Fluor Hanford
WSCF Analytical Chemistry
P.O. Box 1000
Richland, WA 99352
Telephone 373-7495
Telefax 372-0456

1213140

FLUOR

Memorandum

M8141-SLF-05-071

To: S. J. Trent A0-21 Date: February 3, 2005

From: S. L. Fitzgerald, Manager
WSCF Analytical Chemistry

cc:

w/Attachments		w/o Attachments	
T. F. Dale	S3-28	D. J. Hart	S3-30
H. K. Meznarich	S3-30	M. A. Neely	S3-30
P. D. Mix	S3-30	H. S. Rich	S3-28
J. E. Trechter	S3-30	L. C. Swanson	E6-35
		File/LB	

Subject: FINAL RESULTS FOR 216-Z-9 TRENCH CHARACTERIZATION BOREHOLE - WATER – SAMPLE DELIVERY GROUP WSCF20050212– SAF NUMBER F03-019

Reference:
(1) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001, October 31, 2002

(2) HNF-SD-CD-QAPP-017, Rev. 6, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains a narrative (Attachment 1) for sample delivery group WSCF20050212, the analytical results (Attachment 2), and the sample receipt information (Attachment 3).

SLF/grf

Attachments 3

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M8141-SLF-05-071

ATTACHMENT 1

NARRATIVE

Consisting of 3 pages
Including cover page

Sample Delivery Group	**WSCF20050212**
Sample Matrix	**Water**
Sample Visual	**N/A**
SAF Number	**F03-019**
Data Deliverable	**Summary Report**

Introduction

One (1) 216-Z-9 Trench Characterization Borehole 216-Z-9/C3426, GRP sample (B1C886) was received at the WSCF Laboratory on January 31, 2005. The sample was analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

The narrative (Attachment 1) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 2) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information. Copies of the chain of custody and Request for Sample Analysis forms are included as Attachment 3.

Analytical Methodology for Requested Analyses

Organic

- Semi-VOA by EPA Method 8270C. Analytical work was performed with no deviations to the approved method.
- VOA by EPA Method 8260B. Analytical work was performed with no deviations to the approved method.

Organic Comments

Additional Comment – Sample B1C866 was pre-screened by gas chromatograph flame ionization detector instrument configured for the analysis of diesel, kerosene and motor oils. The chromatogram was compared to a petroleum hydrocarbon motor oil calibration standard of SAE 20 motor oil. The sample appears to be a clean 10 to 15 weight light lubricating oil. No breakdown or weathering compounds were observed indicating that the oil has not been exposed to environmental elements for any significant time. It is also doubtful that the oil has been subjected to significant service. (See Analytical Comments).

Semi-VOA – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 12 through 17 for QC details. Analytical Notes:

- Preparation Date: 01-feb-2005.

- Sample B1C886 appeared to be light oil and was diluted one thousand fold in Methylene chloride. A non-distinguished chromatographic peak of Hydrocarbons compounds eluted between 14 and 20 minutes.

All QC controls are within the established limits.

VOA – The hold time for this analysis was met. A Blank, Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GRP Letter of Instruction. See pages 18 through 20 for QC details. Analytical Notes:

- Matrix Spike and Matrix Spike Duplicate QC samples were analyzed on sample# B1C352 (SDG# 20050122, SAF# F05-007).

- Carbon Tetrachloride, Methylene Chloride and Toluene - sample B1C886 results were J flagged; results were less than the lowest calibration standard but greater than the detection limit.

- 4-Bromofluorobenzene and Toluene-d8 (surrogates) – Surrogate recoveries on sample B1C886 were below established laboratory limits due to oil-type matrix. Sample results were not flagged.

All other QC controls are within the established limits.

This Summary Report is in compliance with the SOW, both technically and for completeness. Release of the data contained in this hard copy report has been authorized by the WSCF Laboratory Analytical Manager and Client Services, as verified by the following signature.

Herlene S. Rich
WSCF Production Control

Abbreviations

Hg – mercury
IC – ion chromatography
ICP – inductively coupled plasma
ICP/AES – ICP/atomic emission spectroscopy
ICP/MS – ICP/mass spectrometry
Total U – total uranium
AT/TB – total alpha/total beta
AEA – Alpha Energy Analysis
WTPH-G – Total Hydrocarbons-Gasoline
Am – americium
Cm - curium
Pu – plutonium
Np – neptunium
GEA – gamma energy analysis
H3 – Tritium
Sr – Strontium 89, 90
WTPH-D – Total Hydrocarbons-Diesel
TSS – Total Suspended Solids

M8141-SLF-05-071

ATTACHMENT 2

ANALYTICAL RESULTS

Consisting of 20 pages
Including cover page

WSCF
ANALYTICAL RESULTS REPORT

for

Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical: S. Fitzgerald

Client Services: P.D. Mix 2/3/2005

All results are reported on an "as received" basis unless otherwise noted in the comment section.

Confidentiality Notice: The information contained in this report is privileged and confidential information intended only for the use of the addressee. If the reader of this report is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone at (509) 373-7020.

Contract#: FH-EIS-2003-MEM-001
Report#: WSCF20050212
Report Date: 3-feb-2005
Report WGPP/ver. 1.1
Groundwater Remediation Program

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
Project: F03-019: F03-019

Group #: WSCF20050212

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
Organic													
W050000212	B1C886 TRENT	100-02-7	4-Nitrophenol	WATER	LA-523-456	U	< 1.40e+06	ug/L	1.00	1.4e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	106-46-7	1,4-Dichlorobenzene	WATER	LA-523-456	U	< 5.00e+06	ug/L	1.00	5.0e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	108-95-2	Phenol	WATER	LA-523-456	U	< 1.70e+06	ug/L	1.00	1.7e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	120-82-1	1,2,4-Trichlorobenzene	WATER	LA-523-456	U	< 3.00e+06	ug/L	1.00	3.0e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	121-14-2	2,4-Dinitrotoluene	WATER	LA-523-456	U	< 1.80e+06	ug/L	1.00	1.8e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	129-00-0	Pyrene	WATER	LA-523-456	U	< 2.10e+06	ug/L	1.00	2.1e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	59-50-7	4-Chloro-3-methylphenol	WATER	LA-523-456	U	< 1.30e+06	ug/L	1.00	1.3e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	621-64-7	N-Nitrosodi-n-dipropylamine	WATER	LA-523-456	U	< 1.70e+06	ug/L	1.00	1.7e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	83-32-9	Acenaphthene	WATER	LA-523-456	U	< 2.40e+06	ug/L	1.00	2.4e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	87-86-5	Pentachlorophenol	WATER	LA-523-456	U	< 1.70e+06	ug/L	1.00	1.7e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	95-57-8	2-Chlorophenol	WATER	LA-523-456	U	< 1.70e+06	ug/L	1.00	1.7e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	100-01-6	4-Nitroaniline	WATER	LA-523-456	U	< 2.90e+06	ug/L	1.00	2.9e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	101-55-3	4-Bromophenylphenyl ether	WATER	LA-523-456	U	< 1.90e+06	ug/L	1.00	1.9e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	105-67-9	2,4-Dimethylphenol	WATER	LA-523-456	U	< 4.30e+06	ug/L	1.00	4.3e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	106-47-8	4-Chloroaniline	WATER	LA-523-456	U	< 7.20e+06	ug/L	1.00	7.2e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	108-60-1	Bis(2-chloro-1-methylethyl)eth	WATER	LA-523-456	U	< 2.10e+06	ug/L	1.00	2.1e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	111-44-4	Bis(2-chloroethyl) ether	WATER	LA-523-456	U	< 3.40e+06	ug/L	1.00	3.4e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	111-91-1	Bis(2-Chloroethoxy)methane	WATER	LA-523-456	U	< 2.00e+06	ug/L	1.00	2.0e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	117-81-7	Bis(2-ethylhexyl) phthalate	WATER	LA-523-456	U	< 2.60e+06	ug/L	1.00	2.6e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	117-84-0	Di-n-octylphthalate	WATER	LA-523-456	U	< 2.50e+06	ug/L	1.00	2.5e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	118-74-1	Hexachlorobenzene	WATER	LA-523-456	U	< 2.10e+06	ug/L	1.00	2.1e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	120-12-7	Anthracene	WATER	LA-523-456	U	< 2.00e+06	ug/L	1.00	2.0e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	120-83-2	2,4-Dichlorophenol	WATER	LA-523-456	U	< 1.40e+06	ug/L	1.00	1.4e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	131-11-3	Dimethyl phthalate	WATER	LA-523-456	U	< 2.10e+06	ug/L	1.00	2.1e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	132-64-9	Dibenzofuran	WATER	LA-523-456	U	< 1.90e+06	ug/L	1.00	1.9e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886 TRENT	191-24-2	Benzo(ghi)perylene	WATER	LA-523-456	U	< 2.50e+06	ug/L	1.00	2.5e+06	02/01/05	01/27/05	01/31/05

MDL=Minimum Detection Limit J - Analyte is an estimate, has potentially larger errors 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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
Project: F03-019: F03-019

Group #: WSCF20050212

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050000212	B1C886	TRENT	193-39-5	Indeno(1,2,3-cd)pyrene	WATER	LA-523-456	U	< 2.60e+06	ug/L	1.00	2.6e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	205-99-2	Benzo(b)fluoranthene	WATER	LA-523-456	U	< 1.70e+06	ug/L	1.00	1.7e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	206-44-0	Fluoranthene	WATER	LA-523-456	U	< 2.10e+06	ug/L	1.00	2.1e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	207-08-9	Benzo(k)fluoranthene	WATER	LA-523-456	U	< 2.80e+06	ug/L	1.00	2.8e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	208-96-8	Acenaphthylene	WATER	LA-523-456	U	< 2.30e+06	ug/L	1.00	2.3e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	218-01-9	Chrysene	WATER	LA-523-456	U	< 2.30e+06	ug/L	1.00	2.3e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	50-32-8	Benzo(a)pyrene	WATER	LA-523-456	U	< 2.10e+06	ug/L	1.00	2.1e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	51-28-5	2,4-Dinitrophenol	WATER	LA-523-456	U	< 3.30e+06	ug/L	1.00	3.3e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	53-70-3	Dibenz[a,h]anthracene	WATER	LA-523-456	U	< 2.60e+06	ug/L	1.00	2.6e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	534-52-1	4,6-Dinitro-2-methylphenol	WATER	LA-523-456	U	< 1.70e+06	ug/L	1.00	1.7e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	541-73-1	1,3-Dichlorobenzene	WATER	LA-523-456	U	< 5.20e+06	ug/L	1.00	5.2e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	56-55-3	Benzo(a)anthracene	WATER	LA-523-456	U	< 2.10e+06	ug/L	1.00	2.1e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	606-20-2	2,6-Dinitrotoluene	WATER	LA-523-456	U	< 2.20e+06	ug/L	1.00	2.2e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	7005-72-3	4-Chlorophenylphenyl ether	WATER	LA-523-456	U	< 2.20e+06	ug/L	1.00	2.2e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	77-47-4	Hexachlorocyclopentadiene	WATER	LA-523-456	U	< 7.80e+06	ug/L	1.00	7.8e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	78-59-1	Isophorone	WATER	LA-523-456	U	< 1.90e+06	ug/L	1.00	1.9e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	84-66-2	Diethylphthalate	WATER	LA-523-456	U	< 6.30e+06	ug/L	1.00	6.3e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	84-74-2	Di-n-butylphthalate	WATER	LA-523-456	U	< 2.10e+06	ug/L	1.00	2.1e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	85-01-8	Phenanthrene	WATER	LA-523-456	U	< 2.20e+06	ug/L	1.00	2.2e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	85-68-7	Butylbenzylphthalate	WATER	LA-523-456	U	< 2.00e+06	ug/L	1.00	2.0e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	86-30-6	N-Nitrosodiphenylamine	WATER	LA-523-456	U	< 2.30e+06	ug/L	1.00	2.3e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	86-73-7	Fluorene	WATER	LA-523-456	U	< 2.00e+06	ug/L	1.00	2.0e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	86-74-8	Carbazole	WATER	LA-523-456	U	< 1.40e+06	ug/L	1.00	1.4e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	87-68-3	Hexachlorobutadiene	WATER	LA-523-456	U	< 3.60e+06	ug/L	1.00	3.6e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	88-74-4	2-Nitroaniline	WATER	LA-523-456	U	< 2.10e+06	ug/L	1.00	2.1e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	88-75-5	2-Nitrophenol	WATER	LA-523-456	U	< 2.00e+06	ug/L	1.00	2.0e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	91-20-3	Naphthalene	WATER	LA-523-456	U	< 2.40e+06	ug/L	1.00	2.4e+06	02/01/05	01/27/05	01/31/05

MDL = Minimum Detection Limit J - Analyte is an estimate, has potentially larger errors 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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
Project: F03-019: F03-019

Group #: WSCF20050212

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050000212	B1C886	TRENT	91-57-6	2-Methylnaphthalene	WATER	LA-523-456	U	< 1.90e+06	ug/L	1.00	1.9e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	91-58-7	2-Chloronaphthalene	WATER	LA-523-456	U	< 2.30e+06	ug/L	1.00	2.3e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	91-94-1	3,3'-Dichlorobenzidine	WATER	LA-523-456	U	< 4.10e+06	ug/L	1.00	4.1e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	95-48-7	2-Methylphenol (cresol, o-)	WATER	LA-523-456	U	< 2.30e+06	ug/L	1.00	2.3e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	95-50-1	1,2-Dichlorobenzene	WATER	LA-523-456	U	< 4.20e+06	ug/L	1.00	4.2e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	95-95-4	2,4,5-Trichlorophenol	WATER	LA-523-456	U	< 1.90e+06	ug/L	1.00	1.9e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	98-95-3	Nitrobenzene	WATER	LA-523-456	U	< 2.00e+06	ug/L	1.00	2.0e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	99-09-2	3-Nitroaniline	WATER	LA-523-456	U	< 4.50e+06	ug/L	1.00	4.5e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	65794-96-9	3 & 4 Methylphenol Total	WATER	LA-523-456	U	< 3.20e+06	ug/L	1.00	3.2e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	67-72-1	Hexachloroethane	WATER	LA-523-456	U	< 5.50e+06	ug/L	1.00	5.5e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	88-06-2	2,4,6-Trichlorophenol	WATER	LA-523-456	U	< 2.40e+06	ug/L	1.00	2.4e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	124-18-5	Decane	WATER	LA-523-456	U	< 2.50e+06	ug/L	1.00	2.5e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	100-51-6	Benzyl alcohol	WATER	LA-523-456	U	< 1.80e+06	ug/L	1.00	1.8e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	111-76-2	2-Butoxyethanol	WATER	LA-523-456	U	< 3.10e+06	ug/L	1.00	3.1e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	126-73-8	Tributyl phosphate	WATER	LA-523-456	U	< 2.50e+06	ug/L	1.00	2.5e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	91-59-8	2-Naphthylamine	WATER	LA-523-456	U	< 5.00e+06	ug/L	1.00	5.0e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	108-94-1	Cyclohexanone	WATER	LA-523-456	U	< 5.00e+06	ug/L	1.00	5.0e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	110-86-1	Pyridine	WATER	LA-523-456	U	< 2.20e+06	ug/L	1.00	2.2e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	95-63-6	1,2,4-Trimethylbenzene	WATER	LA-523-456	U	< 1.80e+06	ug/L	1.00	1.8e+06	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	75-35-4	1,1-Dichloroethene	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	79-01-6	Trichloroethene	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	71-43-2	Benzene	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	108-88-3	Toluene	WATER	LA-523-455	J	100	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	108-90-7	Chlorobenzene	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	75-34-3	1,1-Dichloroethane	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	100-41-4	Ethylbenzene	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	100-42-5	Styrene	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05

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RQ = Result Qualifier

DF = Dilution Factor

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
Project: F03-019: F03-019

Group #: WSCF20050212

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050000212	B1C886	TRENT	10061-01-5	cis-1,3-Dichloropropene	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	10061-02-6	trans-1,3-Dichloropropene	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	107-06-2	1,2-Dichloroethane	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	108-10-1	4-Methyl-2-Pentanone	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	124-48-1	Dibromochloromethane	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	127-18-4	Tetrachloroethene	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	1330-20-7	Xylenes (total)	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	540-59-0	1,2-Dichloroethene(Total)	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	56-23-5	Carbon tetrachloride	WATER	LA-523-455	J	55.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	591-78-6	2-Hexanone	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	67-64-1	Acetone	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	67-66-3	Chloroform	WATER	LA-523-455		260	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	71-55-6	1,1,1-Trichloroethane	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	74-83-9	Bromomethane	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	79-34-5	1,1,2,2-Tetrachloroethane	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	74-87-3	Chloromethane	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	75-00-3	Chloroethane	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	75-01-4	Vinyl chloride	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	75-09-2	Methylenechloride	WATER	LA-523-455	J	64.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	75-15-0	Carbon disulfide	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	75-25-2	Bromoform	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	75-27-4	Bromodichloromethane	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	78-87-5	1,2-Dichloropropane	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	78-93-3	2-Butanone	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	79-00-5	1,1,2-Trichloroethane	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	71-36-3	1-Butanol	WATER	LA-523-455	U	< 1.00e+03	ug/L	1.00	1.0e+03	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	110-54-3	Hexane	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05

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RQ = Result Qualifier

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

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
Project: F03-019: F03-019

Group #: WSCF20050212

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W050000212	B1C886	TRENT	104-51-8	n-Butylbenzene	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	156-60-5	trans-1,2-Dichloroethylene	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	75-05-8	Acetonitrile	WATER	LA-523-455	U	< 100	ug/L	1.00	1.0e+02	02/01/05	01/27/05	01/31/05
W050000212	B1C886	TRENT	156-59-2	cis-1,2-Dichloroethylene	WATER	LA-523-455	U	< 50.0	ug/L	1.00	50	02/01/05	01/27/05	01/31/05

MDL = Minimum Detection Limit
RQ = Result Qualifier

J - Analyte is an estimate, has potentially larger errors

U - Analyzed for but not detected above limiting criteria.

DF = Dilution Factor

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

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050212
Matrix: WATER
Test: SW-846 8270B Semi-Vols

SAF Number: F03-019
Sample Date: 01/27/05
Receive Date:01/31/05

Lab ID: W050000212
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MS	1,2,4-Trichlorobenzene	120-82-1	44929000	89.900	% Recov	02/01/05	50.000	120.000	
MS	1,4-Dichlorobenzene	106-46-7	42994000	86.000	% Recov	02/01/05	41.000	113.000	
MS	2,4-Dinitrotoluene	121-14-2	38962000	77.900	% Recov	02/01/05	65.000	109.000	
MS	2-Fluorophenol	367-12-4	52273000	105.000	% Recov	02/01/05	50.000	110.000	
MS	Acenaphthene	83-32-9	46257000	92.500	% Recov	02/01/05	62.000	112.000	
MS	4-Chloro-3-methylphenol	59-50-7	67998000	90.700	% Recov	02/01/05	59.000	115.000	
MS	2-Chlorophenol	95-57-8	71282000	95.000	% Recov	02/01/05	69.000	111.000	
MS	N-Nitrosodi-n-dipropylamine	621-64-7	47644000	95.300	% Recov	02/01/05	69.000	115.000	
MS	2-Fluorobiphenyl	321-60-8	47732000	95.500	% Recov	02/01/05	58.000	109.000	
MS	Phenol	108-95-2	65533000	87.400	% Recov	02/01/05	59.000	115.000	
MS	Nitrobenzene-d5	4165-60-0	43446000	86.900	% Recov	02/01/05	60.000	118.000	
MS	4-Nitrophenol	100-02-7	72333000	96.400	% Recov	02/01/05	32.000	130.000	
MS	Pentachlorophenol	87-86-5	77077000	103.000	% Recov	02/01/05	51.000	121.000	
MS	Phenol-d5	4165-62-2	46330000	92.700	% Recov	02/01/05	59.000	116.000	
MS	Pyrene	129-00-0	36607000	73.200	% Recov	02/01/05	58.000	116.000	
MS	2,4,6-Tribromophenol	118-79-6	50249000	100.000	% Recov	02/01/05	60.000	120.000	
MS	Terphenyl-d14 (7Cl)	98904-43-9	40130000	80.300	% Recov	02/01/05	60.000	120.000	
MSD	1,2,4-Trichlorobenzene	120-82-1	43827000	87.700	% Recov	02/01/05	50.000	120.000	
MSD	1,4-Dichlorobenzene	106-46-7	43104000	86.200	% Recov	02/01/05	41.000	113.000	
MSD	2,4-Dinitrotoluene	121-14-2	38684000	77.400	% Recov	02/01/05	65.000	109.000	
MSD	2-Fluorophenol	367-12-4	51632000	103.000	% Recov	02/01/05	50.000	110.000	
MSD	Acenaphthene	83-32-9	46189000	92.400	% Recov	02/01/05	62.000	112.000	
MSD	4-Chloro-3-methylphenol	59-50-7	67257000	89.700	% Recov	02/01/05	59.000	115.000	
MSD	2-Chlorophenol	95-57-8	72623000	96.800	% Recov	02/01/05	69.000	111.000	
MSD	N-Nitrosodi-n-dipropylamine	621-64-7	48658000	97.300	% Recov	02/01/05	69.000	115.000	
MSD	2-Fluorobiphenyl	321-60-8	47262000	94.500	% Recov	02/01/05	58.000	109.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050212
Matrix: WATER
Test: SW-846 8270B Semi-Vols

SAF Number: F03-019
Sample Date: 01/27/05
Receive Date:01/31/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MSD	Phenol	108-95-2	65760000	87.700	% Recov	02/01/05	59.000	115.000	
MSD	Nitrobenzene-d5	4165-60-0	42896000	85.800	% Recov	02/01/05	60.000	118.000	
MSD	4-Nitrophenol	100-02-7	73265000	97.700	% Recov	02/01/05	32.000	130.000	
MSD	Pentachlorophenol	87-86-5	78263000	104.000	% Recov	02/01/05	51.000	121.000	
MSD	Phenol-d5	4165-62-2	45002000	90.000	% Recov	02/01/05	59.000	116.000	
MSD	Pyrene	129-00-0	36321000	72.600	% Recov	02/01/05	58.000	116.000	
MSD	2,4,6-Tribromophenol	118-79-6	49803000	99.600	% Recov	02/01/05	60.000	120.000	
MSD	Terphenyl-d14 (7Cl)	98904-43-9	40384000	80.800	% Recov	02/01/05	60.000	120.000	
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	87.700	2.477	RPD	02/01/05	0.000	25.000	
SPK-RPD	1,4-Dichlorobenzene	106-46-7	86.200	0.232	RPD	02/01/05	0.000	25.000	
SPK-RPD	2,4-Dinitrotoluene	121-14-2	77.400	0.644	RPD	02/01/05	0.000	25.000	
SPK-RPD	2-Fluorophenol	367-12-4	103.000	1.923	RPD	02/01/05	0.000	25.000	
SPK-RPD	Acenaphthene	83-32-9	92.400	0.108	RPD	02/01/05	0.000	25.000	
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	89.700	1.109	RPD	02/01/05	0.000	25.000	
SPK-RPD	2-Chlorophenol	95-57-8	96.800	1.877	RPD	02/01/05	0.000	25.000	
SPK-RPD	N-Nitrosodi-n-dipropylamine	621-64-7	97.300	2.077	RPD	02/01/05	0.000	25.000	
SPK-RPD	2-Fluorobiphenyl	321-60-8	94.500	1.053	RPD	02/01/05	0.000	25.000	
SPK-RPD	Phenol	108-95-2	87.700	0.343	RPD	02/01/05	0.000	16.000	
SPK-RPD	Nitrobenzene-d5	4165-60-0	85.800	1.274	RPD	02/01/05	0.000	25.000	
SPK-RPD	4-Nitrophenol	100-02-7	97.700	1.340	RPD	02/01/05	0.000	25.000	
SPK-RPD	Pentachlorophenol	87-86-5	104.000	0.966	RPD	02/01/05	0.000	25.000	
SPK-RPD	Phenol-d5	4165-62-2	90.000	2.956	RPD	02/01/05	0.000	25.000	
SPK-RPD	Pyrene	129-00-0	72.600	0.823	RPD	02/01/05	0.000	25.000	
SPK-RPD	2,4,6-Tribromophenol	118-79-6	99.600	0.401	RPD	02/01/05	0.000	25.000	
SPK-RPD	Terphenyl-d14 (7Cl)	98904-43-9	80.800	0.621	RPD	02/01/05	0.000	25.000	
SURR	2-Fluorophenol	367-12-4	47906000	95.800	% Recov	02/01/05	50.000	110.000	
SURR	2-Fluorobiphenyl	321-60-8	50476000	101.000	% Recov	02/01/05	58.000	109.000	
SURR	Nitrobenzene-d5	4165-60-0	42734000	85.500	% Recov	02/01/05	60.000	118.000	
SURR	Phenol-d5	4165-62-2	43056000	86.100	% Recov	02/01/05	59.000	116.000	
SURR	2,4,6-Tribromophenol	118-79-6	41551000	83.100	% Recov	02/01/05	60.000	120.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050212
Matrix: WATER
Test: SW-846 8270B Semi-Vols

SAF Number: F03-019
Sample Date: 01/27/05
Receive Date:01/31/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
SURR	Terphenyl-d14 (7Cl)	98904-43-9	41041000	82.100	% Recov	02/01/05	60.000	120.000	
BATCH QC									
BLANK	1,2-Dichlorobenzene	95-50-1	< 420000	n/a	ug/L	02/01/05			U
BLANK	1,2,4-Trimethylbenzene	95-63-6	< 180000	n/a	ug/L	02/01/05			U
BLANK	1,2,4-Trichlorobenzene	120-82-1	< 300000	n/a	ug/L	02/01/05			U
BLANK	1,3-Dichlorobenzene	541-73-1	< 520000	n/a	ug/L	02/01/05			U
BLANK	1,4-Dichlorobenzene	106-46-7	< 500000	n/a	ug/L	02/01/05			U
BLANK	2-Naphthylamine	91-59-8	< 500000	n/a	ug/L	02/01/05			U
BLANK	2,4-Dichlorophenol	120-83-2	< 140000	n/a	ug/L	02/01/05			U
BLANK	2,4-Dinitrotoluene	121-14-2	< 180000	n/a	ug/L	02/01/05			U
BLANK	2,4,5-Trichlorophenol	95-95-4	< 190000	n/a	ug/L	02/01/05			U
BLANK	2,4,6-Trichlorophenol	88-06-2	< 240000	n/a	ug/L	02/01/05			U
BLANK	2,4-Dimethylphenol	105-67-9	< 430000	n/a	ug/L	02/01/05			U
BLANK	2,6-Dinitrotoluene	606-20-2	< 220000	n/a	ug/L	02/01/05			U
BLANK	2-Butoxyethanol	111-76-2	< 310000	n/a	ug/L	02/01/05			U
BLANK	2-Chloronaphthalene	91-58-7	< 230000	n/a	ug/L	02/01/05			U
BLANK	2-Fluorophenol	367-12-4	49562000	99.100	% Recov	02/01/05	50.000	110.000	
BLANK	2-Methylnaphthalene	91-57-6	< 190000	n/a	ug/L	02/01/05			U
BLANK	2-Methylphenol (cresol, o-)	95-48-7	< 230000	n/a	ug/L	02/01/05			U
BLANK	2-Nitroaniline	88-74-4	< 210000	n/a	ug/L	02/01/05			U
BLANK	2-Nitrophenol	88-75-5	< 200000	n/a	ug/L	02/01/05			U
BLANK	3 & 4 Methylphenol Total	65794-96-9	< 320000	n/a	ug/L	02/01/05	0.000	5.000	U
BLANK	3-Nitroaniline	99-09-2	< 450000	n/a	ug/L	02/01/05			U
BLANK	4,6-Dinitro-2-methylphenol	534-52-1	< 170000	n/a	ug/L	02/01/05			U
BLANK	4-Bromophenylphenyl ether	101-55-3	< 190000	n/a	ug/L	02/01/05			U
BLANK	4-Chlorophenylphenyl ether	7005-72-3	< 220000	n/a	ug/L	02/01/05			U
BLANK	Acenaphthene	83-32-9	< 240000	n/a	ug/L	02/01/05			U
BLANK	Acenaphthylene	208-96-8	< 230000	n/a	ug/L	02/01/05			U
BLANK	Anthracene	120-12-7	< 200000	n/a	ug/L	02/01/05			U

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050212
Matrix: WATER
Test: SW-846 8270B Semi-Vols

SAF Number: F03-019
Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Bis(2-chloroethyl) ether	111-44-4	< 340000	n/a	ug/L	02/01/05			U
BLANK	Benzo(a)anthracene	56-55-3	< 210000	n/a	ug/L	02/01/05			U
BLANK	Benzo(b)fluoranthene	205-99-2	< 170000	n/a	ug/L	02/01/05			U
BLANK	Benzo(ghi)perylene	191-24-2	< 250000	n/a	ug/L	02/01/05			U
BLANK	Benzo(a)pyrene	50-32-8	< 210000	n/a	ug/L	02/01/05			U
BLANK	Bis(2-Chloroethoxy)methane	111-91-1	< 200000	n/a	ug/L	02/01/05			U
BLANK	Bis(2-ethylhexyl) phthalate	117-81-7	< 260000	n/a	ug/L	02/01/05			U
BLANK	Bis(2-chloro-1-methylethyl)eth	108-60-1	< 210000	n/a	ug/L	02/01/05	0.000	10.000	U
BLANK	Benzyl alcohol	100-51-6	< 180000	n/a	ug/L	02/01/05			U
BLANK	Benzo(k)fluoranthene	207-08-9	< 280000	n/a	ug/L	02/01/05			U
BLANK	Butylbenzylphthalate	85-68-7	< 200000	n/a	ug/L	02/01/05			U
BLANK	Carbazole	86-74-8	< 140000	n/a	ug/L	02/01/05			U
BLANK	4-Chloroaniline	106-47-8	< 720000	n/a	ug/L	02/01/05			U
BLANK	4-Chloro-3-methylphenol	59-50-7	< 130000	n/a	ug/L	02/01/05			U
BLANK	2-Chlorophenol	95-57-8	< 170000	n/a	ug/L	02/01/05			U
BLANK	Chrysene	218-01-9	< 230000	n/a	ug/L	02/01/05			U
BLANK	Cyclohexanone	108-94-1	< 500000	n/a	ug/L	02/01/05	0.000	10.000	U
BLANK	3,3'-Dichlorobenzidine	91-94-1	< 410000	n/a	ug/L	02/01/05			U
BLANK	Decane	124-18-5	< 250000	n/a	ug/L	02/01/05	0.000	300.000	U
BLANK	Dibenz[a,h]anthracene	53-70-3	< 260000	n/a	ug/L	02/01/05			U
BLANK	Dibenzofuran	132-64-9	< 190000	n/a	ug/L	02/01/05			U
BLANK	Di-n-butylphthalate	84-74-2	< 210000	n/a	ug/L	02/01/05			U
BLANK	Diethylphthalate	84-66-2	< 630000	n/a	ug/L	02/01/05			U
BLANK	Dimethyl phthalate	131-11-3	< 210000	n/a	ug/L	02/01/05			U
BLANK	2,4-Dinitrophenol	51-28-5	< 330000	n/a	ug/L	02/01/05			U
BLANK	Di-n-octylphthalate	117-84-0	< 250000	n/a	ug/L	02/01/05			U
BLANK	N-Nitrosodi-n-dipropylamine	621-64-7	< 170000	n/a	ug/L	02/01/05			U
BLANK	2-Fluorobiphenyl	321-60-8	50527000	101.000	% Recov	02/01/05	58.000	109.000	
BLANK	Fluorene	86-73-7	< 200000	n/a	ug/L	02/01/05			U
BLANK	Fluoranthene	206-44-0	< 210000	n/a	ug/L	02/01/05			U

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050212
Matrix: WATER
Test: SW-846 8270B Semi-Vols

SAF Number: F03-019
Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	Hexachlorobenzene	118-74-1	< 210000	n/a	ug/L	02/01/05			U
BLANK	Hexachlorobutadiene	87-68-3	< 360000	n/a	ug/L	02/01/05			U
BLANK	Hexachlorocyclopentadiene	77-47-4	< 780000	n/a	ug/L	02/01/05			U
BLANK	Hexachloroethane	67-72-1	< 550000	n/a	ug/L	02/01/05			U
BLANK	Indeno(1,2,3-cd)pyrene	193-39-5	< 260000	n/a	ug/L	02/01/05			U
BLANK	Isophorone	78-59-1	< 190000	n/a	ug/L	02/01/05			U
BLANK	Phenol	108-95-2	< 170000	n/a	ug/L	02/01/05			U
BLANK	Naphthalene	91-20-3	< 240000	n/a	ug/L	02/01/05			U
BLANK	Nitrobenzene-d5	4165-60-0	43801000	87.600	% Recov	02/01/05	60.000	118.000	
BLANK	Nitrobenzene	98-95-3	< 200000	n/a	ug/L	02/01/05			U
BLANK	4-Nitrophenol	100-02-7	< 140000	n/a	ug/L	02/01/05			U
BLANK	4-Nitroaniline	100-01-6	< 290000	n/a	ug/L	02/01/05			U
BLANK	N-Nitrosodiphenylamine	86-30-6	< 230000	n/a	ug/L	02/01/05			U
BLANK	Pentachlorophenol	87-86-5	< 170000	n/a	ug/L	02/01/05			U
BLANK	Phenanthrene	85-01-8	< 220000	n/a	ug/L	02/01/05			U
BLANK	Phenol-d5	4165-62-2	42816000	85.600	% Recov	02/01/05	59.000	116.000	
BLANK	Pyrene	129-00-0	< 210000	n/a	ug/L	02/01/05			U
BLANK	Pyridine	110-86-1	< 220000	n/a	ug/L	02/01/05			U
BLANK	Tributyl phosphate	126-73-8	< 250000	n/a	ug/L	02/01/05			U
BLANK	2,4,6-Tribromophenol	118-79-6	40244000	80.500	% Recov	02/01/05	60.000	120.000	
BLANK	Terphenyl-d14 (7Cl)	98904-43-9	45933000	91.900	% Recov	02/01/05	60.000	120.000	
LCS	1,2,4-Trichlorobenzene	120-82-1	44286000	88.600	% Recov	02/01/05	46.000	107.000	
LCS	1,4-Dichlorobenzene	106-46-7	40447000	80.900	% Recov	02/01/05	42.000	111.000	
LCS	2,4-Dinitrotoluene	121-14-2	38157000	76.300	% Recov	02/01/05	59.000	106.000	
LCS	2-Fluorophenol	367-12-4	51969000	104.000	% Recov	02/01/05	50.000	110.000	
LCS	Acenaphthene	83-32-9	45757000	91.500	% Recov	02/01/05	61.000	116.000	
LCS	4-Chloro-3-methylphenol	59-50-7	64323000	85.800	% Recov	02/01/05	61.000	106.000	
LCS	2-Chlorophenol	95-57-8	68540000	91.400	% Recov	02/01/05	66.000	106.000	
LCS	N-Nitrosodi-n-dipropylamine	621-64-7	48045000	96.100	% Recov	02/01/05	71.000	114.000	
LCS	2-Fluorobiphenyl	321-60-8	47766000	95.500	% Recov	02/01/05	58.000	109.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050212
Matrix: WATER
Test: SW-846 8270B Semi-Vols

SAF Number: F03-019
Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
LCS	Phenol	108-95-2	62273000	83.000	% Recov	02/01/05	67.000	105.000	
LCS	Nitrobenzene-d5	4165-60-0	44016000	88.000	% Recov	02/01/05	60.000	118.000	
LCS	4-Nitrophenol	100-02-7	67990000	90.700	% Recov	02/01/05	32.000	118.000	
LCS	Pentachlorophenol	87-86-5	74096000	98.800	% Recov	02/01/05	62.000	114.000	
LCS	Phenol-d5	4165-62-2	46169000	92.300	% Recov	02/01/05	59.000	116.000	
LCS	Pyrene	129-00-0	39896000	79.800	% Recov	02/01/05	66.000	118.000	
LCS	2,4,6-Tribromophenol	118-79-6	49413000	98.800	% Recov	02/01/05	60.000	120.000	
LCS	Terphenyl-d14 (7Cl)	98904-43-9	46274000	92.500	% Recov	02/01/05	60.000	120.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050212
Matrix: WATER
Test: VOA Ground Water Protection

SAF Number: F03-019
Sample Date: 01/19/05
Receive Date:01/19/05

Lab ID: W050000086
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
MS	1,1-Dichloroethene	75-35-4	25.880	104.000	% Recov	02/01/05	63.000	117.000	
MS	Benzene	71-43-2	27.990	112.000	% Recov	02/01/05	75.000	129.000	
MS	4-Bromofluorobenzene	460-00-4	57.530	115.000	% Recov	02/01/05	84.000	116.000	
MS	Chlorobenzene	108-90-7	28.160	113.000	% Recov	02/01/05	79.000	119.000	
MS	1,2-Dichloroethane-d4	17060-07-0	57.680	115.000	% Recov	02/01/05	82.000	136.000	
MS	Toluene-d8	2037-26-5	52.920	106.000	% Recov	02/01/05	89.000	119.000	
MS	Toluene	108-88-3	26.970	108.000	% Recov	02/01/05	76.000	120.000	
MS	Trichloroethene	79-01-6	26.510	106.000	% Recov	02/01/05	73.000	123.000	
MSD	1,1-Dichloroethene	75-35-4	26.530	106.000	% Recov	02/01/05	63.000	117.000	
MSD	Benzene	71-43-2	27.700	111.000	% Recov	02/01/05	75.000	129.000	
MSD	4-Bromofluorobenzene	460-00-4	56.680	113.000	% Recov	02/01/05	84.000	116.000	
MSD	Chlorobenzene	108-90-7	28.250	113.000	% Recov	02/01/05	79.000	119.000	
MSD	1,2-Dichloroethane-d4	17060-07-0	57.680	115.000	% Recov	02/01/05	82.000	136.000	
MSD	Toluene-d8	2037-26-5	53.460	107.000	% Recov	02/01/05	89.000	119.000	
MSD	Toluene	108-88-3	27.350	109.000	% Recov	02/01/05	76.000	120.000	
MSD	Trichloroethene	79-01-6	26.170	105.000	% Recov	02/01/05	73.000	123.000	
SPK-RPD	1,1-Dichloroethene	75-35-4	106.000	1.905	RPD	02/01/05	0.000	10.000	
SPK-RPD	Benzene	71-43-2	111.000	0.897	RPD	02/01/05	0.000	10.000	
SPK-RPD	Chlorobenzene	108-90-7	113.000	0.000	RPD	02/01/05	0.000	10.000	
SPK-RPD	1,2-Dichloroethane-d4	17060-07-0	115.000	0.000	RPD	02/01/05	0.000	25.000	
SPK-RPD	Toluene-d8	2037-26-5	107.000	0.939	RPD	02/01/05	0.000	25.000	
SPK-RPD	Toluene	108-88-3	109.000	0.922	RPD	02/01/05	0.000	10.000	
SPK-RPD	Trichloroethene	79-01-6	105.000	0.948	RPD	02/01/05	0.000	10.000	

Lab ID: W050000212
BATCH QC ASSOCIATED WITH SAMPLE

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050212
Matrix: WATER
Test: VOA Ground Water Protection

SAF Number: F03-019
Sample Date: 01/27/05
Receive Date:01/31/05

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit		RQ
SURR	4-Bromofluorobenzene	460-00-4	1525.0	61.000	% Recov	02/01/05	84.000	116.000	*	
SURR	1,2-Dichloroethane-d4	17060-07-0	2731.0	109.000	% Recov	02/01/05	82.000	136.000		
SURR	Toluene-d8	2037-26-5	2062.0	82.500	% Recov	02/01/05	89.000	119.000	*	

BATCH QC

BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L	02/01/05				U
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L	02/01/05				U
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L	02/01/05				U
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 1.0	n/a	ug/L	02/01/05	0.000	5.000		U
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L	02/01/05				U
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L	02/01/05				U
BLANK	1,2-Dichloroethene(Total)	540-59-0	< 1.0	n/a	ug/L	02/01/05				U
BLANK	1-Butanol	71-36-3	< 20	n/a	ug/L	02/01/05				U
BLANK	2-Hexanone	591-78-6	< 1.0	n/a	ug/L	02/01/05				U
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L	02/01/05				U
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L	02/01/05				U
BLANK	Bromodichloromethane	75-27-4	< 1.0	n/a	ug/L	02/01/05				U
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L	02/01/05				U
BLANK	4-Bromofluorobenzene	460-00-4	56.230	112.000	% Recov	02/01/05	84.000	116.000		
BLANK	Bromoform	75-25-2	< 1.0	n/a	ug/L	02/01/05				U
BLANK	n-Butylbenzene	104-51-8	< 1.0	n/a	ug/L	02/01/05				U
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L	02/01/05				U
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L	02/01/05				U
BLANK	Dibromochloromethane	124-48-1	< 1.0	n/a	ug/L	02/01/05				U
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L	02/01/05				U
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L	02/01/05				U
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L	02/01/05				U
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 1.0	n/a	ug/L	02/01/05				U
BLANK	Chloroethane	75-00-3	< 1.0	n/a	ug/L	02/01/05				U
BLANK	1,2-Dichloroethane-d4	17060-07-0	55.240	110.000	% Recov	02/01/05	82.000	136.000		

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20050212
Matrix: WATER
Test: VOA Ground Water Protection

SAF Number: F03-019
Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/L	02/01/05			U
BLANK	1,2-Dichloropropane	78-87-5	< 1.0	n/a	ug/L	02/01/05			U
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L	02/01/05			U
BLANK	Hexane	110-54-3	< 1.0	n/a	ug/L	02/01/05			U
BLANK	Bromomethane	74-83-9	< 1.0	n/a	ug/L	02/01/05			U
BLANK	Chloromethane	74-87-3	< 1.0	n/a	ug/L	02/01/05			U
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L	02/01/05			U
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L	02/01/05			U
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L	02/01/05			U
BLANK	Styrene	100-42-5	< 1.0	n/a	ug/L	02/01/05			U
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	02/01/05	0.000	5.000	U
BLANK	Toluene-d8	2037-26-5	53.840	108.000	% Recov	02/01/05	89.000	119.000	
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L	02/01/05			U
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 1.0	n/a	ug/L	02/01/05			U
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L	02/01/05			U
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L	02/01/05			U
LCS	1,1-Dichloroethene	75-35-4	25.240	101.000	% Recov	02/01/05	70.000	130.000	
LCS	Benzene	71-43-2	28.510	114.000	% Recov	02/01/05	70.000	130.000	
LCS	4-Bromofluorobenzene	460-00-4	56.490	113.000	% Recov	02/01/05	84.000	116.000	
LCS	Chlorobenzene	108-90-7	27.770	111.000	% Recov	02/01/05	70.000	130.000	
LCS	1,2-Dichloroethane-d4	17060-07-0	59.000	118.000	% Recov	02/01/05	82.000	136.000	
LCS	Toluene-d8	2037-26-5	55.000	110.000	% Recov	02/01/05	89.000	119.000	
LCS	Toluene	108-88-3	26.940	108.000	% Recov	02/01/05	70.000	130.000	
LCS	Trichloroethene	79-01-6	26.600	106.000	% Recov	02/01/05	70.000	130.000	

WSCF
ANALYTICAL COMMENT REPORT

Attention: Steve Trent
Project Number F03-019

Group #: WSCF20050212

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		SVOA: Sample W050000212 appears to be a light oil and was diluted 1000 fold in Methylene Chloride. A chromatographic lump of Hydrocarbon compounds eluted from 14 min. to 20 min. . den GC-screen:The sample was also pre-screened with the GC-flame ionization detector instrument used for the analysis of diesel, kerosene, and motor oil. The resulting chromatogram was compared to the total petroleum hydrocarbon motor oil calibration standard. The motor oil calibration standard is SAE 20 weight motor oil. The unknown sample is definitely an oil that elutes slightly earlier than the than the SAE 20 motor oil used for calibration. It is estimated to be 10 to 15 weight light lubricating oil of some kind. The oil appears clean and shows no sign of breakdown from extended use or weathering. This lack of break down or weathering indicates that the oil has not been exposed to the environmental elements for any significant time. It appears to be material that has been stored in a container and in conditions protected from the extremes of the weather It is doubtful that the oil has seen significant service as evidenced by the total lack of breakdown or weathering. cgc VOA: Oil like matrix caused low recoveries for surrogates Toluene-d8 (82.5% Rec), and Bromofluorobenzene (61.0% Rec). gar

Lab Areas: VALGROUP - Group Validation; LOGSAMP - Login for Sample; VALTEST - Test Validation; LOGTEST - Login for Tests; TESTDATA - Test Data Entry

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WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

Attention: Steve Trent
Project Number F03-019 :F03-019

Group #: WSCF20050212

Sample #	Client ID		Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W050000212	B1C886	TRENT	SW-846 8270B Semi-Vols	SMP 12.986 Octadecane	593-45-3	12.98698	J	4.4e+06	ug/L
W050000212	B1C886	TRENT	SW-846 8270B Semi-Vols	SMP 13.998 Nonadecane	629-92-5	13.99865	J	1.2e+07	ug/L
W050000212	B1C886	TRENT	SW-846 8270B Semi-Vols	SMP 14.754 Unknown Cycloalkane	Unknown	14.75483	J	1.0e+07	ug/L
W050000212	B1C886	TRENT	SW-846 8270B Semi-Vols	SMP 14.979 Eicosane	112-95-8	14.97965	J	2.7e+07	ug/L
W050000212	B1C886	TRENT	SW-846 8270B Semi-Vols	SMP 15.347 Unknown Hydrocarbon	Unknown	15.34751	J	1.0e+07	ug/L
W050000212	B1C886	TRENT	SW-846 8270B Semi-Vols	SMP 15.664 Unknown Hydrocarbon	Unknown	15.6643	J	1.3e+07	ug/L
W050000212	B1C886	TRENT	SW-846 8270B Semi-Vols	SMP 15.746 Unknown Hydrocarbon	Unknown	15.74605	J	1.4e+07	ug/L
W050000212	B1C886	TRENT	SW-846 8270B Semi-Vols	SMP 15.929 Unknown Hydrocarbon	Unknown	15.92998	J	1.0e+07	ug/L
W050000212	B1C886	TRENT	SW-846 8270B Semi-Vols	SMP 16.042 Unknown Hydrocarbon	Unknown	16.0424	J	1.9e+07	ug/L
W050000212	B1C886	TRENT	SW-846 8270B Semi-Vols	SMP 16.267 Unknown Hydrocarbon	Unknown	16.2672	J	1.9e+07	ug/L
W050000212	B1C886	TRENT	SW-846 8270B Semi-Vols	SMP 16.379 Unknown Hydrocarbon	Unknown	16.3796	J	1.0e+07	ug/L
W050000212	B1C886	TRENT	SW-846 8270B Semi-Vols	SMP 16.696 Unknown Cycloalkane	Unknown	16.69638	J	1.0e+07	ug/L
W050000212	B1C886	TRENT	SW-846 8270B Semi-Vols	SMP 6.324 Unknown	Unknown	6.324383	J	1.2e+07	ug/L
W050000212	B1C886	TRENT	SW-846 8270B Semi-Vols	SMP 7.080 Unknown	Unknown	7.080566	J	2.1e+07	ug/L
W050000212	B1C886	TRENT	VOA Ground Water Protection	SMP 24.268 Unknown	Unknown	24.26848	J	5.7e+02	ug/L
W050000212	B1C886	TRENT	VOA Ground Water Protection	SMP 24.534 Unknown	Unknown	24.53468	J	1.6e+02	ug/L
W050000212	B1C886	TRENT	VOA Ground Water Protection	SMP 8.660 Unknown	Unknown	8.660833	J	77	ug/L

RQ=Result Qualifier J - Analyte is an estimate, has potentially larger errors

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WSCF
METHOD REFERENCES REPORT

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

LA-523-455	LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846	
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8260B	VOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
LA-523-456	LA-523-456: SEMIVOLATILE SAMPLE ANALYSIS BY SW-846, METHOD 8270C	
	EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
	EPA SW-846 8270C	SEMIVOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at \\ap006\aspdocs\WSCF\Sample Mgmt\ProcedureMethodCrossReference.pdf. This document includes on-line links to full-text versions of the procedures and methods, where available.

w13qlog v1 03-feb-2005 09:56:16

W13q Worklist/Batch/QC Report for Group# WSCF20050212

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			28586	BLANK		SW-846 8270B Semi-Vols
			28586	LCS		SW-846 8270B Semi-Vols
			28586	MS	W050000212	SW-846 8270B Semi-Vols
			28586	MSD	W050000212	SW-846 8270B Semi-Vols
			28586	SAMPLE	W050000212	SW-846 8270B Semi-Vols
			28586	SPK-RPD	W050000212	SW-846 8270B Semi-Vols
			28586	SURR	W050000212	SW-846 8270B Semi-Vols
			28626	BLANK		VOA Ground Water Protection
			28626	LCS		VOA Ground Water Protection
			28626	MS	W050000086	VOA Ground Water Protection
			28626	MSD	W050000086	VOA Ground Water Protection
			28626	SPK-RPD	W050000086	VOA Ground Water Protection
			28626	SAMPLE	W050000212	VOA Ground Water Protection
			28626	SURR	W050000212	VOA Ground Water Protection

M8141-SLF-05-071

ATTACHMENT 3

SAMPLE RECEIPT INFORMATION

Consisting of 3 pages
Including cover page

Waste Sampling and Characterization Facility
P.O. BOX 1970 S3-30, Richland, WA 99352
PHONE: (509) 373-7004/FAX: (509) 373-7134

2/1/05
File KB

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Groundwater Remediation Program
Richland, WA 99354
Attn: Steve Trent

Customer Code: GPP
PO#: 119325/ES10
Group#: 20050212
Project#: F03-019
Proj Mgr: Steve Trent A0-21
Phone: 373-5869

The following samples were received from you on 01/31/05. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W050000212	B1C886	TRENT @SVOCGPP @VOA-GPP	Water	01/27/05

Test Acronym Description

Test Acronym	Description
@SVOCGPP	SW-846 8270B Semi-Vols
@VOA-GPP	VOA Ground Water Protection

Fluor Hanford Inc.

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

F03-019-124

COLLECTOR: ~~Tyra~~ Alexander DJA 1-27-05	COMPANY CONTACT: Steve Trent	TELEPHONE NO.: 373-5869	PROJECT COORDINATOR: TRENT, SJ
PRICE CODE: 7N	DATA TURNAROUND: ~~45 Days~~ / ~~45 Days~~ 24 hours DJA 1-31-05		
SAMPLING LOCATION: 216-Z-9/C3426	PROJECT DESIGNATION: 216-Z-9 Trench Characterization Borehole - Water	SAF NO.: F03-019	AIR QUALITY: ☐
ICE CHEST NO.: GRP-04-019	FIELD LOGBOOK NO.:	COA: 119325ES10	METHOD OF SHIPMENT: Government Vehicle
SHIPPED TO: Waste Sampling & Characterization	OFFSITE PROPERTY NO.: N/A		BILL OF LADING/AIR BILL NO.: N/A

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: N/A

20050212

PRESERVATION	~~HCl or H2SO4 to pH <2~~/Cool 4C
TYPE OF CONTAINER	aGe
NO. OF CONTAINER(S)	1 DJA 1-27-05
VOLUME	~~40mL~~ 250mL
SAMPLE ANALYSIS	SEE ITEM (1) IN SPECIAL INSTRUCTIONS

SAMPLE NO.	MATRIX*	SAMPLE DATE	SAMPLE TIME
B1C886	WATER	1-27-05	1845
W05000212			

CHAIN OF POSSESSION	DATE/TIME	SIGN/ PRINT NAMES	DATE/TIME
RELINQUISHED BY/REMOVED FROM: DJ Alexander DJ Alexander	1/31-05 122	RECEIVED BY/STORED IN: [illegible]	1/31/05 122
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME

SPECIAL INSTRUCTIONS

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

Add SVOA

PDhi 1/31/2005

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

A-6003-618(03/03)

ADMINISTRATIVE VERIFICATION FORM

VERIFICATION DATE: 02-08-05	VERIFIER: PC LEE
SAF NO.: F03-019	SAF TITLE: 216-Z-9 TRENCH CHARACTERIZATION BOREHOLE - WATER
SDG NO.: WSCF20050212	SDR NO(s): NONE

DATA PACKAGE DEFICIENCIES: NONE - CHEM

DATE SENT TO LAB: NA	DATE LAB RESPONDED: NA

DATE VERIFICATION CLOSED: 02-08-05