	ND	21	ug/kg	1.3
Tetrachloroethene	ND	5.2	ug/kg	0.21
Dibromochloromethane	ND	5.2	ug/kg	0.61
Chlorobenzene	ND	5.2	ug/kg	0.12
Ethylbenzene	ND	5.2	ug/kg	0.39
Xylenes (total)	ND	10	ug/kg	0.85
Styrene	ND	5.2	ug/kg	0.21
Bromoform	ND	5.2	ug/kg	0.64
1,1,2,2-Tetrachloroethane	ND	5.2	ug/kg	0.76
1,2-Dichlorobenzene	ND	5.2	ug/kg	0.90
1,3-Dichlorobenzene	ND	5.2	ug/kg	0.54
1,4-Dichlorobenzene	ND	5.2	ug/kg	0.41
1-Butanol	ND	100	ug/kg	34

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FLUOR HANFORD IC

Client Sample ID: B1B575

GC/MS Volatiles

Lot-Sample #...: F4L070259-003 **Work Order #...:** G0FQR1AC **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
n-Butylbenzene	ND	5.2	ug/kg	0.78

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	79 *	(80 - 130)
Dibromofluoromethane	23 *	(78 - 130)
1,2-Dichloroethane-d4	105	(72 - 134)
4-Bromofluorobenzene	82	(68 - 150)

NOTE(S):

* Surrogate recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

FLUOR HANFORD IC

B1B575

GC/MS Volatiles

Lot-Sample #: F4L070259-003 **Work Order #:** G0FQR1AC **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/kg

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: W04382 **Work Order #...:** G0LEF1AA **Matrix.....:** SOLID
MB Lot-Sample #: F4L090000-048

Prep Date.....: 12/08/04
Analysis Date..: 12/08/04 **Prep Batch #...:** 4344048
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/kg	SW846 8260B
Vinyl chloride	ND	5.0	ug/kg	SW846 8260B
Bromomethane	ND	10	ug/kg	SW846 8260B
Chloroethane	ND	10	ug/kg	SW846 8260B
Acetone	ND	20	ug/kg	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
Methylene chloride	**4.2 J**	**5.0**	**ug/kg**	**SW846 8260B**
Carbon disulfide	ND	5.0	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
2-Butanone	ND	20	ug/kg	SW846 8260B
1,2-Dichloroethene (total)	ND	10	ug/kg	SW846 8260B
Chloroform	ND	5.0	ug/kg	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
Benzene	ND	5.0	ug/kg	SW846 8260B
Trichloroethene	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/kg	SW846 8260B
Bromodichloromethane	ND	5.0	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
Toluene	ND	5.0	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
2-Hexanone	ND	20	ug/kg	SW846 8260B
Tetrachloroethene	ND	5.0	ug/kg	SW846 8260B
Dibromochloromethane	ND	5.0	ug/kg	SW846 8260B
Chlorobenzene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	ND	10	ug/kg	SW846 8260B
Styrene	ND	5.0	ug/kg	SW846 8260B
Bromoform	ND	5.0	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	SW846 8260B
1,2-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1,3-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1,4-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1-Butanol	ND	100	ug/kg	SW846 8260B
n-Butylbenzene	ND	5.0	ug/kg	SW846 8260B

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: W04382 **Work Order #...:** G0LEF1AA **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	94	(80 - 130)
Dibromofluoromethane	123	(78 - 130)
1,2-Dichloroethane-d4	139 *	(72 - 134)
4-Bromofluorobenzene	88	(68 - 150)

NOTE(S):

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

* Surrogate recovery is outside stated control limits.

J Estimated result. Result is less than RL.

FLUOR HANFORD IC

Method Blank Report

GC/MS Volatiles

Lot-Sample #: F4L090000-048 B **Work Order #:** G0LEF1AA **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/kg

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: W04382 **Work Order #...:** G0Q761AA **Matrix.....:** SOLID
MB Lot-Sample #: F4L100000-350

Prep Date.....: 12/09/04
Analysis Date..: 12/09/04 **Prep Batch #...:** 4345350
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/kg	SW846 8260B
Vinyl chloride	ND	5.0	ug/kg	SW846 8260B
Bromomethane	ND	10	ug/kg	SW846 8260B
Chloroethane	ND	10	ug/kg	SW846 8260B
Acetone	ND	20	ug/kg	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
Methylene chloride	ND	5.0	ug/kg	SW846 8260B
Carbon disulfide	ND	5.0	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
2-Butanone	ND	20	ug/kg	SW846 8260B
1,2-Dichloroethene (total)	ND	10	ug/kg	SW846 8260B
Chloroform	ND	5.0	ug/kg	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
Benzene	ND	5.0	ug/kg	SW846 8260B
Trichloroethene	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/kg	SW846 8260B
Bromodichloromethane	ND	5.0	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	20	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
Toluene	ND	5.0	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
2-Hexanone	ND	20	ug/kg	SW846 8260B
Tetrachloroethene	ND	5.0	ug/kg	SW846 8260B
Dibromochloromethane	ND	5.0	ug/kg	SW846 8260B
Chlorobenzene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	ND	10	ug/kg	SW846 8260B
Styrene	ND	5.0	ug/kg	SW846 8260B
Bromoform	ND	5.0	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	SW846 8260B
1,2-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1,3-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1,4-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1-Butanol	ND	100	ug/kg	SW846 8260B
n-Butylbenzene	ND	5.0	ug/kg	SW846 8260B

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: W04382 **Work Order #...:** G0Q761AA **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	120	(80 - 130)
Dibromofluoromethane	97	(78 - 130)
1,2-Dichloroethane-d4	121	(72 - 134)
4-Bromofluorobenzene	105	(68 - 150)

NOTE(S):

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

FLUOR HANFORD IC

Method Blank Report

GC/MS Volatiles

Lot-Sample #: F4L100000-350 B **Work Order #:** G0Q761AA **Matrix:** SOLID

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
None				ug/kg

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W04382 Work Order #...: G0LEF1AC Matrix.....: SOLID
LCS Lot-Sample#: F4L090000-048
Prep Date.....: 12/08/04 Analysis Date..: 12/08/04
Prep Batch #...: 4344048
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Chloromethane	50.0	31.3	ug/kg	63	SW846 8260B
Vinyl chloride	50.0	34.2	ug/kg	68	SW846 8260B
Bromomethane	50.0	23.4	ug/kg	47	SW846 8260B
Chloroethane	50.0	43.5	ug/kg	87	SW846 8260B
Acetone	50.0	46.4	ug/kg	93	SW846 8260B
1,1-Dichloroethene	50.0	42.0	ug/kg	84	SW846 8260B
Methylene chloride	50.0	47.9	ug/kg	96	SW846 8260B
Carbon disulfide	50.0	53.2	ug/kg	106	SW846 8260B
1,1-Dichloroethane	50.0	52.1	ug/kg	104	SW846 8260B
2-Butanone	50.0	65.2	ug/kg	130	SW846 8260B
1,2-Dichloroethene (total)	100	99.1	ug/kg	99	SW846 8260B
Chloroform	50.0	55.4	ug/kg	111	SW846 8260B
1,1,1-Trichloroethane	50.0	54.4	ug/kg	109	SW846 8260B
Carbon tetrachloride	50.0	54.7	ug/kg	109	SW846 8260B
1,2-Dichloroethane	50.0	57.5	ug/kg	115	SW846 8260B
Benzene	50.0	55.3	ug/kg	111	SW846 8260B
Trichloroethene	50.0	49.8	ug/kg	100	SW846 8260B
1,2-Dichloropropane	50.0	48.7	ug/kg	97	SW846 8260B
Bromodichloromethane	50.0	45.5	ug/kg	91	SW846 8260B
4-Methyl-2-pentanone	50.0	33.4	ug/kg	67	SW846 8260B
cis-1,3-Dichloropropene	50.0	46.8	ug/kg	94	SW846 8260B
Toluene	50.0	45.2	ug/kg	90	SW846 8260B
trans-1,3-Dichloropropene	50.0	50.9	ug/kg	102	SW846 8260B
1,1,2-Trichloroethane	50.0	45.2	ug/kg	90	SW846 8260B
2-Hexanone	50.0	53.4	ug/kg	107	SW846 8260B
Tetrachloroethene	50.0	38.0	ug/kg	76	SW846 8260B
Dibromochloromethane	50.0	51.2	ug/kg	102	SW846 8260B
Chlorobenzene	50.0	50.2	ug/kg	100	SW846 8260B
Ethylbenzene	50.0	50.6	ug/kg	101	SW846 8260B
Styrene	50.0	53.4	ug/kg	107	SW846 8260B
Bromoform	50.0	50.7	ug/kg	101	SW846 8260B
1,1,2,2-Tetrachloroethane	50.0	47.3	ug/kg	95	SW846 8260B
1,2-Dichlorobenzene	50.0	54.2	ug/kg	108	SW846 8260B

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W04382 **Work Order #...:** G0LEF1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F4L090000-048

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
1,3-Dichlorobenzene	**50.0**	**53.4**	**ug/kg**	**107**	**SW846 8260B**
1,4-Dichlorobenzene	**50.0**	**52.3**	**ug/kg**	**105**	**SW846 8260B**
n-Butylbenzene	**50.0**	**59.5**	**ug/kg**	**119**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	90	(88 - 115)
Dibromofluoromethane	97	(84 - 120)
1,2-Dichloroethane-d4	118	(78 - 122)
4-Bromofluorobenzene	104	(80 - 120)

NOTE(S):

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

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W04382 **Work Order #...:** G0Q761AC **Matrix.....:** SOLID
LCS Lot-Sample#: F4L100000-350
Prep Date.....: 12/09/04 **Analysis Date..:** 12/09/04
Prep Batch #...: 4345350
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Chloromethane	50.0	60.9	ug/kg	122	SW846 8260B
Vinyl chloride	50.0	59.7	ug/kg	119	SW846 8260B
Bromomethane	50.0	29.8	ug/kg	60	SW846 8260B
Chloroethane	50.0	57.2	ug/kg	114	SW846 8260B
Acetone	50.0	80.2 a	ug/kg	160	SW846 8260B
1,1-Dichloroethene	50.0	47.5	ug/kg	95	SW846 8260B
Methylene chloride	50.0	46.2	ug/kg	92	SW846 8260B
Carbon disulfide	50.0	62.5	ug/kg	125	SW846 8260B
1,1-Dichloroethane	50.0	55.5	ug/kg	111	SW846 8260B
2-Butanone	50.0	77.6 a	ug/kg	155	SW846 8260B
1,2-Dichloroethene (total)	100	98.1	ug/kg	98	SW846 8260B
Chloroform	50.0	55.3	ug/kg	111	SW846 8260B
1,1,1-Trichloroethane	50.0	58.1	ug/kg	116	SW846 8260B
Carbon tetrachloride	50.0	56.2	ug/kg	112	SW846 8260B
1,2-Dichloroethane	50.0	64.1 a	ug/kg	128	SW846 8260B
Benzene	50.0	52.8	ug/kg	106	SW846 8260B
Trichloroethene	50.0	50.6	ug/kg	101	SW846 8260B
1,2-Dichloropropane	50.0	58.5	ug/kg	117	SW846 8260B
Bromodichloromethane	50.0	57.7	ug/kg	115	SW846 8260B
4-Methyl-2-pentanone	50.0	40.3	ug/kg	81	SW846 8260B
cis-1,3-Dichloropropene	50.0	57.7	ug/kg	115	SW846 8260B
Toluene	50.0	48.1	ug/kg	96	SW846 8260B
trans-1,3-Dichloropropene	50.0	56.6	ug/kg	113	SW846 8260B
1,1,2-Trichloroethane	50.0	47.9	ug/kg	96	SW846 8260B
2-Hexanone	50.0	65.4	ug/kg	131	SW846 8260B
Tetrachloroethene	50.0	40.3	ug/kg	81	SW846 8260B
Dibromochloromethane	50.0	48.5	ug/kg	97	SW846 8260B
Chlorobenzene	50.0	53.7	ug/kg	107	SW846 8260B
Ethylbenzene	50.0	51.0	ug/kg	102	SW846 8260B
Styrene	50.0	53.0	ug/kg	106	SW846 8260B
Bromoform	50.0	57.6	ug/kg	115	SW846 8260B
1,1,2,2-Tetrachloroethane	50.0	49.7	ug/kg	99	SW846 8260B
1,2-Dichlorobenzene	50.0	49.9	ug/kg	100	SW846 8260B

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LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: W04382 **Work Order #...:** G0Q761AC **Matrix.....:** SOLID
LCS Lot-Sample#: F4L100000-350

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
1,3-Dichlorobenzene	**50.0**	**49.3**	**ug/kg**	**99**	**SW846 8260B**
1,4-Dichlorobenzene	**50.0**	**48.7**	**ug/kg**	**97**	**SW846 8260B**
n-Butylbenzene	**50.0**	**52.2**	**ug/kg**	**104**	**SW846 8260B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	98	(88 - 115)
Dibromofluoromethane	94	(84 - 120)
1,2-Dichloroethane-d4	112	(78 - 122)
4-Bromofluorobenzene	106	(80 - 120)

NOTE(S):

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

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

FLUOR HANFORD IC

Client Sample ID: B1B573

GC Volatiles

Lot-Sample #...: F4L070259-001 **Work Order #...:** G0FPR1AD **Matrix.....:** SOLID
Date Sampled...: 11/15/04 **Date Received..:** 12/07/04
Prep Date.....: 12/10/04 **Analysis Date..:** 12/10/04
Prep Batch #...: 4348103
Dilution Factor: 1
% Moisture.....: 14 **Method.....:** SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Volatile Petroleum Hydrocarbons	ND	0.10	mg/kg	0.020

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	72	(28 - 124)

FLUOR HANFORD IC

Client Sample ID: B1B574

GC Volatiles

Lot-Sample #...: F4L070259-002 **Work Order #...:** G0FQL1AD **Matrix.....:** SOLID
Date Sampled...: 11/16/04 **Date Received..:** 12/07/04
Prep Date.....: 12/10/04 **Analysis Date..:** 12/10/04
Prep Batch #...: 4348103
Dilution Factor: 1
% Moisture.....: 2.0 **Method.....:** SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Volatile Petroleum Hydrocarbons	ND	0.10	mg/kg	0.020

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	76	(28 - 124)

MATRIX SPIKE SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: F4L070259 **Work Order #...:** G0FQL1AF-MS **Matrix.....:** SOLID
MS Lot-Sample #: F4L070259-002 G0FQL1AG-MSD
Date Sampled...: 11/16/04 **Date Received..:** 12/07/04
Prep Date.....: 12/10/04 **Analysis Date..:** 12/10/04
Prep Batch #...: 4348103
Dilution Factor: 1 **% Moisture.....:** 2.0

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Volatile Petroleum Hydrocarbons	**ND**	**1.00**	**0.927**	**mg/kg**	**93**		**SW846 8015 MOD**
	ND	**1.00**	**0.876**	**mg/kg**	**88**	**5.7**	**SW846 8015 MOD**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	95	(28 - 124)
	98	(28 - 124)

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: B1B575

GC Volatiles

Lot-Sample #...: F4L070259-003 **Work Order #...:** G0FQR1AD **Matrix.....:** SOLID
Date Sampled...: 11/16/04 **Date Received..:** 12/07/04
Prep Date.....: 12/10/04 **Analysis Date..:** 12/10/04
Prep Batch #...: 4348103
Dilution Factor: 1
% Moisture.....: 3.8 **Method.....:** SW846 8015 MOD

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Volatile Petroleum Hydrocarbons	ND	0.10	mg/kg	0.020

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	75	(28 - 124)

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: W04382 **Work Order #...:** G0WDJ1AA **Matrix.....:** SOLID
MB Lot-Sample #: F4L130000-103

Prep Date.....: 12/10/04
Analysis Date..: 12/10/04 **Prep Batch #...:** 4348103
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Volatile Petroleum Hydrocarbons	ND	0.10	mg/kg	SW846 8015 MOD

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	87	(28 - 124)

NOTE(S):

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

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: W04382 **Work Order #...:** G0WDJ1AC **Matrix.....:** SOLID
LCS Lot-Sample#: F4L130000-103
Prep Date.....: 12/10/04 **Analysis Date..:** 12/10/04
Prep Batch #...: 4348103
Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Volatile Petroleum Hydrocarbons	**1.00**	**0.974**	**mg/kg**	**97**	**SW846 8015 MO**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Trifluorotoluene	105	(85 - 108)

NOTE(S):

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

Bold print denotes control parameters

WET CHEMISTRY

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FLUOR HANFORD IC

Client Sample ID: B1B5F9

General Chemistry

Lot-Sample #...: F4L020421-001 **Work Order #...:** GX64X **Matrix.....:** SOLID
Date Sampled...: 11/18/04 **Date Received..:** 12/02/04
% Moisture.....: 7.9

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate/Nitrite as N	**33.0**	**5.0**	**mg/kg**	**MCAWW 353.1**	**12/13/04**	**4349448**
		Dilution Factor: 10		MDL.....: 0.36		
Oil and Grease (Gravimetric)	ND	200	mg/kg	SW846 9071A	12/16-12/22/04	4352386
		Dilution Factor: 1		MDL.....: 82.6		
Percent Moisture	**7.9**	**0.10**	**%**	**MCAWW 160.3 MOD**	**12/06-12/07/04**	**4341262**
		Dilution Factor: 1		MDL.....:		

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F4L020421 **Work Order #...:** GX64X-SMP GX64X-DUP **Matrix.....:** SOLID

Date Sampled...: 11/18/04 **Date Received..:** 12/02/04

% Moisture.....: 7.9

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate/Nitrite as N						SD Lot-Sample #:	F4L020421-001	
	33.0	33.0	mg/kg	0.0	(0-30)	MCAWW 353.1	12/13/04	4349448
		Dilution Factor: 10						
Oil and Grease (Gravimetric)						SD Lot-Sample #:	F4L020421-001	
	ND	ND	mg/kg	0	(0-35)	SW846 9071A	12/16-12/22/04	4352386
		Dilution Factor: 1						

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: W04382 **Matrix.....:** SOLID
Date Sampled...: 11/18/04 **Date Received..:** 12/02/04

Percnt Moisture: 5.4

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate/Nitrite as N			Work Order #...: GX64X1AG			MS Lot-Sample #: F4L020421-001		
	33.0	50.0	89.0 N	mg/kg	112	MCAWW 353.1	12/13/04	4349448
			Dilution Factor: 1					
Oil and Grease (Gravimetric)			Work Order #...: GX64X1AC			MS Lot-Sample #: F4L020421-001		
	ND	3330	2500	mg/kg	75	SW846 9071A	12/16-12/22/04	4352386
			Dilution Factor: 1					
Oil and Grease (Gravimetric)			Work Order #...: G05L21AG			MS Lot-Sample #: F4L150317-001		
	ND	3520	2750	mg/kg	76	SW846 9071A	12/16-12/22/04	4352386
			Dilution Factor: 1					

NOTE(S):

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

N Spiked analyte recovery is outside stated control limits.

Results and reporting limits have been adjusted for dry weight.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: W04382 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate/Nitrite as N		Work Order #: G01321AA		MB Lot-Sample #:	F4L140000-448	
	ND	0.50	mg/kg	MCAWW 353.1	12/13/04	4349448
		Dilution Factor: 1				
Oil and Grease (Gravimetric)		Work Order #: G1MK01AA		MB Lot-Sample #:	F4L170000-386	
	ND	200	mg/kg	SW846 9071A	12/16-12/22/04	4352386
		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 #...: W04382 **Matrix.....:** SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT		UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrate/Nitrite as N				WO#:G01321AC-LCS/G01321AD-LCSD			LCS Lot-Sample#: F4L140000-448		
	4.00	3.85		mg/kg	96		MCAWW 353.1	12/13/04	4349448
	4.00	3.89		mg/kg	97	1.0	MCAWW 353.1	12/13/04	4349448
				Dilution Factor: 1					
Oil and Grease (Gravimetric)				WO#:G1MK01AC-LCS/G1MK01AD-LCSD			LCS Lot-Sample#: F4L170000-386		
	3330	2900		mg/kg	87		SW846 9071A	12/16-12/22/04	4352386
	3330	2600	N	mg/kg	78	11	SW846 9071A	12/16-12/22/04	4352386
				Dilution Factor: 1					

NOTE(S):

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

N Spiked analyte recovery is outside stated control limits.