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FLUOR

Memorandum

8F-000-SLF-019

To:	S. J. Trent	Date:	May 22, 2003
From:	S. L. Fitzgerald, Manager WSCF Analytical Services	Telephone:	373-7495

cc:	W/Attachments		W/O Attachments	
	T. F. Dale	S3-28	C. M. Caprio	S3-30
	S. L. Fitzgerald	S3-30	D. L. Renberger	S3-30
	H. K. Meznarich	S3-30	L. C. Swanson	E6-35
	J. E. Trechter	S3-30	File/LB	

Subject: FINAL RESULTS FOR 200-PW-2/200-PW-4 OU- BOREHOLE SOIL SAMPLING-SAMPLE DELIVERY GROUP WSCF20030492- SAF NUMBER F03-006

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

(2) HNF-SD-CD-QAPP-017, Rev. 5, Waste Sampling and Characterization Facility Quality Assurance Plan

This letter contains a narrative (Attachment 1) for the sample delivery group (WSCF20030492), the analytical results (Attachment 2) and the sample receipt information (Attachment 3).

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Attachments 3

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8F-000-SLF-019

ATTACHMENT 1

NARRATIVE

Consisting of 3 pages
cover page not included.

Sample Delivery Group	**WSCF20030492**
Sample Matrix	**Soil**
Sample Visual	**Brown**
SAF Number	**F03-006**
Data Deliverable	**Summary Report**

Introduction

One (1) soil samples (B16RY3) from the GPP were received at the WSCF Laboratory on April 9, 2003. The sample was analyzed for those analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Protection 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

- ICP-MS Metals by EPA Method 200.8 and ICP-AES Metals by EPA SW-846 Method 6010A. Analytical work was performed with no deviations to the approved method.

- VOA's by EPA SW-846 Method 8260A. Analytical work was performed with no deviations to the approved method. The compound 1-Butanol requested under EPA SW-846 Method 8015 was reported under this method.

- Semi-VOA's by EPA SW-846 Method 8270B. Analytical work was performed with no deviations to the approved method.

- Alcohols and Glycols by EPA SW-846 Method 8015. Analytical work was performed with no deviations to the approved method. The compound 1-Butanol requested under this method was reported under EPA SW-846 Method 8260A.

- WTPH-D by WDOE Method NWTPH-Dx. Analytical work was performed with no deviations to the approved method.

- WTPH-G by WDOE Method NWTPH-Gx. Analytical work was performed with no deviations to the approved method.

- IC Anions and Ammonium by EPA SW-846 Method 300.0 and 300.7. Analytical work was performed with no deviations to the approved method for Ammonium, but a deviation was required for the Anions (see comments below).

- The pH by EPA Method 150.1. Analytical work was performed with no deviations to the approved method.

- Percent Solids by EPA Method 160.3. Analytical work was performed with no deviations to the approved method.

- Cyanide by EPA SW-846 Method 9010. Analytical work was performed with no deviations to the approved method.

- All RadChem analyses (TA/TB, AEA's, GEA) were run by internal WDOE accredited WSCF procedures. Analytical work was performed with no deviations to the approved method.

Comments

PCB's – This analysis was originally on the Sample Chain of Custody when received at the WSCF Laboratory, but the client deleted the analysis at WSCF sample receipt.

ICP-MS and ICP-AES Metals – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-16, 2-17, 2-18, 2-19, and 2-31 for QC details.

VOA's – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-28 and 2-29 for QC details. Compounds listed on the tentatively identified peak report with an "N" qualifier have been identified with the program used to interpret the raw data.

Semi-VOA's – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-32, 2-33, 2-34 and 2-35 for QC details. Compounds listed on the tentatively identified peak report with an "N" qualifier have been identified with the program used to interpret the raw data.

Alcohols and Glycols – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-30 for QC details.

WTPH-D – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-23 for details.

WTPH-G – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-27 for details.

IC Anions – The client requested hold time(s) for this analysis was not met. The client was notified and requested WSCF to continue with this analysis. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-25 and 2-26 for QC details.

NH4 – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-24 for QC details.

The pH – Per the direction of the chain of custody, the pH was completed within 24 hours of sampling.

Percent Solids – PCB's, VOA's, Semi-VOA's, Alcohols and Glycols, WTPH-G and WTPH-D analytical results were corrected for percent solids. All other analytical results were reported for the sample as received.

CN – The hold time(s) for this analysis was met. A Laboratory Control Sample, Matrix Spike and Matrix Spiked Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-21 for QC details.

RadChem – There are no hold times associated with these WDOE accredited methods. Except for GEA, a Laboratory Control Sample and Duplicate were analyzed with each delivery group per the GPP Letter of Instruction. See page(s) 2-15, 2-20, and 2-22 for QC details.

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.

Troy Dale
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

8F-000-SLF-019

ATTACHMENT 2

ANALYTICAL RESULTS

Consisting of 35 pages
cover page not included.

WSCF
ANALYTICAL RESULTS REPORT

for

Ground Water Protection Program

Richland, WA 99352

Attention: Steve Trent

Analytical: _____

Client Services: _____ for Mike Neely

Contract#: F03-006
Report#: WSCF20030492
Report Date: 22-may-2003
Report W004/ver. 5.1
Ground Water Protection Program

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20030492

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W030000176	B16RY3	GPP	7664-41-7	Ammonia (N) by IC	SOLID	LA-503-401	U	< 0.200	ug/g	50.00	0.20	05/06/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	57-12-5	Cyanide by Midi/Spectrophotom	SOLID	LA-695-402	U	< 0.200	mg/kg		0.20	04/22/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	TS	Percent Solids	SOLID	LA-519-412		98.2	%		0.0	04/22/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	PH	pH Soil and Waste Measurement	SOLID	LA-212-411		8.78	pH		0.010	04/22/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	540-51-2	2-Bromoethanol	SOLID	Organics		1.40e+04	ug/kg		5.0e+03	05/02/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	60-29-7	Diethyl ether	SOLID	Organics	U	< 5.00e+03	ug/kg		5.0e+03	05/02/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	107-21-1	Ethylene glycol	SOLID	Organics	U	< 5.00e+03	ug/kg		5.0e+03	05/02/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	67-56-1	Methanol	SOLID	Organics	U	< 1.00e+03	ug/kg		1.0e+03	05/02/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	14596-10-2	Am-241 by AEA	SOLID	LA-508-471	U	3.30e-03	pCi/g		0.021	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Am-241 by AEA Total Cntg Error	SOLID	LA-508-471		360	%		0.0	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	24959-67-9	Bromide (Br) by IC	SOLID	LA-533-410	U	< 2.25	ug/g	50.00	2.2	05/06/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	16887-00-6	Chloride (Cl) by IC	SOLID	LA-533-410		5.03	ug/g	50.00	0.70	05/06/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	16984-48-8	Fluoride (F) by IC	SOLID	LA-533-410	U	< 0.350	ug/g	50.00	0.35	05/06/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	NO3-N	Nitrate (N) by IC	SOLID	LA-533-410		26.2	ug/g	50.00	0.25	05/06/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	NO2-N	Nitrite (N) by IC	SOLID	LA-533-410	U	< 0.450	ug/g	50.00	0.45	05/06/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	14265-44-2	Phosphate (P) by IC	SOLID	LA-533-410	U	< 0.650	ug/g	50.00	0.65	05/06/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	14808-79-8	Sulfate (SO4) by IC	SOLID	LA-533-410		19.0	ug/g	50.00	1.2	05/06/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Ac-228 Rel.% Count Error (GEA)	SOLID	LA-508-462		16.0	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	14331-83-0	Ac-228 by GEA	SOLID	LA-508-462		0.486	pCi/g		0.035	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Am-241 Rel.% Count Error (GEA)	SOLID	LA-508-462		583	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	14596-10-2	Am-241 by GEA	SOLID	LA-508-462	U	9.81e-03	pCi/g		0.082	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Bi-212 Rel.% Count Error (GEA)	SOLID	LA-508-462		26.2	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	14913-49-6	Bi-212 by GEA	SOLID	LA-508-462		0.309	pCi/g		0.074	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Bi-214 Rel.% Count Error (GEA)	SOLID	LA-508-462		15.8	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	14733-03-0	Bi-214 by GEA	SOLID	LA-508-462		0.366	pCi/g		0.019	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Ce-144 Rel.% Count Error (GEA)	SOLID	LA-508-462		179	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	14762-78-8	Ce-144 by GEA	SOLID	LA-508-462	U	-0.0301	pCi/g		0.078	04/09/03	04/09/03	04/09/03

MDL=Minimum Detection Limit
RQ=Result Qualifier

B - Analyte Found In Assc. Blank
U - Analyzed for but not detected above limiting criteria.
E - Analyte is an estimate, has potentially larger errors

DF=Dilution Factor

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

WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20030492

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W030000176	B16RY3	GPP	E,T,C	Co-60 Rel.% Count Error (GEA)	SOLID	LA-508-462		318	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	10198-40-0	Co-60 by GEA	SOLID	LA-508-462	U	1.89e-03	pCi/g		0.010	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Cs-134 Rel.% Count Error (GEA)	SOLID	LA-508-462		39.7	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	13967-70-9	Cs-134 by GEA	SOLID	LA-508-462	U	0.0303	pCi/g		0.013	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Cs-137 Rel.% Count Error (GEA)	SOLID	LA-508-462		1.00e+03	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	10045-97-3	Cs-137 by GEA	SOLID	LA-508-462	U	-2.56e-04	pCi/g		0.010	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Eu-152 Rel.% Count Error (GEA)	SOLID	LA-508-462		144	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	14683-23-9	Eu-152 by GEA	SOLID	LA-508-462	U	-0.0140	pCi/g		0.029	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Eu-154 Rel.% Count Error (GEA)	SOLID	LA-508-462		111	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	15585-10-1	Eu-154 by GEA	SOLID	LA-508-462	U	-0.0185	pCi/g		0.033	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Eu-155 Rel.% Count Error (GEA)	SOLID	LA-508-462		138	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	14391-16-3	Eu-155 by GEA	SOLID	LA-508-462	U	0.0191	pCi/g		0.043	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Nb-94 Rel.% Count Error (GEA)	SOLID	LA-508-462		374	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	14681-63-1	Nb-94 by GEA	SOLID	LA-508-462	U	1.51e-03	pCi/g		9.4e-03	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Pb-212 Rel.% Count Error (GEA)	SOLID	LA-508-462		13.0	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	15092-94-1	Pb-212 by GEA	SOLID	LA-508-462		0.499	pCi/g		0.019	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Pb-214 Rel.% Count Error (GEA)	SOLID	LA-508-462		15.5	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	15067-28-4	Pb-214 by GEA	SOLID	LA-508-462		0.406	pCi/g		0.021	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Ra-226 Rel.% Count Error (GEA)	SOLID	LA-508-462		15.8	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	13982-63-3	Ra-226 by GEA	SOLID	LA-508-462		0.366	pCi/g		0.019	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Ra-228 Rel.% Count Error (GEA)	SOLID	LA-508-462		16.0	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	15262-20-1	Ra-228 by GEA	SOLID	LA-508-462		0.486	pCi/g		0.035	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Ru-103 Rel.% Count Error (GEA)	SOLID	LA-508-462		304	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	13968-53-1	Ru-103 by GEA	SOLID	LA-508-462	U	1.88e-03	pCi/g		9.4e-03	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Ru-106 Rel.% Count Error (GEA)	SOLID	LA-508-462		100	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	13967-48-1	Ru-106 by GEA	SOLID	LA-508-462	U	-0.0540	pCi/g		0.082	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Sb-125 Rel.% Count Error (GEA)	SOLID	LA-508-462		163	%		0.0	04/09/03	04/09/03	04/09/03

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WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20030492

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W030000176	B16RY3	GPP	14234-35-6	Sb-125 by GEA	SOLID	LA-508-462	U	-9.63e-03	pCi/g		0.026	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Sn-113 Rel.% Count Error (GEA)	SOLID	LA-508-462		231	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	13966-06-8	Sn-113 by GEA	SOLID	LA-508-462	U	-3.21e-03	pCi/g		0.012	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Sn-126 Rel.% Count Error (GEA)	SOLID	LA-508-462		25.7	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	15832-50-5	Sn-126 by GEA	SOLID	LA-508-462	U	0.130	pCi/L		0.13	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Th-234 Rel.% Count Error (GEA)	SOLID	LA-508-462		67.1	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	15065-10-8	Th-234 by GEA	SOLID	LA-508-462		0.961	pCi/g		0.63	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Tl-208 Rel.% Count Error (GEA)	SOLID	LA-508-462		15.7	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	14913-50-9	Tl-208 by GEA	SOLID	LA-508-462		0.168	pCi/g		9.5e-03	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	U-235 Rel.% Count Error (GEA)	SOLID	LA-508-462		31.5	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	15117-96-1	U-235 by GEA	SOLID	LA-508-462	U	0.0508	pCi/g		0.082	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Zn-65 Rel.% Count Error (GEA)	SOLID	LA-508-462		419	%		0.0	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	13982-39-3	Zn-65 by GEA	SOLID	LA-508-462	U	3.82e-03	pCi/g		0.023	04/09/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-69-9	Bismuth by ICP	SOLID	LA-505-411		3.64e+04	ug/g	96.80	6.6	05/06/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-50-8	Boron by ICP	SOLID	LA-505-411	U	< 919.6	ug/g	96.80	919.6	05/06/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7429-90-5	Aluminum by ICP-MS	SOLID	LA-505-412	E	5.50e+03	ug/g	4.37	48	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-36-0	Antimony by ICP-MS	SOLID	LA-505-412	U	< 2.18	ug/g	4.37	2.2	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-38-2	Arsenic by ICP-MS	SOLID	LA-505-412		2.68	ug/g	4.37	1.3	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-39-3	Barium by ICP-MS	SOLID	LA-505-412		56.3	ug/g	4.37	0.87	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-41-7	Beryllium by ICP-MS	SOLID	LA-505-412	U	< 1.31	ug/g	4.37	1.3	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-43-9	Cadmium by ICP-MS	SOLID	LA-505-412	U	< 0.437	ug/g	4.37	0.44	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-47-3	Chromium by ICP-MS	SOLID	LA-505-412		7.99	ug/g	4.37	1.3	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-48-4	Cobalt by ICP-MS	SOLID	LA-505-412		4.79	ug/g	4.37	0.87	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-50-8	Copper by ICP-MS	SOLID	LA-505-412		9.43	ug/g	4.37	2.2	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7439-92-1	Lead by ICP-MS	SOLID	LA-505-412	U	< 5.24	ug/g	4.37	5.2	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7439-96-5	Manganese by ICP-MS	SOLID	LA-505-412		237	ug/g	4.37	1.3	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7439-97-6	Mercury by ICP-MS	SOLID	LA-505-412	U	< 0.437	ug/g	4.37	0.44	04/18/03	04/09/03	04/09/03

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WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20030492

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W030000176	B16RY3	GPP	7439-98-7	Molybdenum by ICP-MS	SOLID	LA-505-412	U	< 1.31	ug/g	4.37	1.3	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-02-0	Nickel by ICP-MS	SOLID	LA-505-412		8.02	ug/g	4.37	2.2	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7782-49-2	Selenium by ICP-MS	SOLID	LA-505-412	U	< 1.31	ug/g	4.37	1.3	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-22-4	Silver by ICP-MS	SOLID	LA-505-412	U	< 0.874	ug/g	4.37	0.87	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-28-0	Thallium by ICP-MS	SOLID	LA-505-412	U	< 0.437	ug/g	4.37	0.44	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-29-1	Thorium by ICP-MS	SOLID	LA-505-412		2.69	ug/g	4.37	0.87	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-61-1	Uranium by ICP-MS	SOLID	LA-505-412	U	< 0.437	ug/g	4.37	0.44	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-62-2	Vanadium by ICP-MS	SOLID	LA-505-412		35.9	ug/g	4.37	1.8	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7440-66-6	Zinc by ICP-MS	SOLID	LA-505-412		31.4	ug/g	4.37	18	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	TPH-G	Total Pet. Hydrocarbons Gas	SOLID	NWTPH	U	< 50.0	ug/kg		50	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	13981-16-3	Pu-238 by AEA	SOLID	LA-508-471	U	-0.0100	pCi/g		0.026	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Pu-238 by AEA Total Cntg Error	SOLID	LA-508-471		130	%		0.0	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	Pu-239/240 AEA Total Cntg Err	SOLID	LA-508-471		250	%		0.0	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	PU-239/240	Pu-239/240 by AEA	SOLID	LA-508-471	U	-1.70e-03	pCi/g		0.010	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	120-82-1	1,2,4-Trichlorobenzene	SOLID	LA-523-456	U	< 300	ug/kg	1.00	3.0e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	95-50-1	1,2-Dichlorobenzene (SV)	SOLID	LA-523-456	U	< 370	ug/kg	1.00	3.7e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	541-73-1	1,3-Dichlorobenzene	SOLID	LA-523-456	U	< 320	ug/kg	1.00	3.2e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	106-46-7	1,4-Dichlorobenzene (SV)	SOLID	LA-523-456	U	< 320	ug/kg	1.00	3.2e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	95-95-4	2,4,5-Trichlorophenol	SOLID	LA-523-456	U	< 74.0	ug/kg	1.00	74	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	88-06-2	2,4,6-Trichlorophenol	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	120-83-2	2,4-Dichlorophenol	SOLID	LA-523-456	U	< 81.0	ug/kg	1.00	81	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	105-67-9	2,4-Dimethylphenol	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	51-28-5	2,4-Dinitrophenol	SOLID	LA-523-456	U	< 680	ug/kg	1.00	6.8e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	121-14-2	2,4-Dinitrotoluene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	606-20-2	2,6-Dinitrotoluene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	111-76-2	2-Butoxyethanol	SOLID	LA-523-456	U	< 100	ug/kg	1.00	1.0e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	91-58-7	2-Chloronaphthalene	SOLID	LA-523-456	U	< 81.0	ug/kg	1.00	81	04/23/03	04/09/03	04/09/03

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Report W004/ver. 5.1
Ground Water Protection Program

WSCF
ANALYTICAL RESULTS REPORT

2-6

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

Group #: WSCF20030492

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W030000176	B16RY3	GPP	95-57-8	2-Chlorophenol	SOLID	LA-523-456	U	< 150	ug/kg	1.00	1.5e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	91-57-6	2-Methylnaphthalene	SOLID	LA-523-456	U	< 180	ug/kg	1.00	1.8e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	95-48-7	2-Methylphenol	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	88-74-4	2-Nitroaniline	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	88-75-5	2-Nitrophenol	SOLID	LA-523-456	U	< 180	ug/kg	1.00	1.8e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	108-39-4	3 & 4 Methylphenol Total	SOLID	LA-523-456	U	< 110	ug/kg	1.00	1.1e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	91-94-1	3,3'-Dichlorobenzidine	SOLID	LA-523-456	U	< 81.0	ug/kg	1.00	81	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	99-09-2	3-Nitroaniline	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	534-52-1	4,6-Dinitro-2-methylphenol	SOLID	LA-523-456	U	< 680	ug/kg	1.00	6.8e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	101-55-3	4-Bromophenyl-phenylether	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	59-50-7	4-Chloro-3-methylphenol	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	106-47-8	4-Chloroaniline	SOLID	LA-523-456	U	< 95.0	ug/kg	1.00	95	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	7005-72-3	4-Chlorophenyl-phenylether	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	100-01-6	4-Nitroaniline	SOLID	LA-523-456	U	< 250	ug/kg	1.00	2.5e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	100-02-7	4-Nitrophenol	SOLID	LA-523-456	U	< 660	ug/kg	1.00	6.6e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	83-32-9	Acenaphthene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	208-96-8	Acenaphthylene	SOLID	LA-523-456	U	< 81.0	ug/kg	1.00	81	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	120-12-7	Anthracene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	56-55-3	Benzo(a)anthracene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	50-32-8	Benzo(a)pyrene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	205-99-2	Benzo(b)fluoranthene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	191-24-2	Benzo(g,h,i)perylene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	207-08-9	Benzo(k)fluoranthene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	117-81-7	Bis (2-Ethylhexyl) phthalate	SOLID	LA-523-456	U	< 570	ug/kg	1.00	5.7e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	108-60-1	Bis(2-Chloro-1-methylene)	SOLID	LA-523-456	U	< 260	ug/kg	1.00	2.6e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	85-68-7	Butylbenzylphthalate	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	86-74-8	Carbazole	SOLID	LA-523-456	U	< 81.0	ug/kg	1.00	81	04/23/03	04/09/03	04/09/03

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WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20030492

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W030000176	B16RY3	GPP	218-01-9	Chrysene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	84-74-2	Di-n-butylphthalate	SOLID	LA-523-456	U	< 88.0	ug/kg	1.00	88	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	117-84-0	Di-n-octylphthalate	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	53-70-3	Dibenz(a,h)anthracene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	132-64-9	Dibenzofuran	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	84-66-2	Diethylphthalate	SOLID	LA-523-456	B	930	ug/kg	1.00	1.9e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	131-11-3	Dimethylphthalate	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	206-44-0	Fluoranthene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	86-73-7	Fluorene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	118-74-1	Hexachlorobenzene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	87-68-3	Hexachlorobutadiene	SOLID	LA-523-456	U	< 370	ug/kg	1.00	3.7e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	77-47-4	Hexachlorocyclopentadiene	SOLID	LA-523-456	U	< 320	ug/kg	1.00	3.2e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	67-72-1	Hexachloroethane	SOLID	LA-523-456	U	< 470	ug/kg	1.00	4.7e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	193-39-5	Indeno(1,2,3-cd)pyrene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	78-59-1	Isophorone	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	621-64-7	N-Nitroso-di-n-propylamine	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	86-30-6	N-Nitrosodiphenylamine	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	91-20-3	Naphthalene	SOLID	LA-523-456	U	< 290	ug/kg	1.00	2.9e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	98-95-3	Nitrobenzene	SOLID	LA-523-456	U	< 260	ug/kg	1.00	2.6e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	87-86-5	Pentachlorophenol	SOLID	LA-523-456	U	< 300	ug/kg	1.00	3.0e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	85-01-8	Phenanthrene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	108-95-2	Phenol	SOLID	LA-523-456	U	< 100	ug/kg	1.00	1.0e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	129-00-0	Pyrene	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	126-73-8	Tri-n-butylphosphate	SOLID	LA-523-456	U	< 68.0	ug/kg	1.00	68	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	111-44-4	bis(-2-Chloroethyl)Eth	SOLID	LA-523-456	U	< 250	ug/kg	1.00	2.5e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	111-91-1	bis(2-Chloroethoxy)methane	SOLID	LA-523-456	U	< 110	ug/kg	1.00	1.1e+02	04/23/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	13966-29-5	U-234 by AEA	SOLID	LA-508-471		0.150	pCi/g		6.3e-03	04/21/03	04/09/03	04/09/03

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WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20030492

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W030000176	B16RY3	GPP	E,T,C	U-234 by AEA Total Cntg Error	SOLID	LA-508-471		24.0	%		0.0	04/21/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	15117-96-1	U-235 by AEA	SOLID	LA-508-471		9.30e-03	pCi/g		6.9e-03	04/21/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	U-235 by AEA Total Cntg Error	SOLID	LA-508-471		72.0	%		0.0	04/21/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	24678-82-8	U-238 by AEA	SOLID	LA-508-471		0.140	pCi/g		7.9e-03	04/21/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	E,T,C	U-238 by AEA Total Cntg Error	SOLID	LA-508-471		25.0	%		0.10	04/21/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	75-35-4	1,1-Dichloroethene	SOLID	LA-523-455	U	< 1.90	ug/kg	1.00	1.9	04/21/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	71-36-3	1-Butanol	SOLID	LA-523-455	U	< 19.0	ug/kg	1.00	19	04/21/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	71-43-2	Benzene	SOLID	LA-523-455	U	< 1.90	ug/kg	1.00	1.9	04/21/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	108-90-7	Chlorobenzene	SOLID	LA-523-455	U	< 1.90	ug/kg	1.00	1.9	04/21/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	108-88-3	Toluene	SOLID	LA-523-455	U	< 1.90	ug/kg	1.00	1.9	04/21/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	79-01-6	Trichloroethene	SOLID	LA-523-455	U	< 1.90	ug/kg	1.00	1.9	04/21/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	8008-20-6	Kerosene	SOLID	NWTPH	U	< 4.70e+03	ug/kg	1.00	4.7e+03	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	68476-34-6	Total Pet. Hydrocarbons Diesel	SOLID	NWTPH	U	< 4.70e+03	ug/kg	1.00	4.7e+03	04/18/03	04/09/03	04/09/03
W030000176	B16RY3	GPP	84-15-1	ortho-Terphenyl	SOLID	NWTPH		2.80e+04	ug/kg	1.00	3.4e+02	04/18/03	04/09/03	04/09/03

MDL=Minimum Detection Limit
RQ=Result Qualifier

B - Analyte Found In Assc. Blank
U - Analyzed for but not detected above limiting criteria.
E - Analyte is an estimate, has potentially larger errors

DF=Dilution Factor

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

WSCF
ANALYTICAL COMMENT REPORT

2-9

Attention: Steve Trent
Project Number F03-006

Group #: WSCF20030492

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		Sample W030000176 for GEA test: Sn-126 could not be determined by GEA due to peak interference from Pb-214 and Pb-212 which are daughter nuclides of the natural radioactivity present in the sample.lmh ICP-MS: Estimated aluminum result due to it being out of linear range. High silver LCS result but not flagged because mfg. performance acceptance limits are within range. The Pu-239 test had poor RPD but it's not applicable to low level samples. ICP-AES: Boron and Bismuth LCS recoveries high. Boron result not affected because it is less than detectable; Bismuth LCS is just beyond acceptable at 126% but the MS and MSD are acceptable so the data is acceptable. -wb The RPD for the Am-241 test failed. RPD is not applicable to low level samples. TPHD: Results moisture corrected and reported on a dry weight basis. cgc SVOA: The Blank and sample have some contaminats which are due to the solvent used in the ASE system. They are marked with a B flag. The sample W030000176 is reported on a dry weight basis. The SPK-RPD for Nitrobenzene-d5 is out of limits. All other QC is good. den

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

2 - 10

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

Group #: WSCF20030492

Sample #	Client ID		Test Name	Peak Name	CAS#	RT	RQ	Result	Units
W030000176	B16RY3	GPP	Gamma Energy Analysis-grd H2O	K-40 Count Error				11.441	%
W030000176	B16RY3	GPP	Gamma Energy Analysis-grd H2O	K-40				14.7	pCi/g
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 24.857 Unknown	Unknown	24.85758	J	1000	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 14.344 Unknown Siloxane	Unknown	14.3447	J	1100	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 23.958 Unknown Siloxane	Unknown	23.95853	J	1200	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 15.723 Unknown Siloxane	Unknown	15.72393	J	1300	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 22.221 Unknown Siloxane	Unknown	22.2217	J	1600	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 12.893 Benzenesulfonamide, N-	3622-84-2	12.89393	JN	2000	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 23.110 Unknown Siloxane	Unknown	23.11055	J	2000	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 21.292 Cyclononasiloxane, oct	556-71-8	21.292	JN	2100	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 16.990 Unknown	Unknown	16.9908	J	2300	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 22.150 Unknown Hydrocarbon	Unknown	22.1502	J	250	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 18.165 Unknown Siloxane	Unknown	18.16571	J	2700	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 19.269 Unknown Siloxane	Unknown	19.2691	J	3400	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 20.311 Unknown	Unknown	20.3112	J	3700	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 21.455 Unknown Hydrocarbon	Unknown	21.45546	J	430	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 20.730 Unknown Hydrocarbon	Unknown	20.73008	J	460	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 24.101 Unknown Hydrocarbon	Unknown	24.10156	J	470	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 25.940 Unknown	Unknown	25.94055	J	490	ug/kg
W030000176	B16RY3	GPP	SW-846 8270B Semi-Vols	SMP 19.218 Unknown Hydrocarbon	Unknown	19.21801	J	500	ug/kg

RQ=Result Qualifier J - Estimated Value

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Ground Water Protection Program

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-212-411	Determination of Soil pH Measurement	
	EPA SW-846 9045C	SOIL AND WASTE pH
LA-503-401	LA-503-401: ANALYSIS OF CATIONS BY ION CHROMATOGRAPHY	
	EPA-600/4-86-024 300.7	Dissolved Sodium, Ammonium, Potassium, and Calcium in Wet Deposition by Chemical
LA-505-411	LA-505-411: ELEMENTAL ANALYSIS BY INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPE	
	EPA SW-846 6010B	INDUCTIVELY COUPLED PLASMA-ATOMIC EMISSION SPECTROMETRY
LA-505-412	LA-505-412: DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY	
	EPA-600/R-94-111 200.8	DETERMINATION OF TRACE ELEMENTS IN WATERS AND WASTES BY INDUCTIVELY COUPLED PLAS
LA-508-462	Gamma Energy Analysis -- the Genie System -- WSCF	
	None	No reference to any industry method.
LA-508-471	LA-508-471: ALPHA ENERGY ANALYZER DATA ACQUISITION AND SYSTEM CHECKOUT USING ALP	
	None	No reference to any industry method.
LA-519-412	LA-519-412: TOTAL RESIDUE/% SOLIDS DRIED AT 103 - 105 C	
	EPA-600/4-79-020 160.3	RESIDUE, TOTAL
	Standard Methods 2540B	Total Solids Dried at 103-105 C
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)

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at http://apweb02/asponlinedocs/wscf/sample%20mgmt/ProcedureMethodCrossReference.pdf. This document includes on-line links to full-text versions of the procedures and methods, where available.

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-523-456	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)
LA-533-410	LA-533-410: ANION ANALYSIS BY ION CHROMATOGRAPHY	
	EPA-600/R-94-111 300	DETERMINATION OF INORGANIC ANIONS BY ION CHROMATOGRAPHY
LA-695-402	LA-695-402: DETERMINATION OF CYANIDE BY MIDIDISTILLATION AND SPECTROPHOTOMETRIC	
	EPA-600/4-79-020 335.2	Cyanide, Total
NWTPH	NWTPH-Diesel and/or Gasoline	
	WDOE NWTPH-Dx/Gx	Total Petroleum Hydrocarbons - Diesel/Gasoline
Organics	Organics - Alcohols, Glycols	
	EPA SW-846 8015B	Nonhalogenated Organics Using GC/FID

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at http://apweb02/asponlinedocs/wscf/sample%20mgmt/ProcedureMethodCrossReference.pdf. This document includes on-line links to full-text versions of the procedures and methods, where available.

w13qlog v1 22-may-2003 12:55:09

W13q Worklist/Batch/QC Report for Group# WSCF20030492

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
				SAMPLE	W030000176	Percent Solids
				SAMPLE	W030000176	pH Soil and Waste Measurement
19115	1	19508	22207	SAMPLE	W030000176	Gamma Energy Analysis-grd H2O
19186	1	19580	22252	BLANK		Plutonium Isotopics by AEA
19186	2	19580	22252	LCS		Plutonium Isotopics by AEA
19186	3	19580	22252	DUP	W030000158	Plutonium Isotopics by AEA
19186	5	19580	22252	DUP	W030000176	Plutonium Isotopics by AEA
19186	6	19580	22252	SAMPLE	W030000176	Plutonium Isotopics by AEA
19225	1	19619	22273	BLANK		ICP-2008 MS All possible metal
19225	3	19619	22273	LCS		ICP-2008 MS All possible metal
19225	4	19619	22273	MS	W030000167	ICP-2008 MS All possible metal
19225	5	19619	22273	MSD	W030000167	ICP-2008 MS All possible metal
19225	9	19619	22273	MS	W030000176	ICP-2008 MS All possible metal
19225	10	19619	22273	MSD	W030000176	ICP-2008 MS All possible metal
19225	8	19619	22273	SAMPLE	W030000176	ICP-2008 MS All possible metal
19225	11	19619	22273	MS	W030000192	ICP-2008 MS All possible metal
19225	12	19619	22273	MSD	W030000192	ICP-2008 MS All possible metal
19191	1	19585	22280	BLANK		Americium by AEA
19191	2	19585	22280	LCS		Americium by AEA
19191	3	19585	22280	DUP	W030000158	Americium by AEA
19191	5	19585	22280	DUP	W030000176	Americium by AEA
19191	6	19585	22280	SAMPLE	W030000176	Americium by AEA
			22284	BLANK		Cyanide by Midi/Spectrophotom
			22284	BLNK-PREP		Cyanide by Midi/Spectrophotom
			22284	DUP		Cyanide by Midi/Spectrophotom
			22284	LCS		Cyanide by Midi/Spectrophotom
			22284	LCS-2		Cyanide by Midi/Spectrophotom
			22284	MS	W030000176	Cyanide by Midi/Spectrophotom
			22284	MSD	W030000176	Cyanide by Midi/Spectrophotom
			22284	SAMPLE	W030000176	Cyanide by Midi/Spectrophotom
			22284	SPK-RPD	W030000176	Cyanide by Midi/Spectrophotom
19162	1	19553	22312	BLANK		Uranium Isotopics by AEA
19162	2	19553	22312	LCS		Uranium Isotopics by AEA
19162	3	19553	22312	DUP	W030000158	Uranium Isotopics by AEA
19162	5	19553	22312	DUP	W030000176	Uranium Isotopics by AEA
19162	6	19553	22312	SAMPLE	W030000176	Uranium Isotopics by AEA
			22384	BLANK		WTPH-D TPH Diesel Range (Wa)
			22384	LCS		WTPH-D TPH Diesel Range (Wa)
			22384	MS	W030000176	WTPH-D TPH Diesel Range (Wa)
			22384	MSD	W030000176	WTPH-D TPH Diesel Range (Wa)
			22384	SAMPLE	W030000176	WTPH-D TPH Diesel Range (Wa)
			22384	SPK-RPD	W030000176	WTPH-D TPH Diesel Range (Wa)
			22384	SURR	W030000176	WTPH-D TPH Diesel Range (Wa)
19356	3	19749	22399	LCS		Ammonia (N) by IC
19356	5	19749	22399	DUP	W030000176	Ammonia (N) by IC
19356	6	19749	22399	MS	W030000176	Ammonia (N) by IC

19356	7	19749	22399	MSD	W030000176	Ammonia (N) by IC
19356	4	19749	22399	SAMPLE	W030000176	Ammonia (N) by IC
19360	2	19752	22403	BLANK		Anions by Ion Chromatography
19360	8	19752	22403	BLANK		Anions by Ion Chromatography
19360	3	19752	22403	LCS		Anions by Ion Chromatography
19360	5	19752	22403	DUP	W030000176	Anions by Ion Chromatography
19360	6	19752	22403	MS	W030000176	Anions by Ion Chromatography
19360	7	19752	22403	MSD	W030000176	Anions by Ion Chromatography
19360	4	19752	22403	SAMPLE	W030000176	Anions by Ion Chromatography
19368	1	19764	22408	BLANK		NWTPH-GX TPH Gasoline Range
19368	2	19764	22408	LCS		NWTPH-GX TPH Gasoline Range
19368	4	19764	22408	MS	W030000176	NWTPH-GX TPH Gasoline Range
19368	5	19764	22408	MSD	W030000176	NWTPH-GX TPH Gasoline Range
19368	3	19764	22408	SAMPLE	W030000176	NWTPH-GX TPH Gasoline Range
19368	5	19764	22408	SPK-RPD	W030000176	NWTPH-GX TPH Gasoline Range
			22414	BLANK		VOA Ground Water Protection
			22414	LCS		VOA Ground Water Protection
			22414	MS	W030000166	VOA Ground Water Protection
			22414	MSD	W030000166	VOA Ground Water Protection
			22414	MS	W030000167	VOA Ground Water Protection
			22414	MS	W030000176	VOA Ground Water Protection
			22414	MSD	W030000176	VOA Ground Water Protection
			22414	SAMPLE	W030000176	VOA Ground Water Protection
			22414	SPK-RPD	W030000176	VOA Ground Water Protection
			22414	SURR	W030000176	VOA Ground Water Protection
19388	1	19780	22435	BLANK		Alcohols, Glycols - 8015
19388	2	19780	22435	LCS		Alcohols, Glycols - 8015
19388	4	19780	22435	MS	W030000176	Alcohols, Glycols - 8015
19388	5	19780	22435	MSD	W030000176	Alcohols, Glycols - 8015
19388	3	19780	22435	SAMPLE	W030000176	Alcohols, Glycols - 8015
19388	5	19780	22435	SPK-RPD	W030000176	Alcohols, Glycols - 8015
19381	1	19774	22437	BLANK		ICP Metals Analysis, Grd H20 P
19381	2	19774	22437	LCS		ICP Metals Analysis, Grd H20 P
19381	4	19774	22437	MS	W030000166	ICP Metals Analysis, Grd H20 P
19381	5	19774	22437	MSD	W030000166	ICP Metals Analysis, Grd H20 P
19381	7	19774	22437	MS	W030000167	ICP Metals Analysis, Grd H20 P
19381	8	19774	22437	MSD	W030000167	ICP Metals Analysis, Grd H20 P
19381	12	19774	22437	MS	W030000176	ICP Metals Analysis, Grd H20 P
19381	13	19774	22437	MSD	W030000176	ICP Metals Analysis, Grd H20 P
19381	11	19774	22437	SAMPLE	W030000176	ICP Metals Analysis, Grd H20 P
19381	0	19774	22437	SPK-RPD	W030000176	ICP Metals Analysis, Grd H20 P
			22461	BLANK		SW-846 8270B Semi-Vols
			22461	LCS		SW-846 8270B Semi-Vols
			22461	MS	W030000176	SW-846 8270B Semi-Vols
			22461	MSD	W030000176	SW-846 8270B Semi-Vols
			22461	SAMPLE	W030000176	SW-846 8270B Semi-Vols
			22461	SPK-RPD	W030000176	SW-846 8270B Semi-Vols
			22461	SURR	W030000176	SW-846 8270B Semi-Vols

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: Plutonium Isotopics by AEA

SAF Number: F03-006
Sample Date: 04/04/03
Receive Date: 04/04/03

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit	
Lab ID: W030000158								
BATCH QC ASSOCIATED WITH SAMPLE								
DUP	Pu-239/240 by AEA	PU-239/240	22.222	RPD	04/18/03	0.000	20.000	*
Lab ID: W030000176								
BATCH QC ASSOCIATED WITH SAMPLE								
DUP	Pu-239/240 by AEA	PU-239/240	-64.000	RPD	04/18/03	0.000	20.000	*
BATCH QC								
BLANK	Pu-239/240 by AEA	PU-239/240	1.9e-03	PCG	04/18/03	0.000	1000.000	
LCS	Pu-239/240 by AEA	PU-239/240	92.000	% Recov	04/18/03	75.000	125.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: ICP-2008 MS All possible metal

SAF Number: F03-006
Sample Date: 04/07/03
Receive Date: 04/07/03

Lab ID: W030000167
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
MS	Silver by ICP-MS	7440-22-4	93.038	% Recov	04/18/03	70.000	130.000
MS	Aluminum by ICP-MS	7429-90-5	n/a	% Recov	04/18/03	70.000	130.000
MS	Arsenic by ICP-MS	7440-38-2	94.937	% Recov	04/18/03	70.000	130.000
MS	Barium by ICP-MS	7440-39-3	59.916	% Recov	04/18/03	70.000	130.000
MS	Beryllium by ICP-MS	7440-41-7	95.570	% Recov	04/18/03	70.000	130.000
MS	Cadmium by ICP-MS	7440-43-9	93.882	% Recov	04/18/03	70.000	130.000
MS	Cobalt by ICP-MS	7440-48-4	96.730	% Recov	04/18/03	70.000	130.000
MS	Chromium by ICP-MS	7440-47-3	94.198	% Recov	04/18/03	70.000	130.000
MS	Copper by ICP-MS	7440-50-8	99.367	% Recov	04/18/03	70.000	130.000
MS	Mercury by ICP-MS	7439-97-6	103.586	% Recov	04/18/03	70.000	130.000
MS	Manganese by ICP-MS	7439-96-5	n/a	% Recov	04/18/03	70.000	130.000
MS	Molybdenum by ICP-MS	7439-98-7	88.502	% Recov	04/18/03	70.000	130.000
MS	Nickel by ICP-MS	7440-02-0	91.772	% Recov	04/18/03	70.000	130.000
MS	Lead by ICP-MS	7439-92-1	99.578	% Recov	04/18/03	70.000	130.000
MS	Antimony by ICP-MS	7440-36-0	93.038	% Recov	04/18/03	70.000	130.000
MS	Selenium by ICP-MS	7782-49-2	94.198	% Recov	04/18/03	70.000	130.000
MS	Thorium by ICP-MS	7440-29-1	n/a	% Recov	04/18/03	70.000	130.000
MS	Thallium by ICP-MS	7440-28-0	93.882	% Recov	04/18/03	70.000	130.000
MS	Uranium by ICP-MS	7440-61-1	94.726	% Recov	04/18/03	70.000	130.000
MS	Vanadium by ICP-MS	7440-62-2	83.333	% Recov	04/18/03	70.000	130.000
MS	Zinc by ICP-MS	7440-66-6	94.409	% Recov	04/18/03	70.000	130.000
MSD	Silver by ICP-MS	7440-22-4	94.421	% Recov	04/18/03	70.000	130.000
MSD	Aluminum by ICP-MS	7429-90-5	n/a	% Recov	04/18/03	70.000	130.000
MSD	Arsenic by ICP-MS	7440-38-2	92.275	% Recov	04/18/03	70.000	130.000
MSD	Barium by ICP-MS	7440-39-3	86.910	% Recov	04/18/03	70.000	130.000
MSD	Beryllium by ICP-MS	7440-41-7	96.567	% Recov	04/18/03	70.000	130.000
MSD	Cadmium by ICP-MS	7440-43-9	94.742	% Recov	04/18/03	70.000	130.000
MSD	Cobalt by ICP-MS	7440-48-4	93.991	% Recov	04/18/03	70.000	130.000
MSD	Chromium by ICP-MS	7440-47-3	92.489	% Recov	04/18/03	70.000	130.000
MSD	Copper by ICP-MS	7440-50-8	94.957	% Recov	04/18/03	70.000	130.000
MSD	Mercury by ICP-MS	7439-97-6	104.614	% Recov	04/18/03	70.000	130.000
MSD	Manganese by ICP-MS	7439-96-5	n/a	% Recov	04/18/03	70.000	130.000
MSD	Molybdenum by ICP-MS	7439-98-7	88.841	% Recov	04/18/03	70.000	130.000
MSD	Nickel by ICP-MS	7440-02-0	93.026	% Recov	04/18/03	70.000	130.000
MSD	Lead by ICP-MS	7439-92-1	100.000	% Recov	04/18/03	70.000	130.000
MSD	Antimony by ICP-MS	7440-36-0	90.129	% Recov	04/18/03	70.000	130.000
MSD	Selenium by ICP-MS	7782-49-2	88.519	% Recov	04/18/03	70.000	130.000
MSD	Thorium by ICP-MS	7440-29-1	n/a	% Recov	04/18/03	70.000	130.000
MSD	Thallium by ICP-MS	7440-28-0	93.884	% Recov	04/18/03	70.000	130.000
MSD	Uranium by ICP-MS	7440-61-1	95.494	% Recov	04/18/03	70.000	130.000
MSD	Vanadium by ICP-MS	7440-62-2	96.996	% Recov	04/18/03	70.000	130.000
MSD	Zinc by ICP-MS	7440-66-6	91.845	% Recov	04/18/03	70.000	130.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: ICP-2008 MS All possible metal

SAF Number: F03-006
Sample Date: 04/07/03
Receive Date: 04/07/03

Lab ID: W030000176
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
MS	Silver by ICP-MS	7440-22-4	89.896	% Recov	04/18/03	70.000	130.000
MS	Aluminum by ICP-MS	7429-90-5	n/a	% Recov	04/18/03	70.000	130.000
MS	Arsenic by ICP-MS	7440-38-2	90.521	% Recov	04/18/03	70.000	130.000
MS	Barium by ICP-MS	7440-39-3	86.250	% Recov	04/18/03	70.000	130.000
MS	Beryllium by ICP-MS	7440-41-7	97.292	% Recov	04/18/03	70.000	130.000
MS	Cadmium by ICP-MS	7440-43-9	92.292	% Recov	04/18/03	70.000	130.000
MS	Cobalt by ICP-MS	7440-48-4	97.083	% Recov	04/18/03	70.000	130.000
MS	Chromium by ICP-MS	7440-47-3	97.396	% Recov	04/18/03	70.000	130.000
MS	Copper by ICP-MS	7440-50-8	97.708	% Recov	04/18/03	70.000	130.000
MS	Mercury by ICP-MS	7439-97-6	101.771	% Recov	04/18/03	70.000	130.000
MS	Manganese by ICP-MS	7439-96-5	n/a	% Recov	04/18/03	70.000	130.000
MS	Molybdenum by ICP-MS	7439-98-7	88.333	% Recov	04/18/03	70.000	130.000
MS	Nickel by ICP-MS	7440-02-0	98.229	% Recov	04/18/03	70.000	130.000
MS	Lead by ICP-MS	7439-92-1	98.542	% Recov	04/18/03	70.000	130.000
MS	Antimony by ICP-MS	7440-36-0	93.958	% Recov	04/18/03	70.000	130.000
MS	Selenium by ICP-MS	7782-49-2	89.271	% Recov	04/18/03	70.000	130.000
MS	Thorium by ICP-MS	7440-29-1	n/a	% Recov	04/18/03	70.000	130.000
MS	Thallium by ICP-MS	7440-28-0	92.500	% Recov	04/18/03	70.000	130.000
MS	Uranium by ICP-MS	7440-61-1	93.125	% Recov	04/18/03	70.000	130.000
MS	Vanadium by ICP-MS	7440-62-2	95.417	% Recov	04/18/03	70.000	130.000
MS	Zinc by ICP-MS	7440-66-6	100.312	% Recov	04/18/03	70.000	130.000
MSD	Silver by ICP-MS	7440-22-4	93.347	% Recov	04/18/03	70.000	130.000
MSD	Aluminum by ICP-MS	7429-90-5	n/a	% Recov	04/18/03	70.000	130.000
MSD	Arsenic by ICP-MS	7440-38-2	92.540	% Recov	04/18/03	70.000	130.000
MSD	Barium by ICP-MS	7440-39-3	83.569	% Recov	04/18/03	70.000	130.000
MSD	Beryllium by ICP-MS	7440-41-7	98.085	% Recov	04/18/03	70.000	130.000
MSD	Cadmium by ICP-MS	7440-43-9	96.270	% Recov	04/18/03	70.000	130.000
MSD	Cobalt by ICP-MS	7440-48-4	96.774	% Recov	04/18/03	70.000	130.000
MSD	Chromium by ICP-MS	7440-47-3	97.681	% Recov	04/18/03	70.000	130.000
MSD	Copper by ICP-MS	7440-50-8	98.790	% Recov	04/18/03	70.000	130.000
MSD	Mercury by ICP-MS	7439-97-6	104.839	% Recov	04/18/03	70.000	130.000
MSD	Manganese by ICP-MS	7439-96-5	n/a	% Recov	04/18/03	70.000	130.000
MSD	Molybdenum by ICP-MS	7439-98-7	88.508	% Recov	04/18/03	70.000	130.000
MSD	Nickel by ICP-MS	7440-02-0	97.883	% Recov	04/18/03	70.000	130.000
MSD	Lead by ICP-MS	7439-92-1	99.597	% Recov	04/18/03	70.000	130.000
MSD	Antimony by ICP-MS	7440-36-0	96.270	% Recov	04/18/03	70.000	130.000
MSD	Selenium by ICP-MS	7782-49-2	92.036	% Recov	04/18/03	70.000	130.000
MSD	Thorium by ICP-MS	7440-29-1	n/a	% Recov	04/18/03	70.000	130.000
MSD	Thallium by ICP-MS	7440-28-0	93.044	% Recov	04/18/03	70.000	130.000
MSD	Uranium by ICP-MS	7440-61-1	93.548	% Recov	04/18/03	70.000	130.000
MSD	Vanadium by ICP-MS	7440-62-2	94.456	% Recov	04/18/03	70.000	130.000
MSD	Zinc by ICP-MS	7440-66-6	97.177	% Recov	04/18/03	70.000	130.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: ICP-2008 MS All possible metal

SAF Number: F03-006
Sample Date: 04/16/03
Receive Date: 04/16/03

Lab ID: W030000192

BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit	
MS	Silver by ICP-MS	7440-22-4	91.903	% Recov	04/18/03	70.000	130.000	
MS	Aluminum by ICP-MS	7429-90-5	n/a	% Recov	04/18/03	70.000	130.000	
MS	Arsenic by ICP-MS	7440-38-2	88.968	% Recov	04/18/03	70.000	130.000	
MS	Barium by ICP-MS	7440-39-3	93.522	% Recov	04/18/03	70.000	130.000	
MS	Beryllium by ICP-MS	7440-41-7	95.648	% Recov	04/18/03	70.000	130.000	
MS	Cadmium by ICP-MS	7440-43-9	91.700	% Recov	04/18/03	70.000	130.000	
MS	Cobalt by ICP-MS	7440-48-4	96.053	% Recov	04/18/03	70.000	130.000	
MS	Chromium by ICP-MS	7440-47-3	99.291	% Recov	04/18/03	70.000	130.000	
MS	Copper by ICP-MS	7440-50-8	97.470	% Recov	04/18/03	70.000	130.000	
MS	Mercury by ICP-MS	7439-97-6	105.263	% Recov	04/18/03	70.000	130.000	
MS	Manganese by ICP-MS	7439-96-5	86.538	% Recov	04/18/03	70.000	130.000	
MS	Molybdenum by ICP-MS	7439-98-7	n/a	% Recov	04/18/03	70.000	130.000	
MS	Nickel by ICP-MS	7440-02-0	95.749	% Recov	04/18/03	70.000	130.000	
MS	Lead by ICP-MS	7439-92-1	98.178	% Recov	04/18/03	70.000	130.000	
MS	Antimony by ICP-MS	7440-36-0	85.020	% Recov	04/18/03	70.000	130.000	
MS	Selenium by ICP-MS	7782-49-2	89.069	% Recov	04/18/03	70.000	130.000	
MS	Thorium by ICP-MS	7440-29-1	n/a	% Recov	04/18/03	70.000	130.000	
MS	Thallium by ICP-MS	7440-28-0	91.498	% Recov	04/18/03	70.000	130.000	
MS	Uranium by ICP-MS	7440-61-1	95.445	% Recov	04/18/03	70.000	130.000	
MS	Vanadium by ICP-MS	7440-62-2	98.988	% Recov	04/18/03	70.000	130.000	
MS	Zinc by ICP-MS	7440-66-6	51.316	% Recov	04/18/03	70.000	130.000	*
MSD	Silver by ICP-MS	7440-22-4	91.529	% Recov	04/18/03	70.000	130.000	
MSD	Aluminum by ICP-MS	7429-90-5	n/a	% Recov	04/18/03	70.000	130.000	
MSD	Arsenic by ICP-MS	7440-38-2	91.012	% Recov	04/18/03	70.000	130.000	
MSD	Barium by ICP-MS	7440-39-3	89.050	% Recov	04/18/03	70.000	130.000	
MSD	Beryllium by ICP-MS	7440-41-7	96.281	% Recov	04/18/03	70.000	130.000	
MSD	Cadmium by ICP-MS	7440-43-9	92.252	% Recov	04/18/03	70.000	130.000	
MSD	Cobalt by ICP-MS	7440-48-4	95.558	% Recov	04/18/03	70.000	130.000	
MSD	Chromium by ICP-MS	7440-47-3	94.938	% Recov	04/18/03	70.000	130.000	
MSD	Copper by ICP-MS	7440-50-8	98.244	% Recov	04/18/03	70.000	130.000	
MSD	Mercury by ICP-MS	7439-97-6	105.372	% Recov	04/18/03	70.000	130.000	
MSD	Manganese by ICP-MS	7439-96-5	n/a	% Recov	04/18/03	70.000	130.000	
MSD	Molybdenum by ICP-MS	7439-98-7	87.913	% Recov	04/18/03	70.000	130.000	
MSD	Nickel by ICP-MS	7440-02-0	93.492	% Recov	04/18/03	70.000	130.000	
MSD	Lead by ICP-MS	7439-92-1	99.587	% Recov	04/18/03	70.000	130.000	
MSD	Antimony by ICP-MS	7440-36-0	90.083	% Recov	04/18/03	70.000	130.000	
MSD	Selenium by ICP-MS	7782-49-2	88.843	% Recov	04/18/03	70.000	130.000	
MSD	Thorium by ICP-MS	7440-29-1	n/a	% Recov	04/18/03	70.000	130.000	
MSD	Thallium by ICP-MS	7440-28-0	90.496	% Recov	04/18/03	70.000	130.000	
MSD	Uranium by ICP-MS	7440-61-1	94.318	% Recov	04/18/03	70.000	130.000	
MSD	Vanadium by ICP-MS	7440-62-2	99.793	% Recov	04/18/03	70.000	130.000	
MSD	Zinc by ICP-MS	7440-66-6	48.037	% Recov	04/18/03	70.000	130.000	*

BATCH QC

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: ICP-2008 MS All possible metal

SAF Number: F03-006
Sample Date:
Receive Date:

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit	
BLANK	Silver by ICP-MS	7440-22-4	<0.200	ug/L	04/18/03	-0.440	0.440	
BLANK	Aluminum by ICP-MS	7429-90-5	<11.0	ug/L	04/18/03	-24.200	24.200	
BLANK	Arsenic by ICP-MS	7440-38-2	<0.300	ug/L	04/18/03	-0.660	0.660	
BLANK	Barium by ICP-MS	7440-39-3	<0.200	ug/L	04/18/03	-0.440	0.440	
BLANK	Beryllium by ICP-MS	7440-41-7	<0.300	ug/L	04/18/03	-0.660	0.660	
BLANK	Cadmium by ICP-MS	7440-43-9	<0.100	ug/L	04/18/03	-0.220	0.220	
BLANK	Cobalt by ICP-MS	7440-48-4	<0.200	ug/L	04/18/03	-0.440	0.440	
BLANK	Chromium by ICP-MS	7440-47-3	<0.300	ug/L	04/18/03	-0.660	0.660	
BLANK	Copper by ICP-MS	7440-50-8	<0.500	ug/L	04/18/03	-1.100	1.100	
BLANK	Mercury by ICP-MS	7439-97-6	<0.100	ug/L	04/18/03	-0.220	0.220	
BLANK	Manganese by ICP-MS	7439-96-5	<0.300	ug/L	04/18/03	-0.660	0.660	
BLANK	Molybdenum by ICP-MS	7439-98-7	<0.300	ug/L	04/18/03	-0.660	0.660	
BLANK	Nickel by ICP-MS	7440-02-0	<0.500	ug/L	04/18/03	-1.100	1.100	
BLANK	Lead by ICP-MS	7439-92-1	<1.20	ug/L	04/18/03	-2.640	2.640	
BLANK	Antimony by ICP-MS	7440-36-0	1.30	ug/L	04/18/03	-1.100	1.100	*
BLANK	Selenium by ICP-MS	7782-49-2	<0.300	ug/L	04/18/03	-0.660	0.660	
BLANK	Thorium by ICP-MS	7440-29-1	<0.200	ug/L	04/18/03	-0.440	0.440	
BLANK	Thallium by ICP-MS	7440-28-0	<0.100	ug/L	04/18/03	-0.220	0.220	
BLANK	Uranium by ICP-MS	7440-61-1	<0.100	ug/L	04/18/03	-0.220	0.220	
BLANK	Vanadium by ICP-MS	7440-62-2	<0.400	ug/L	04/18/03	-0.880	0.880	
BLANK	Zinc by ICP-MS	7440-66-6	<4.00	ug/L	04/18/03	-8.800	8.800	
LCS	Silver by ICP-MS	7440-22-4	136.975	% Recov	04/18/03	85.000	115.000	*
LCS	Aluminum by ICP-MS	7429-90-5	110.922	% Recov	04/18/03	85.000	115.000	
LCS	Arsenic by ICP-MS	7440-38-2	100.513	% Recov	04/18/03	85.000	115.000	
LCS	Barium by ICP-MS	7440-39-3	99.490	% Recov	04/18/03	85.000	115.000	
LCS	Beryllium by ICP-MS	7440-41-7	99.734	% Recov	04/18/03	85.000	115.000	
LCS	Cadmium by ICP-MS	7440-43-9	97.376	% Recov	04/18/03	85.000	115.000	
LCS	Cobalt by ICP-MS	7440-48-4	93.179	% Recov	04/18/03	85.000	115.000	
LCS	Chromium by ICP-MS	7440-47-3	95.723	% Recov	04/18/03	85.000	115.000	
LCS	Copper by ICP-MS	7440-50-8	98.425	% Recov	04/18/03	85.000	115.000	
LCS	Mercury by ICP-MS	7439-97-6	101.083	% Recov	04/18/03	85.000	115.000	
LCS	Manganese by ICP-MS	7439-96-5	99.355	% Recov	04/18/03	85.000	115.000	
LCS	Molybdenum by ICP-MS	7439-98-7	98.667	% Recov	04/18/03	85.000	115.000	
LCS	Nickel by ICP-MS	7440-02-0	103.469	% Recov	04/18/03	85.000	115.000	
LCS	Lead by ICP-MS	7439-92-1	103.492	% Recov	04/18/03	85.000	115.000	
LCS	Antimony by ICP-MS	7440-36-0	104.348	% Recov	04/18/03	85.000	115.000	
LCS	Selenium by ICP-MS	7782-49-2	100.877	% Recov	04/18/03	85.000	115.000	
LCS	Thorium by ICP-MS	7440-29-1	n/a	% Recov	04/18/03	85.000	115.000	
LCS	Thallium by ICP-MS	7440-28-0	104.418	% Recov	04/18/03	85.000	115.000	
LCS	Uranium by ICP-MS	7440-61-1	92.233	% Recov	04/18/03	85.000	115.000	
LCS	Vanadium by ICP-MS	7440-62-2	98.780	% Recov	04/18/03	85.000	115.000	
LCS	Zinc by ICP-MS	7440-66-6	104.906	% Recov	04/18/03	85.000	115.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: Americium by AEA

SAF Number: F03-006
Sample Date: 04/04/03
Receive Date: 04/04/03

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit	
Lab ID: W030000158								
BATCH QC ASSOCIATED WITH SAMPLE								
DUP	Am-241 by AEA	14596-10-2	550.000	RPD	04/18/03	0.000	20.000	*
Lab ID: W030000176								
BATCH QC ASSOCIATED WITH SAMPLE								
DUP	Am-241 by AEA	14596-10-2	82.143	RPD	04/18/03	0.000	20.000	*
BATCH QC								
BLANK	Am-241 by AEA	14596-10-2	1.4e-02	PCG	04/21/03	0.000	1000.000	
LCS	Am-241 by AEA	14596-10-2	91.000	% Recov	04/18/03	75.000	125.000	

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: Cyanide by Midi/Spectrophotom

SAF Number: F03-006
Sample Date: 04/09/03
Receive Date: 04/09/03

Lab ID: W030000176

BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
MS	Cyanide by Midi/Spectrophotom	57-12-5	97.500	% Recov	04/22/03	75.000	125.000
MSD	Cyanide by Midi/Spectrophotom	57-12-5	100.600	% Recov	04/22/03	75.000	125.000
SPK-RPD	Cyanide by Midi/Spectrophotom	57-12-5	3.130	Ratio	04/22/03	0.000	20.000

BATCH QC

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
BLANK	Cyanide by Midi/Spectrophotom	57-12-5	0.784	Ratio	04/22/03	-2.000	2.000
BLNK-PREP	Cyanide by Midi/Spectrophotom	57-12-5	0.359	Ratio	04/22/03	-4.000	4.000
DUP	Cyanide by Midi/Spectrophotom	57-12-5	n/a	Ratio	04/22/03	0.000	20.000
LCS	Cyanide by Midi/Spectrophotom	57-12-5	102.600	% Recov	04/22/03	90.000	110.000
LCS-2	Cyanide by Midi/Spectrophotom	57-12-5	n/a	% Recov	04/22/03	80.000	120.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: Uranium Isotopics by AEA

SAF Number: F03-006
Sample Date: 04/04/03
Receive Date: 04/04/03

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
Lab ID: W030000158							
BATCH QC ASSOCIATED WITH SAMPLE							
DUP	U-238 by AEA	24678-82-8	2.899	RPD	04/17/03	0.000	20.000
Lab ID: W030000176							
BATCH QC ASSOCIATED WITH SAMPLE							
DUP	U-238 by AEA	24678-82-8	2.899	RPD	04/17/03	0.000	20.000
BATCH QC							
BLANK	U-238 by AEA	24678-82-8	4.3e-03	PCG	04/16/03	0.000	1000.000
LCS	U-238 by AEA	24678-82-8	109.800	% Recov	04/16/03	75.000	125.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: WTPH-D TPH Diesel Range (Wa)

SAF Number: F03-006
Sample Date: 04/09/03
Receive Date: 04/09/03

Lab ID: W030000176

BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
MS	ortho-Terphenyl	84-15-1	97.000	% Recov	04/18/03	70.000	130.000
MS	Total Pet. Hydrocarbons Diesel	68476-34-6	85.800	% Recov	04/18/03	75.000	125.000
MSD	ortho-Terphenyl	84-15-1	83.400	% Recov	04/18/03	70.000	130.000
MSD	Total Pet. Hydrocarbons Diesel	68476-34-6	75.900	% Recov	04/18/03	75.000	125.000
SPK-RPD	ortho-Terphenyl	84-15-1	15.078	RPD	04/18/03	0.000	20.000
SPK-RPD	Total Pet. Hydrocarbons Diesel	68476-34-6	12.245	RPD	04/18/03	0.000	20.000
SURR	ortho-Terphenyl	84-15-1	82.500	% Recov	04/18/03	70.000	130.000

BATCH QC

BLANK	Kerosene	8008-20-6	< 4700	ug/Kg	04/18/03	0.000	100.000
BLANK	ortho-Terphenyl	84-15-1	25066	ug/Kg	04/18/03	70.000	130.000
BLANK	Total Pet. Hydrocarbons Diesel	68476-34-6	< 4700	ug/Kg	04/18/03	0.000	300.000
LCS	Kerosene	8008-20-6	76.000	%Recove	04/18/03	70.000	130.000
LCS	ortho-Terphenyl	84-15-1	75.500	% Recov	04/18/03	70.000	130.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: Ammonia (N) by IC

SAF Number: F03-006
Sample Date: 04/09/03
Receive Date: 04/09/03

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
Lab ID: W030000176							
BATCH QC ASSOCIATED WITH SAMPLE							
DUP	Ammonia (N) by IC	7664-41-7	n/a	RPD	05/06/03	0.000	20.000
MS	Ammonia (N) by IC	7664-41-7	102.424	% Recov	05/06/03	75.000	125.000
MSD	Ammonia (N) by IC	7664-41-7	89.697	% Recov	05/06/03	75.000	125.000
BATCH QC							
LCS	Ammonia (N) by IC	7664-41-7	103.619	% Recov	05/06/03	80.000	120.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: Anions by Ion Chromatography

SAF Number: F03-006
Sample Date: 04/09/03
Receive Date: 04/09/03

Lab ID: W030000176

BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
DUP	Bromide (Br) by IC	24959-67-9	n/a	RPD	05/06/03	0.000	20.000
DUP	Chloride (Cl) by IC	16887-00-6	3.324	RPD	05/06/03	0.000	20.000
DUP	Fluoride (F) by IC	16984-48-8	n/a	RPD	05/06/03	0.000	20.000
DUP	Nitrite (N) by IC	NO2-N	n/a	RPD	05/06/03	0.000	20.000
DUP	Nitrate (N) by IC	NO3-N	1.152	RPD	05/06/03	0.000	20.000
DUP	Phosphate (P) by IC	14265-44-2	n/a	RPD	05/06/03	0.000	20.000
DUP	Sulfate (SO4) by IC	14808-79-8	4.826	RPD	05/06/03	0.000	20.000
MS	Bromide (Br) by IC	24959-67-9	96.482	% Recov	05/06/03	75.000	125.000
MS	Chloride (Cl) by IC	16887-00-6	97.677	% Recov	05/06/03	75.000	125.000
MS	Fluoride (F) by IC	16984-48-8	106.339	% Recov	05/06/03	75.000	125.000
MS	Nitrite (N) by IC	NO2-N	89.683	% Recov	05/06/03	75.000	125.000
MS	Nitrate (N) by IC	NO3-N	86.323	% Recov	05/06/03	75.000	125.000
MS	Phosphate (P) by IC	14265-44-2	89.364	% Recov	05/06/03	75.000	125.000
MS	Sulfate (SO4) by IC	14808-79-8	96.954	% Recov	05/06/03	75.000	125.000
MSD	Bromide (Br) by IC	24959-67-9	96.985	% Recov	05/06/03	75.000	125.000
MSD	Chloride (Cl) by IC	16887-00-6	99.697	% Recov	05/06/03	75.000	125.000
MSD	Fluoride (F) by IC	16984-48-8	108.589	% Recov	05/06/03	75.000	125.000
MSD	Nitrite (N) by IC	NO2-N	89.286	% Recov	05/06/03	75.000	125.000
MSD	Nitrate (N) by IC	NO3-N	84.529	% Recov	05/06/03	75.000	125.000
MSD	Phosphate (P) by IC	14265-44-2	91.345	% Recov	05/06/03	75.000	125.000
MSD	Sulfate (SO4) by IC	14808-79-8	97.970	% Recov	05/06/03	75.000	125.000

BATCH QC

BLANK	Bromide (Br) by IC	24959-67-9	<4.50e-2	mg/L	05/06/03	0.000	300.000
BLANK	Bromide (Br) by IC	24959-67-9	<4.50e-2	mg/L	05/07/03	0.000	300.000
BLANK	Chloride (Cl) by IC	16887-00-6	<1.40e-2	mg/L	05/06/03	0.000	300.000
BLANK	Chloride (Cl) by IC	16887-00-6	<1.40e-2	mg/L	05/07/03	0.000	300.000
BLANK	Fluoride (F) by IC	16984-48-8	<7.00e-3	mg/L	05/06/03	0.000	300.000
BLANK	Fluoride (F) by IC	16984-48-8	<7.00e-3	mg/L	05/07/03	0.000	300.000
BLANK	Nitrite (N) by IC	NO2-N	<9.00e-3	mg/L	05/06/03	0.000	300.000
BLANK	Nitrite (N) by IC	NO2-N	<9.00e-3	mg/L	05/07/03	0.000	300.000
BLANK	Nitrate (N) by IC	NO3-N	<5.00e-3	mg/L	05/06/03	0.000	300.000
BLANK	Nitrate (N) by IC	NO3-N	<5.00e-3	mg/L	05/07/03	0.000	300.000
BLANK	Phosphate (P) by IC	14265-44-2	<1.30e-2	mg/L	05/07/03	0.000	300.000
BLANK	Phosphate (P) by IC	14265-44-2	<1.30e-2	mg/L	05/06/03	0.000	300.000
BLANK	Sulfate (SO4) by IC	14808-79-8	<2.40e-2	mg/L	05/07/03	0.000	300.000
BLANK	Sulfate (SO4) by IC	14808-79-8	<2.40e-2	mg/L	05/06/03	0.000	300.000
LCS	Bromide (Br) by IC	24959-67-9	97.506	% Recov	05/06/03	80.000	120.000
LCS	Chloride (Cl) by IC	16887-00-6	99.500	% Recov	05/06/03	80.000	120.000
LCS	Fluoride (F) by IC	16984-48-8	106.383	% Recov	05/06/03	80.000	120.000
LCS	Nitrite (N) by IC	NO2-N	90.490	% Recov	05/06/03	80.000	120.000
LCS	Nitrate (N) by IC	NO3-N	96.226	% Recov	05/06/03	80.000	120.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: Anions by Ion Chromatography

SAF Number: F03-006
Sample Date:
Receive Date:

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
LCS	Phosphate (P) by IC	14265-44-2	95.459	% Recov	05/06/03	80.000	120.000
LCS	Sulfate (SO4) by IC	14808-79-8	98.246	% Recov	05/06/03	80.000	120.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: NWTPH-GX TPH Gasoline Range

SAF Number: F03-006
Sample Date: 04/09/03
Receive Date: 04/09/03

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
Lab ID: W030000176							
BATCH QC ASSOCIATED WITH SAMPLE							
MS	Total Pet. Hydrocarbons Gas	TPH-G	87.000	% Recov	04/18/03	50.000	150.000
MSD	Total Pet. Hydrocarbons Gas	TPH-G	86.000	% Recov	04/18/03	50.000	150.000
SPK-RPD	Total Pet. Hydrocarbons Gas	TPH-G	1.156	RPD	04/18/03	0.000	20.000
BATCH QC							
BLANK	Total Pet. Hydrocarbons Gas	TPH-G	<50	mg/L	04/18/03	0.000	300.000
LCS	Total Pet. Hydrocarbons Gas	TPH-G	105.000	% Recov	04/18/03	85.000	115.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: VOA Ground Water Protection

SAF Number: F03-006
Sample Date: 04/07/03
Receive Date: 04/07/03

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
Lab ID: W030000166							
BATCH QC ASSOCIATED WITH SAMPLE							
MS	1,1-Dichloroethene	75-35-4	106.000	% Recov	04/21/03	63.000	117.000
MS	Benzene	71-43-2	108.000	% Recov	04/21/03	75.000	129.000
MS	4-Bromofluorobenzene Surr	460-00-4	101.000	% Recov	04/21/03	84.000	116.000
MS	Chlorobenzene	108-90-7	114.000	% Recov	04/21/03	79.000	119.000
MS	1,2-Dichloroethane-d4 Surr	17060-07-0	103.000	% Recov	04/21/03	82.000	136.000
MS	Toluene-d8 Surr	2037-26-5	104.000	% Recov	04/21/03	89.000	119.000
MS	Toluene	108-88-3	110.000	% Recov	04/21/03	76.000	120.000
MS	Trichloroethene	79-01-6	110.000	% Recov	04/21/03	73.000	123.000
MSD	1,1-Dichloroethene	75-35-4	99.400	% Recov	04/21/03	63.000	117.000
MSD	Benzene	71-43-2	104.000	% Recov	04/21/03	75.000	129.000
MSD	4-Bromofluorobenzene Surr	460-00-4	100.000	% Recov	04/21/03	84.000	116.000
MSD	Chlorobenzene	108-90-7	108.000	% Recov	04/21/03	79.000	119.000
MSD	1,2-Dichloroethane-d4 Surr	17060-07-0	105.000	% Recov	04/21/03	82.000	136.000
MSD	Toluene-d8 Surr	2037-26-5	104.000	% Recov	04/21/03	89.000	119.000
MSD	Toluene	108-88-3	104.000	% Recov	04/21/03	76.000	120.000
MSD	Trichloroethene	79-01-6	102.000	% Recov	04/21/03	73.000	123.000
Lab ID: W030000167							
BATCH QC ASSOCIATED WITH SAMPLE							
MS	1,1-Dichloroethene	75-35-4	95.000	% Recov	04/21/03	63.000	117.000
MS	Benzene	71-43-2	108.000	% Recov	04/21/03	75.000	129.000
MS	4-Bromofluorobenzene Surr	460-00-4	102.000	% Recov	04/21/03	84.000	116.000
MS	Chlorobenzene	108-90-7	108.000	% Recov	04/21/03	79.000	119.000
MS	1,2-Dichloroethane-d4 Surr	17060-07-0	104.000	% Recov	04/21/03	82.000	136.000
MS	Toluene-d8 Surr	2037-26-5	103.000	% Recov	04/21/03	89.000	119.000
MS	Toluene	108-88-3	108.000	% Recov	04/21/03	76.000	120.000
MS	Trichloroethene	79-01-6	106.000	% Recov	04/21/03	73.000	123.000
Lab ID: W030000176							
BATCH QC ASSOCIATED WITH SAMPLE							
MS	1,1-Dichloroethene	75-35-4	90.700	% Recov	04/21/03	63.000	117.000
MS	Benzene	71-43-2	106.000	% Recov	04/21/03	75.000	129.000
MS	4-Bromofluorobenzene Surr	460-00-4	98.300	% Recov	04/21/03	84.000	116.000
MS	Chlorobenzene	108-90-7	108.000	% Recov	04/21/03	79.000	119.000
MS	1,2-Dichloroethane-d4 Surr	17060-07-0	104.000	% Recov	04/21/03	82.000	136.000
MS	Toluene-d8 Surr	2037-26-5	102.000	% Recov	04/21/03	89.000	119.000
MS	Toluene	108-88-3	106.000	% Recov	04/21/03	76.000	120.000
MS	Trichloroethene	79-01-6	106.000	% Recov	04/21/03	73.000	123.000
MSD	1,1-Dichloroethene	75-35-4	93.600	% Recov	04/21/03	63.000	117.000
MSD	Benzene	71-43-2	102.000	% Recov	04/21/03	75.000	129.000
MSD	4-Bromofluorobenzene Surr	460-00-4	101.000	% Recov	04/21/03	84.000	116.000
MSD	Chlorobenzene	108-90-7	106.000	% Recov	04/21/03	79.000	119.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: VOA Ground Water Protection

SAF Number: F03-006
Sample Date: 04/09/03
Receive Date: 04/09/03

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
MSD	1,2-Dichloroethane-d4 Surr	17060-07-0	104.000	% Recov	04/21/03	82.000	136.000
MSD	Toluene-d8 Surr	2037-26-5	102.000	% Recov	04/21/03	89.000	119.000
MSD	Toluene	108-88-3	104.000	% Recov	04/21/03	76.000	120.000
MSD	Trichloroethene	79-01-6	102.000	% Recov	04/21/03	73.000	123.000
SPK-RPD	1,1-Dichloroethene	75-35-4	3.147	RPD	04/21/03	0.000	25.000
SPK-RPD	Benzene	71-43-2	3.846	RPD	04/21/03	0.000	25.000
SPK-RPD	4-Bromofluorobenzene Surr	460-00-4	2.709	RPD	04/21/03	0.000	25.000
SPK-RPD	Chlorobenzene	108-90-7	1.869	RPD	04/21/03	0.000	25.000
SPK-RPD	1,2-Dichloroethane-d4 Surr	17060-07-0	0.000	RPD	04/21/03	0.000	25.000
SPK-RPD	Toluene-d8 Surr	2037-26-5	0.000	RPD	04/21/03	0.000	25.000
SPK-RPD	Toluene	108-88-3	1.905	RPD	04/21/03	0.000	25.000
SPK-RPD	Trichloroethene	79-01-6	3.846	RPD	04/21/03	0.000	25.000
SURR	4-Bromofluorobenzene Surr	460-00-4	99.400	% Recov	04/21/03	71.000	125.000
SURR	1,2-Dichloroethane-d4 Surr	17060-07-0	102.000	% Recov	04/21/03	80.000	134.000
SURR	Toluene-d8 Surr	2037-26-5	103.000	% Recov	04/21/03	80.000	126.000

BATCH QC

BLANK	1,1-Dichloroethene	75-35-4	< 1.0	ug/Kg	04/21/03		
BLANK	1-Butanol	71-36-3	< 10	ug/Kg	04/21/03		
BLANK	Benzene	71-43-2	< 1.0	ug/Kg	04/21/03		
BLANK	4-Bromofluorobenzene Surr	460-00-4	98.000	% Recov	04/21/03	71.000	125.000
BLANK	Chlorobenzene	108-90-7	< 1.0	ug/Kg	04/21/03		
BLANK	1,2-Dichloroethane-d4 Surr	17060-07-0	100.000	% Recov	04/21/03	80.000	134.000
BLANK	Toluene-d8 Surr	2037-26-5	100.000	% Recov	04/21/03	80.000	126.000
BLANK	Toluene	108-88-3	< 1.0	ug/Kg	04/21/03		
BLANK	Trichloroethene	79-01-6	< 1.0	ug/Kg	04/21/03		
LCS	1,1-Dichloroethene	75-35-4	96.000	% Recov	04/21/03	70.000	130.000
LCS	Benzene	71-43-2	104.000	% Recov	04/21/03	70.000	130.000
LCS	4-Bromofluorobenzene Surr	460-00-4	98.000	% Recov	04/21/03	71.000	125.000
LCS	Chlorobenzene	108-90-7	104.000	% Recov	04/21/03	70.000	130.000
LCS	1,2-Dichloroethane-d4 Surr	17060-07-0	100.000	% Recov	04/21/03	80.000	134.000
LCS	Toluene-d8 Surr	2037-26-5	100.000	% Recov	04/21/03	80.000	126.000
LCS	Toluene	108-88-3	104.000	% Recov	04/21/03	70.000	130.000
LCS	Trichloroethene	79-01-6	104.000	% Recov	04/21/03	70.000	130.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: Alcohols, Glycols - 8015

SAF Number: F03-006
Sample Date: 04/09/03
Receive Date: 04/09/03

Lab ID: W030000176

BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
MS	2-Bromoethanol	540-51-2	102.000	%Recove	05/02/03	70.000	125.000
MS	Diethyl ether	60-29-7	113.000	%Recove	05/02/03	75.000	125.000
MS	Ethylene glycol	107-21-1	95.000	%Recove	05/02/03	75.000	125.000
MS	Methanol	67-56-1	96.000	%Recove	05/02/03	75.000	125.000
MSD	2-Bromoethanol	540-51-2	114.000	%Recove	05/02/03	70.000	125.000
MSD	Diethyl ether	60-29-7	119.000	%Recove	05/02/03	75.000	125.000
MSD	Ethylene glycol	107-21-1	111.000	%Recove	05/02/03	75.000	125.000
MSD	Methanol	67-56-1	96.000	%Recove	05/02/03	75.000	125.000
SPK-RPD	2-Bromoethanol	540-51-2	11.111	RPD	05/02/03	0.000	20.000
SPK-RPD	Diethyl ether	60-29-7	5.172	RPD	05/02/03	0.000	20.000
SPK-RPD	Ethylene glycol	107-21-1	15.534	RPD	05/02/03	0.000	20.000
SPK-RPD	Methanol	67-56-1	0.000	RPD	05/02/03	0.000	20.000

BATCH QC

BLANK	2-Bromoethanol	540-51-2	100	ug/Kg	05/02/03	0.000	10.000
BLANK	Diethyl ether	60-29-7	<5000	ug/Kg	05/02/03	0.000	10.000
BLANK	Ethylene glycol	107-21-1	<5000	ug/Kg	05/02/03	0.000	5.000
BLANK	Methanol	67-56-1	<1000	ug/Kg	05/02/03	0.000	10.000
LCS	2-Bromoethanol	540-51-2	92.000	%Recove	05/02/03	70.000	130.000
LCS	Diethyl ether	60-29-7	92.000	%Recove	05/02/03	70.000	130.000
LCS	Ethylene glycol	107-21-1	116.000	%Recove	05/02/03	70.000	130.000
LCS	Methanol	67-56-1	102.000	%Recove	05/02/03	70.000	130.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: ICP Metals Analysis, Grd H20 P

SAF Number: F03-006
Sample Date: 04/07/03
Receive Date: 04/07/03

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit	
Lab ID: W030000166								
BATCH QC ASSOCIATED WITH SAMPLE								
MS	Bismuth by ICP	7440-69-9	100.260	% Recov	05/06/03	75.000	125.000	
MSD	Bismuth by ICP	7440-69-9	100.460	% Recov	05/06/03	75.000	125.000	
Lab ID: W030000167								
BATCH QC ASSOCIATED WITH SAMPLE								
MS	Boron by ICP	7440-50-8	104.740	% Recov	05/06/03	70.000	130.000	
MS	Bismuth by ICP	7440-69-9	99.800	% Recov	05/06/03	75.000	125.000	
MSD	Boron by ICP	7440-50-8	102.040	% Recov	05/06/03	75.000	125.000	
MSD	Bismuth by ICP	7440-69-9	99.200	% Recov	05/06/03	75.000	125.000	
Lab ID: W030000176								
BATCH QC ASSOCIATED WITH SAMPLE								
MS	Boron by ICP	7440-50-8	94.192	% Recov	05/06/03	70.000	130.000	
MS	Bismuth by ICP	7440-69-9	98.080	% Recov	05/06/03	75.000	125.000	
MSD	Boron by ICP	7440-50-8	93.352	% Recov	05/06/03	75.000	125.000	
MSD	Bismuth by ICP	7440-69-9	97.280	% Recov	05/06/03	75.000	125.000	
SPK-RPD	Boron by ICP	7440-50-8	0.896	RPD	05/06/03	0.000	20.000	
SPK-RPD	Bismuth by ICP	7440-69-9	0.819	RPD	05/06/03	0.000	20.000	
BATCH QC								
BLANK	Boron by ICP	7440-50-8	<9.5	ug/L	05/06/03	-10.000	10.000	
BLANK	Bismuth by ICP	7440-69-9	0.073	ug/L	05/06/03	-1.000	0.068	*
LCS	Boron by ICP	7440-50-8	245.184	% Recov	05/06/03	52.000	84.200	*
LCS	Bismuth by ICP	7440-69-9	126.000	% Recov	05/06/03	80.000	120.000	*

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: SW-846 8270B Semi-Vols

SAF Number: F03-006
Sample Date: 04/09/03
Receive Date: 04/09/03

Lab ID: W030000176
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
MS	1,2,4-Trichlorobenzene	120-82-1	90.000	% Recov	04/23/03	46.000	107.000
MS	1,4-Dichlorobenzene (SV)	106-46-7	93.000	% Recov	04/23/03	30.000	96.000
MS	2,4-Dinitrotoluene	121-14-2	75.000	% Recov	04/23/03	59.000	106.000
MS	2-Fluorophenol Surr	367-12-4	84.000	%Recove	04/23/03	42.000	105.000
MS	Acenaphthene	83-32-9	90.000	% Recov	04/23/03	61.000	116.000
MS	4-Chloro-3-methylphenol	59-50-7	88.000	% Recov	04/23/03	61.000	106.000
MS	2-Chlorophenol	95-57-8	88.000	% Recov	04/23/03	66.000	106.000
MS	N-Nitroso-di-n-propylamine	621-64-7	93.000	% Recov	04/23/03	71.000	114.000
MS	2-Fluorobiphenyl Surr	321-60-8	87.000	%Recove	04/23/03	56.000	122.000
MS	Phenol	108-95-2	90.000	% Recov	04/23/03	42.000	111.000
MS	Nitrobenzene-d5 Surr	4165-60-0	84.000	%Recove	04/23/03	64.000	111.000
MS	4-Nitrophenol	100-02-7	98.000	% Recov	04/23/03	32.000	118.000
MS	Pentachlorophenol	87-86-5	90.000	% Recov	04/23/03	62.000	114.000
MS	Phenol-d5 Surr	4165-62-2	81.000	%Recove	04/23/03	54.000	120.000
MS	Pyrene	129-00-0	81.000	% Recov	04/23/03	66.000	118.000
MS	2,4,6-Tribromophenol Surr	118-79-6	108.000	%Recove	04/23/03	24.000	122.000
MS	Terphenyl-d14 Surr	98904-43-9	105.000	%Recove	04/23/03	35.000	150.000
MSD	1,2,4-Trichlorobenzene	120-82-1	93.700	% Recov	04/23/03	46.000	107.000
MSD	1,4-Dichlorobenzene (SV)	106-46-7	93.700	% Recov	04/23/03	30.000	96.000
MSD	2,4-Dinitrotoluene	121-14-2	75.600	% Recov	04/23/03	59.000	106.000
MSD	2-Fluorophenol Surr	367-12-4	87.600	%Recove	04/23/03	42.000	105.000
MSD	Acenaphthene	83-32-9	87.600	% Recov	04/23/03	61.000	116.000
MSD	4-Chloro-3-methylphenol	59-50-7	92.700	% Recov	04/23/03	61.000	106.000
MSD	2-Chlorophenol	95-57-8	84.600	% Recov	04/23/03	66.000	106.000
MSD	N-Nitroso-di-n-propylamine	621-64-7	90.700	% Recov	04/23/03	71.000	114.000
MSD	2-Fluorobiphenyl Surr	321-60-8	87.600	%Recove	04/23/03	56.000	122.000
MSD	Phenol	108-95-2	80.600	% Recov	04/23/03	42.000	111.000
MSD	Nitrobenzene-d5 Surr	4165-60-0	93.700	%Recove	04/23/03	64.000	111.000
MSD	4-Nitrophenol	100-02-7	107.000	% Recov	04/23/03	32.000	118.000
MSD	Pentachlorophenol	87-86-5	94.700	% Recov	04/23/03	62.000	114.000
MSD	Phenol-d5 Surr	4165-62-2	81.600	%Recove	04/23/03	54.000	120.000
MSD	Pyrene	129-00-0	78.600	% Recov	04/23/03	66.000	118.000
MSD	2,4,6-Tribromophenol Surr	118-79-6	103.000	%Recove	04/23/03	24.000	122.000
MSD	Terphenyl-d14 Surr	98904-43-9	106.000	%Recove	04/23/03	35.000	150.000
SPK-RPD	1,2,4-Trichlorobenzene	120-82-1	4.028	RPD	04/23/03	0.000	20.000
SPK-RPD	1,4-Dichlorobenzene (SV)	106-46-7	0.750	RPD	04/23/03	0.000	20.000
SPK-RPD	2,4-Dinitrotoluene	121-14-2	0.797	RPD	04/23/03	0.000	20.000
SPK-RPD	2-Fluorophenol Surr	367-12-4	104.286	%Recove	04/23/03	42.000	105.000
SPK-RPD	Acenaphthene	83-32-9	2.703	RPD	04/23/03	0.000	20.000
SPK-RPD	4-Chloro-3-methylphenol	59-50-7	5.202	RPD	04/23/03	0.000	20.000
SPK-RPD	2-Chlorophenol	95-57-8	3.940	RPD	04/23/03	0.000	20.000
SPK-RPD	N-Nitroso-di-n-propylamine	621-64-7	2.504	RPD	04/23/03	0.000	20.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: SW-846 8270B Semi-Vols

SAF Number: F03-006
Sample Date: 04/09/03
Receive Date: 04/09/03

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
SPK-RPD	2-Fluorobiphenyl Surr	321-60-8	100.690	%Recove	04/23/03	56.000	122.000
SPK-RPD	Phenol	108-95-2	11.020	RPD	04/23/03	0.000	20.000
SPK-RPD	Nitrobenzene-d5 Surr	4165-60-0	111.548	%Recove	04/23/03	64.000	111.000 *
SPK-RPD	4-Nitrophenol	100-02-7	8.780	RPD	04/23/03	0.000	20.000
SPK-RPD	Pentachlorophenol	87-86-5	5.089	RPD	04/23/03	0.000	20.000
SPK-RPD	Phenol-d5 Surr	4165-62-2	100.741	%Recove	04/23/03	54.000	120.000
SPK-RPD	Pyrene	129-00-0	3.008	RPD	04/23/03	0.000	20.000
SPK-RPD	2,4,6-Tribromophenol Surr	118-79-6	95.370	%Recove	04/23/03	24.000	122.000
SPK-RPD	Terphenyl-d14 Surr	98904-43-9	100.952	%Recove	04/23/03	35.000	150.000
SURR	2-Fluorophenol Surr	367-12-4	84.300	%Recove	04/23/03	42.000	105.000
SURR	2-Fluorobiphenyl Surr	321-60-8	93.300	%Recove	04/23/03	56.000	122.000
SURR	Nitrobenzene-d5 Surr	4165-60-0	90.300	%Recove	04/23/03	64.000	111.000
SURR	Phenol-d5 Surr	4165-62-2	81.300	%Recove	04/23/03	54.000	120.000
SURR	2,4,6-Tribromophenol Surr	118-79-6	81.300	%Recove	04/23/03	24.000	122.000
SURR	Terphenyl-d14 Surr	98904-43-9	99.400	%Recove	04/23/03	35.000	150.000

BATCH QC

BLANK	1,2-Dichlorobenzene (SV)	95-50-1	< 360	ug/Kg	04/18/03		
BLANK	1,2,4-Trichlorobenzene	120-82-1	< 290	ug/Kg	04/18/03		
BLANK	1,3-Dichlorobenzene	541-73-1	< 320	ug/Kg	04/18/03		
BLANK	1,4-Dichlorobenzene (SV)	106-46-7	< 310	ug/Kg	04/18/03		
BLANK	2,4-Dichlorophenol	120-83-2	< 80	ug/Kg	04/18/03		
BLANK	2,4-Dinitrotoluene	121-14-2	< 67	ug/Kg	04/18/03		
BLANK	2,4,5-Trichlorophenol	95-95-4	< 670	ug/Kg	04/18/03		
BLANK	2,4,6-Trichlorophenol	88-06-2	< 67	ug/Kg	04/18/03		
BLANK	2,4-Dimethylphenol	105-67-9	< 67	ug/Kg	04/18/03		
BLANK	2,6-Dinitrotoluene	606-20-2	< 67	ug/Kg	04/18/03		
BLANK	2-Butoxyethanol	111-76-2	< 100	ug/Kg	04/18/03		
BLANK	2-Chloronaphthalene	91-58-7	< 80	ug/Kg	04/18/03		
BLANK	2-Fluorophenol Surr	367-12-4	67.900	%Recove	04/18/03	42.000	105.000
BLANK	2-Methylnaphthalene	91-57-6	< 180	ug/Kg	04/18/03		
BLANK	2-Methylphenol	95-48-7	< 67	ug/Kg	04/18/03		
BLANK	2-Nitroaniline	88-74-4	< 67	ug/Kg	04/18/03		
BLANK	2-Nitrophenol	88-75-5	< 170	ug/Kg	04/18/03		
BLANK	3 & 4 Methylphenol Total	108-39-4	< 110	ug/Kg	04/18/03	0.000	300.000
BLANK	3-Nitroaniline	99-09-2	< 67	ug/Kg	04/18/03		
BLANK	4,6-Dinitro-2-methylphenol	534-52-1	< 670	ug/Kg	04/18/03		
BLANK	4-Bromophenyl-phenylether	101-55-3	< 67	ug/Kg	04/18/03		
BLANK	4-Chlorophenyl-phenylether	7005-72-3	< 67	ug/Kg	04/18/03		
BLANK	Acenaphthene	83-32-9	< 67	ug/Kg	04/18/03		
BLANK	Acenaphthylene	208-96-8	< 80	ug/Kg	04/18/03		
BLANK	Anthracene	120-12-7	< 67	ug/Kg	04/18/03		
BLANK	bis(-2-Chloroethyl)Eth	111-44-4	< 250	ug/Kg	04/18/03		
BLANK	Benzo(a)anthracene	56-55-3	< 67	ug/Kg	04/18/03		
BLANK	Benzo(b)fluoranthene	205-99-2	< 67	ug/Kg	04/18/03		
BLANK	Benzo(g,h,i)perylene	191-24-2	< 67	ug/Kg	04/18/03		

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: SW-846 8270B Semi-Vols

SAF Number: F03-006
Sample Date:
Receive Date:

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
BLANK	Benzo(a)pyrene	50-32-8	< 67	ug/Kg	04/18/03		
BLANK	bis(2-Chloroethoxy)methane	111-91-1	< 110	ug/Kg	04/18/03		
BLANK	Bis (2-Ethylhexyl) phthalate	117-81-7	< 560	ug/Kg	04/18/03		
BLANK	Bis(2-Chloro-1-methylene)	108-60-1	< 250	ug/Kg	04/18/03	0.000	10.000
BLANK	Benzo(k)fluoranthene	207-08-9	< 67	ug/Kg	04/18/03		
BLANK	Butylbenzylphthalate	85-68-7	< 67	ug/Kg	04/18/03		
BLANK	Carbazole	86-74-8	< 80	ug/Kg	04/18/03		
BLANK	4-Chloroaniline	106-47-8	< 93	ug/Kg	04/18/03		
BLANK	4-Chloro-3-methylphenol	59-50-7	< 67	ug/Kg	04/18/03		
BLANK	2-Chlorophenol	95-57-8	< 150	ug/Kg	04/18/03		
BLANK	Chrysene	218-01-9	< 67	ug/Kg	04/18/03		
BLANK	3,3'-Dichlorobenzidine	91-94-1	< 80	ug/Kg	04/18/03		
BLANK	Dibenz(a,h)anthracene	53-70-3	< 67	ug/Kg	04/18/03		
BLANK	Dibenzofuran	132-64-9	< 67	ug/Kg	04/18/03		
BLANK	Di-n-butylphthalate	84-74-2	< 87	ug/Kg	04/18/03		
BLANK	Diethylphthalate	84-66-2	570	ug/Kg	04/18/03		
BLANK	Dimethylphthalate	131-11-3	< 67	ug/Kg	04/18/03		
BLANK	2,4-Dinitrophenol	51-28-5	< 670	ug/Kg	04/18/03		
BLANK	Di-n-octylphthalate	117-84-0	< 67	ug/Kg	04/18/03		
BLANK	N-Nitroso-di-n-propylamine	621-64-7	< 67	ug/Kg	04/18/03		
BLANK	2-Fluorobiphenyl Surr	321-60-8	85.100	%Recove	04/18/03	56.000	122.000
BLANK	Fluorene	86-73-7	< 67	ug/Kg	04/18/03		
BLANK	Fluoranthene	206-44-0	< 67	ug/Kg	04/18/03		
BLANK	Hexachlorobenzene	118-74-1	< 67	ug/Kg	04/18/03		
BLANK	Hexachlorobutadiene	87-68-3	< 370	ug/Kg	04/18/03		
BLANK	Hexachlorocyclopentadiene	77-47-4	< 310	ug/Kg	04/18/03		
BLANK	Hexachloroethane	67-72-1	< 470	ug/Kg	04/18/03		
BLANK	Indeno(1,2,3-cd)pyrene	193-39-5	< 67	ug/Kg	04/18/03		
BLANK	Isophorone	78-59-1	< 67	ug/Kg	04/18/03		
BLANK	Phenol	108-95-2	< 100	ug/Kg	04/18/03		
BLANK	Naphthalene	91-20-3	< 290	ug/Kg	04/18/03		
BLANK	Nitrobenzene-d5 Surr	4165-60-0	86.000	%Recove	04/18/03	64.000	111.000
BLANK	Nitrobenzene	98-95-3	< 260	ug/Kg	04/18/03		
BLANK	4-Nitrophenol	100-02-7	< 650	ug/Kg	04/18/03		
BLANK	4-Nitroaniline	100-01-6	< 250	ug/Kg	04/18/03		
BLANK	N-Nitrosodiphenylamine	86-30-6	< 67	ug/Kg	04/18/03		
BLANK	Pentachlorophenol	87-86-5	< 300	ug/Kg	04/18/03		
BLANK	Phenanthrene	85-01-8	< 67	ug/Kg	04/18/03		
BLANK	Phenol-d5 Surr	4165-62-2	77.300	%Recove	04/18/03	54.000	120.000
BLANK	Pyrene	129-00-0	< 67	ug/Kg	04/18/03		
BLANK	Tri-n-butylphosphate	126-73-8	< 67	ug/Kg	04/18/03		
BLANK	2,4,6-Tribromophenol Surr	118-79-6	66.800	%Recove	04/18/03	24.000	122.000
BLANK	Terphenyl-d14 Surr	98904-43-9	97.400	%Recove	04/18/03	35.000	150.000
LCS	1,2,4-Trichlorobenzene	120-82-1	88.300	% Recov	04/18/03	46.000	107.000
LCS	1,4-Dichlorobenzene (SV)	106-46-7	78.800	% Recov	04/18/03	42.000	111.000
LCS	2,4-Dinitrotoluene	121-14-2	72.000	% Recov	04/18/03	59.000	106.000

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: WSCF20030492
Matrix: SOLID
Test: SW-846 8270B Semi-Vols

SAF Number: F03-006
Sample Date:
Receive Date:

QC Type	Analyte		CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit
LCS	2-Fluorophenol	Surr	367-12-4	75.300	% Recov	04/18/03	50.000	110.000
LCS	Acenaphthene		83-32-9	80.800	% Recov	04/18/03	61.000	116.000
LCS	4-Chloro-3-methylphenol		59-50-7	83.000	% Recov	04/18/03	61.000	106.000
LCS	2-Chlorophenol		95-57-8	72.600	% Recov	04/18/03	66.000	106.000
LCS	N-Nitroso-di-n-propylamine		621-64-7	77.200	% Recov	04/18/03	71.000	114.000
LCS	2-Fluorobiphenyl	Surr	321-60-8	83.700	% Recov	04/18/03	58.000	109.000
LCS	Phenol		108-95-2	73.900	% Recov	04/18/03	67.000	105.000
LCS	Nitrobenzene-d5	Surr	4165-60-0	81.900	% Recov	04/18/03	60.000	118.000
LCS	4-Nitrophenol		100-02-7	64.400	% Recov	04/18/03	32.000	118.000
LCS	Pentachlorophenol		87-86-5	72.500	% Recov	04/18/03	62.000	114.000
LCS	Phenol-d5	Surr	4165-62-2	77.200	% Recov	04/18/03	59.000	116.000
LCS	Pyrene		129-00-0	86.400	% Recov	04/18/03	66.000	118.000
LCS	2,4,6-Tribromophenol	Surr	118-79-6	81.500	% Recov	04/18/03	60.000	120.000
LCS	Terphenyl-d14	Surr	98904-43-9	91.100	% Recov	04/18/03	60.000	120.000

8F-000-SLF-019

ATTACHMENT 3

SAMPLE RECEIPT INFORMATION

Consisting of 2 pages
cover page not included.

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

File VTS 5/8/03

ACKNOWLEDGMENT OF SAMPLES RECEIVED

REVISED! KB 4/14/03

Ground Water Protection Program

Richland, WA 99352
Attn: Steve Trent

Customer Code: GPP
PO#: 117504/ES20
Group#: 20030492
Project#: F03-006
Proj Mgr: STEVE TRENT A0-21
Phone: 373-5869

The following samples were received from you on 04/09/03. 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
W030000176	B16RY3	GPP @2008 @8015GPP @AEA-30 @AEA-31 @AEA-32 @GEA-GPP @IC-30 @ICP-GPP @SVOCGPP @TPHD-WA @TPHG @VOA-GPP ~~B-31~~ CN-02 NH4-IC PERSOLID PH-30	Solid, or handle as if solid	04/09/03

in ICP-GPP VTS 5/7/03

Test Acronym Description

Test Acronym	Description
@2008	ICP-2008 MS All possible metal
@8015GPP	Alcohols, Glycols - 8015
@AEA-30	Plutonium Isotopics by AEA
@AEA-31	Americium by AEA
@AEA-32	Uranium Isotopics by AEA
@GEA-GPP	Gamma Energy Analysis-grd H2O
@IC-30	Anions by Ion Chromatography
@ICP-GPP	ICP Metals Analysis, Grd H20 P
@SVOCGPP	SW-846 8270B Semi-Vols
@TPHD-WA	WTPH-D TPH Diesel Range (Wa)
@TPHG-WA	NWTPH-GX TPH Gasoline Range
@VOA-GPP	VOA Ground Water Protection
B-31	Boron by ICP
CN-02	Cyanide by Midi/Spectrophotom
NH4-IC	Ammonia (N) by IC
PERSOLID	Percent Solids
PH-30	pH Soil and Waste Measurement

COPY

KB MAN

5/8/03

FH-Central Plateau Project	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST	F03-006-018	Page 1 of 1

ollector Johansen/Pope/Pfister	Company Contact LC Hulstrom	Telephone No. 373-3928	Project Coordinator TRENT, SJ
Price Code 8N	Data Turnaround 30 Days	Air Quality ☐	
oject Designation 200-PW-2/200-PW-4 OU - Borehole Soil Sampling	Sampling Location 216-A-19 (C3245) 97.5-100 ft		SAF No. F03-006
e Chest No. ERC-01-011	Field Logbook No. HNF-N-3361	COA 117504ES10	Method of Shipment Government Vehicle
hipped To Waste Sampling & Characterization	Offsite Property No. N/A		Bill of Lading/Air Bill No. N/A

POSSIBLE SAMPLE HAZARDS/REMARKS

Special Handling and/or Storage

20036492

Preservation	Cool 4C	Cool 4C	None	None						
Type of Container	aG	Gs*	P	Snap Vial						
No. of Container(s)	1	3	1	1						
Volume	250mL	40mL	500mL	60mL						
SAMPLE ANALYSIS	See item (1) in Special Instructions.	See item (2) in Special Instructions.	See item (3) in Special Instructions.	Activity Scan						

COPY

Sample No.	Matrix *	Sample Date	Sample Time										
16RY3 WO3000174	SOIL	4-9-03	0950	X	X	X	X						

CHAIN OF POSSESSION	Sign/Print Names		
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
[illegible]	4/9/03 1050	M.M. Kostt MMKASTL	4-9-03 1050
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time
elinquished By/Removed From	Date/Time	Received By/Stored In	Date/Time

SPECIAL INSTRUCTIONS

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

(1) Semi-VOA - 8270A (TCL); Semi-VOA -- 8270A (Add-On) {2-Butoxyethanol, Tributyl phosphate}; TPH-Diesel Range - WTPH-D; TPH-Gasoline Range - WTPH-G; ~~PCBs - 8082~~ MJ 4-8-03
(2) Alcohols, Glycols, & Ketones - 8015 {1-Butanol, Diethyl ether, Ethylene glycol, Methanol}
(3) Gamma Spectroscopy {Cesium-137, Cobalt-60, Europium-152, Europium-154, Europium-155}; Gamma Spec - Add-on {Antimony-125, Cesium-134, Tin-126}; Isotopic Radium {Radium-226, Radium-228}; Isotopic Plutonium; Americium-241; Isotopic Uranium; Trace Elements ICP/MS - 200.8 (Complete) {Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Uranium}; ICP Metals - 6010A (Add-on) {Bismuth, Boron}; IC Anions - 300.0 {Chloride, Fluoride, Nitrogen in Nitrate, Nitrogen in Nitrite, Phosphate, Sulfate}; Cyanide (Total) - 335.2; Cations (IC) - 300.7 {Nitrogen in ammonium}; pH (Soil) - 9045

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

LABORATORY SECTION	Received By	Title	Date/Time
INAL SAMPLE NSPOSITION	Disposal Method	Disposed By	Date/Time

3-2

SAMPLE DISPOSITION RECORD

ORIGINAL
Dayes

SDR No.: F03-014
Revision No.: 0
Date Initiated: 04/08/2003

Sample Event Information

SAF: F03-006

OU: 200-PW-2/200-PW-4

Project: CPP 200 Area

Sampling Event: 200-PW-2/200-PW-4 OU - Soil Sampling

Laboratory: Eberline Services (Lionville)

Sampling Information

Number of Samples: 8

ID Numbers: B16RX6, B16RX7, B16RX8, B16RX9, B16RY0, B16RY1, B16RY2, B16RY3

Matrix: SOIL

Collection Date: 04/04/2003 - 04/09/2003

Issue Background

Class ○ Project Data Use ◉ General Laboratory Direction ○ Validation Direction ○ General Sample Management Direction

Type: Addition of Analyses

Description:

Addition of EPA Method 353.2 Nitrate+Nitrite Analysis

Disposition

Description:

For various logistical reasons samples submitted to the WSCF laboratory for analysis by EPA method 300.0 are not being analysed within the analytical holding time (48 hours) for nitrate + nitrite. To compensate for the missed holding times, the listed samples will be analysed for nitrate and nitrite using EPA method 353.2. The analytical holding time for this method is 28 days with respect to nitrate + nitrate.

Justification:

The data quality objectives for the 200-PW-2/200-PW-4 characterization effort requires that analyses for all contaminants of concern meet the associated analytical holding times whenever possible.

Approval Signatures

SJ Trent — 4/29/03
Project Coordinator (Print/Sign Name) — **Date**

LC Hulstrom — 5/1/03
Task Manager (Print/Sign Name) — **Date**

A-6003-640 (03/03)

WSCF
ANALYTICAL RESULTS REPORT

for

Ground Water Protection Program

Richland, WA 99352

Attention: Steve Trent

Analytical: William H Baird

Client Services: Michael A. Neely

Contract#: F03-006
Report#: WSCF20030491 tracking as WSCF20030492
Report Date: 10-apr-2003
Report W004/ver. 5.1
Ground Water Protection Program

DAyres
4/15/03

APR 2003
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WSCF
ANALYTICAL RESULTS REPORT

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

Group #: WSCF20030491

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W030000175	B16RY3	GPP	12587-46-1	Alpha by liquid scintillation	SOLID	LA-508-421	U	1.70	pCi/g		1.9	04/10/03	04/09/03	04/09/03
W030000175	B16RY3	GPP		Alpha error by LC	SOLID	LA-508-421		275	%		0.0	04/10/03	04/09/03	04/09/03
W030000175	B16RY3	GPP	12587-47-2	Beta by liquid scintillation	SOLID	LA-508-421		37.0	pCi/g		3.4	04/10/03	04/09/03	04/09/03
W030000175	B16RY3	GPP		Beta error by LC	SOLID	LA-508-421		30.0	%		0.0	04/10/03	04/09/03	04/09/03

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

WSCF
ANALYTICAL COMMENT REPORT

Attention:
Project Number

Group #: 20030491

Sample #	Client ID	Lab Area	Test	Comment

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:
Project Number :

Group #: 20030491

Sample #	Client ID	Test Name	Peak Name	CAS#	RT	RQ	Result	Units

RQ=Result Qualifier

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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-508-421 LA-508-421: OPERATION OF THE TRI-CARB MODEL 2500TR LIQUID SCINTILLATION ANALYZER

None No reference to any industry method.

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at http://apweb02/asponlinedocs/wscf/sample%20mgmt/ProcedureMethodCrossReference.pdf. This document includes on-line links to full-text versions of the procedures and methods, where available.

w13qlog v1 10-apr-2003 14:37:46

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
19114	1	19509		SAMPLE	W030000175	A/B by Liquid Scintillation

WSCF ANALYTICAL LABORATORY QC REPORT

SDG Number: 20030491

SAF Number:

Matrix:
Test:

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	Results	Units	Analysis Date	Lower Limit	Upper Limit

Lab ID:
BATCH QC ASSOCIATED WITH SAMPLE