Fluor Hanford, Inc.
Post Office Box 1000
Richland, Washington 99352

0060744

FLUOR

Memorandum

T4180-03-SLF-038

To:	S. J. Trent	Date:	September 18, 2003
From:	S. L. Fitzgerald, Manager WSCF Analytical Services	Telephone:	373-7495

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

Subject: RERUN GEA SAMPLE RESULTS FOR 200-PW-2/200-PW-4 OU– SAMPLE DELIVERY GROUP WSCF20031182 SAF NUMBER F03-007

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 (WSCF20031182), the analytical results (Attachment 2) and the sample receipt information (Attachment 3).

slf/ddw

Attachments 3

RECEIVED
NOV 24 2003
EDMC

SEP 2003
RECEIVED

SAF F03-007

REANALYSIS DATA PACKAGE

Covers original SDG #WSCF20030361 and WSCF20030567

T4180-03-SLF-038

ATTACHMENT 1

NARRATIVE

Consisting of 2 pages
Cover page not included

Attachment 1
Narrative

Customer Sample Number	Original Sample Delivery Group
B16LD9-A	WSCF20030361
B16WCO	WSCF20030567

Introduction

GPP requested WSCF to rerun the above samples to include QC data for the GEA test. These samples were analyzed 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 client correspondence are included as Attachment 3.

Analytical Methodology for Requested Analyses

- The GEA analysis was run by internal WDOE accredited WSCF procedures. Analytical work was performed with no deviations to the approved method.

Comments

RadChem – There are no hold times associated with this WDOE accredited method. A Laboratory Control Sample, Blank and Duplicate (per agreement with the client, the duplicate is a recount of one the samples in the batch) were analyzed with this assigned delivery group. See page(s) 2-10, and 2-11 for QC details. The upper and lower limits for the BLANK (page 2-11) have been established as starting points for the GEA analysis. As more analyses are run, these limits will be adjusted.

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

T4180-03-SLF-038

ATTACHMENT 2

ANALYTICAL RESULTS

Consisting of 11 pages
Cover page not included

WSCF
ANALYTICAL RESULTS REPORT

for

Ground Water Protection Program

Richland, WA 99352

Attention: Steve Trent

Analytical:

Client Services:

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

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

Contract#: F03-007
Report#: WSCF20031182
Report Date: 16-sep-2003
Report WGPP/ver. 1
Ground Water Protection Program

WSCF
ANALYTICAL RESULTS REPORT

Attention: Steve Trent
Project: F03-007: 200-PW-2/PW-4

Group #: WSCF20031182

Sample #	Client ID	CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W030000742	B16LD9-A DUP 20030361	10198-40-0	Cobalt-60		LA-508-462	U	-3.52	pCi/L	1.00	6.6	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	E,T,C	Co-60 Rel. Count Error (GEA)		LA-508-462		+- 3.98	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	14234-35-6	Antimony-125		LA-508-462	U	12.9	pCi/L	1.00	21	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	E,T,C	Sb-125 Rel. Count Error (GEA)		LA-508-462		+- 11.8	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	13967-70-9	Cesium-134		LA-508-462	U	-2.25	pCi/L	1.00	6.9	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	E,T,C	Cs-134 Rel. Count Error (GEA)		LA-508-462		+- 4.07	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	10045-97-3	Cesium-137		LA-508-462	U	-2.06	pCi/L	1.00	6.8	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	E,T,C	Cs-137 Rel. Count Error (GEA)		LA-508-462		+- 4.59	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	14683-23-9	Europium-152		LA-508-462	U	-0.356	pCi/L	1.00	21	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	E,T,C	Eu-152 Rel. Count Error (GEA)		LA-508-462		+- 3.56	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	15585-10-1	Europium-154		LA-508-462	U	-6.39	pCi/L	1.00	20	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	E,T,C	Eu-154 Rel. Count Error (GEA)		LA-508-462		+- 11.8	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	14391-16-3	Europium-155		LA-508-462	U	-13.2	pCi/L	1.00	21	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	E,T,C	Eu-155 Rel. Count Error (GEA)		LA-508-462		+- 13.2	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	15832-50-5	Tin-126		LA-508-462	U	2.80	pCi/L	1.00	15	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	E,T,C	Sn-126 Rel. Count Error (GEA)		LA-508-462		+- 9.60	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	15262-20-1	Radium-228		LA-508-462	U	2.53	pCi/L	1.00	21	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	E,T,C	Ra-228 Rel. Count Error (GEA)		LA-508-462		+- 12.0	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	13982-63-3	Radium-226		LA-508-462	U	13.0	pCi/L	1.00	27	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	E,T,C	Ra-226 Rel. Count Error (GEA)		LA-508-462		+- 14.7	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	13982-39-3	Zinc-65		LA-508-462	U	-25.4	pCi/L	1.00	15	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	E,T,C	Zn-65 Rel. Count Error (GEA)		LA-508-462		+- 25.4	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	14681-63-1	Niobium-94		LA-508-462	U	3.46	pCi/L	1.00	7.1	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	E,T,C	Nb-94 Rel. Count Error (GEA)		LA-508-462		+- 4.39	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	13968-53-1	Ruthenium-103		LA-508-462	U	1.14	pCi/L	1.00	8.6	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	E,T,C	Ru-103 Rel. Count Error (GEA)		LA-508-462		+- 4.99	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A DUP 20030361	13967-48-1	Ruthenium-106		LA-508-462	U	-5.62	pCi/L	1.00	67	09/15/03	08/27/03	09/03/03

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 RESULTS REPORT

Attention: Steve Trent
Project: F03-007: 200-PW-2/PW-4

Group #: WSCF20031182

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W030000742	B16LD9-A	DUP 20030361	E,T,C	Ru-106 Rel. Count Error (GEA)		LA-508-462		+- 38.3	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	13966-06-8	Tin-113		LA-508-462	U	-0.703	pCi/L	1.00	9.5	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	E,T,C	Sn-113 Rel. Count Error (GEA)		LA-508-462		+- 5.55	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	14762-78-8	Cerium-144		LA-508-462	U	-22.0	pCi/L	1.00	45	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	E,T,C	Ce-144 Rel. Count Error (GEA)		LA-508-462		+- 27.9	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	14913-50-9	Thallium-208		LA-508-462	U	4.51	pCi/L	1.00	7.1	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	E,T,C	Tl-208 Rel. Count Error (GEA)		LA-508-462		+- 4.78	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	14913-49-6	Bismuth-212		LA-508-462	U	-31.6	pCi/L	1.00	53	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	E,T,C	Bi-212 Rel. Count Error (GEA)		LA-508-462		+- 34.8	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	15092-94-1	Lead-212		LA-508-462	U	-4.27	pCi/L	1.00	14	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	E,T,C	Pb-212 Rel. Count Error (GEA)		LA-508-462		+- 8.07	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	14733-03-0	Bismuth-214		LA-508-462	U	13.0	pCi/L	1.00	27	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	E,T,C	Bi-214 Rel. Count Error (GEA)		LA-508-462		+- 14.7	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	15067-28-4	Lead-214		LA-508-462	U	2.08	pCi/L	1.00	27	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	E,T,C	Pb-214 Rel. Count Error (GEA)		LA-508-462		+- 14.8	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	14331-83-0	Actinium-228		LA-508-462	U	2.53	pCi/L	1.00	21	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	E,T,C	Ac-228 Rel. Count Error (GEA)		LA-508-462		+- 12.0	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	15065-10-8	Thorium-234		LA-508-462	U	-156	pCi/L	1.00	2.5e+02	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	E,T,C	Th-234 Rel. Count Error (GEA)		LA-508-462		+- 156	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	15117-96-1	Uranium-235		LA-508-462	U	-47.0	pCi/L	1.00	44	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	E,T,C	U-235 Rel. Count Error (GEA)		LA-508-462		+- 47.0	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	14596-10-2	Americium-241		LA-508-462	U	11.4	pCi/L	1.00	31	09/15/03	08/27/03	09/03/03
W030000742	B16LD9-A	DUP 20030361	E,T,C	Am-241 Rel. Count Error (GEA)		LA-508-462		+- 17.1	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	10198-40-0	Cobalt-60		LA-508-462	U	-2.88	pCi/L	1.00	8.4	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Co-60 Rel. Count Error (GEA)		LA-508-462		+- 5.16	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	14234-35-6	Antimony-125		LA-508-462	U	4.63	pCi/L	1.00	26	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Sb-125 Rel. Count Error (GEA)		LA-508-462		+- 14.9	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03

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 RESULTS REPORT

Attention: Steve Trent
Project: F03-007: 200-PW-2/PW-4

Group #: WSCF20031182

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ		Result	Unit	DF	MDL	Analyze	Sample	Receive
W030000743	B16WC0	DUP 20030567	13967-70-9	Cesium-134		LA-508-462	U		-3.66	pCi/L	1.00	9.2	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Cs-134 Rel. Count Error (GEA)		LA-508-462		+-	5.45	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	10045-97-3	Cesium-137		LA-508-462	U		0.423	pCi/L	1.00	9.7	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Cs-137 Rel. Count Error (GEA)		LA-508-462		+-	4.23	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	14683-23-9	Europium-152		LA-508-462	U		4.19	pCi/L	1.00	27	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Eu-152 Rel. Count Error (GEA)		LA-508-462		+-	15.9	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	15585-10-1	Europium-154		LA-508-462	U		-1.26	pCi/L	1.00	27	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Eu-154 Rel. Count Error (GEA)		LA-508-462		+-	12.6	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	14391-16-3	Europium-155		LA-508-462	U		9.98	pCi/L	1.00	32	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Eu-155 Rel. Count Error (GEA)		LA-508-462		+-	18.3	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	15832-50-5	Tin-126		LA-508-462	U		3.08	pCi/L	1.00	24	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Sn-126 Rel. Count Error (GEA)		LA-508-462		+-	13.5	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	15262-20-1	Radium-228		LA-508-462	U		28.7	pCi/L	1.00	36	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Ra-228 Rel. Count Error (GEA)		LA-508-462		+-	19.7	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	13982-63-3	Radium-226		LA-508-462			54.9	pCi/L	1.00	21	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Ra-226 Rel. Count Error (GEA)		LA-508-462		+-	26.0	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	13982-39-3	Zinc-65		LA-508-462	U		12.1	pCi/L	1.00	21	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Zn-65 Rel. Count Error (GEA)		LA-508-462		+-	12.9	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	14681-63-1	Niobium-94		LA-508-462	U		1.58	pCi/L	1.00	9.2	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Nb-94 Rel. Count Error (GEA)		LA-508-462		+-	5.40	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	13968-53-1	Ruthenium-103		LA-508-462	U		3.96	pCi/L	1.00	12	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Ru-103 Rel. Count Error (GEA)		LA-508-462		+-	6.53	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	13967-48-1	Ruthenium-106		LA-508-462	U		6.05	pCi/L	1.00	90	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Ru-106 Rel. Count Error (GEA)		LA-508-462		+-	52.8	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	13968-06-8	Tin-113		LA-508-462	U		-9.23	pCi/L	1.00	12	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Sn-113 Rel. Count Error (GEA)		LA-508-462		+-	9.23	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	14762-78-8	Cerium-144		LA-508-462	U		-13.8	pCi/L	1.00	61	09/15/03	08/27/03	09/03/03

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 RESULTS REPORT

Attention: Steve Trent
Project: F03-007: 200-PW-2/PW-4

Group #: WSCF20031182

Sample #	Client ID		CAS #	Test Performed	Matrix	WSCF Method	RQ	Result	Unit	DF	MDL	Analyze	Sample	Receive
W030000743	B16WC0	DUP 20030567	E,T,C	Ce-144 Rel. Count Error (GEA)		LA-508-462		+- 36.0	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	14913-50-9	Thallium-208		LA-508-462	U	-0.808	pCi/L	1.00	10	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Tl-208 Rel. Count Error (GEA)		LA-508-462		+- 7.28	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	14913-49-6	Bismuth-212		LA-508-462	U	-3.44	pCi/L	1.00	74	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Bi-212 Rel. Count Error (GEA)		LA-508-462		+- 34.4	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	15092-94-1	Lead-212		LA-508-462	U	-22.8	pCi/L	1.00	20	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Pb-212 Rel. Count Error (GEA)		LA-508-462		+- 22.8	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	14733-03-0	Bismuth-214		LA-508-462		54.9	pCi/L	1.00	21	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Bi-214 Rel. Count Error (GEA)		LA-508-462		+- 26.0	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	15067-28-4	Lead-214		LA-508-462		36.6	pCi/L	1.00	19	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Pb-214 Rel. Count Error (GEA)		LA-508-462		+- 24.1	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	14331-83-0	Actinium-228		LA-508-462	U	28.7	pCi/L	1.00	36	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Ac-228 Rel. Count Error (GEA)		LA-508-462		+- 19.7	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	15065-10-8	Thorium-234		LA-508-462	U	82.5	pCi/L	1.00	4.8e+02	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Th-234 Rel. Count Error (GEA)		LA-508-462		+- 342	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	15117-96-1	Uranium-235		LA-508-462	U	-27.3	pCi/L	1.00	65	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	U-235 Rel. Count Error (GEA)		LA-508-462		+- 51.9	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	14596-10-2	Americium-241		LA-508-462	U	-76.5	pCi/L	1.00	49	09/15/03	08/27/03	09/03/03
W030000743	B16WC0	DUP 20030567	E,T,C	Am-241 Rel. Count Error (GEA)		LA-508-462		+- 76.5	pCi/L	1.00	0.0	09/15/03	08/27/03	09/03/03

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

2-6

Attention:
Project Number

Group #: 20031182

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

This report may not be reproduced, except in its entirety without the written approval of the WSCF Laboratory.

WSCF
TENTATIVELY IDENTIFIED PEAK REPORT

2-7

Attention:
Project Number :

Group #: 20031182

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

RQ=Result Qualifier

This report may not be reproduced, except in its entirety without the written approval of the WSCF Laboratory.

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-508-462 Gamma Energy Analysis -- the Genie System -- WSCF

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 16-sep-2003 15:28:17

W13q Worklist/Batch/QC Report for Group# WSCF20031182

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
20300	1	20681	23557	BLANK		Gamma Energy Analysis-grd H2O
20300	2	20681	23557	LCS		Gamma Energy Analysis-grd H2O
20300	3	20681	23557	DUP	W030000742	Gamma Energy Analysis-grd H2O
20300	4	20681	23557	SAMPLE	W030000742	Gamma Energy Analysis-grd H2O
20300	5	20681	23557	SAMPLE	W030000743	Gamma Energy Analysis-grd H2O

WSCF ANALYTICAL LABORATORY QC REPORT

2-10

SDG Number: WSCF20031182
Matrix: WATER
Test: Gamma Energy Analysis-grd H2O

SAF Number: F03-007
Sample Date: 08/27/03
Receive Date:09/03/03

Lab ID: W030000742
BATCH QC ASSOCIATED WITH SAMPLE

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
DUP	Actinium-228	14331-83-0	U-5.53e0	n/a	RPD	09/15/03	0.000	20.000	
DUP	Americium-241	14596-10-2	U-4.33e0	n/a	RPD	09/15/03	0.000	20.000	
DUP	Bismuth-212	14913-49-6	U-2.03e0	n/a	RPD	09/15/03	0.000	20.000	
DUP	Bismuth-214	14733-03-0	U5.24e+00	n/a	RPD	09/15/03	0.000	20.000	
DUP	Cerium-144	14762-78-8	U-4.73e0	n/a	RPD	09/15/03	0.000	20.000	
DUP	Cobalt-60	10198-40-0	U8.25e-01	n/a	RPD	09/15/03	0.000	20.000	
DUP	Cesium-134	13967-70-9	U1.75e+00	n/a	RPD	09/15/03	0.000	20.000	
DUP	Cesium-137	10045-97-3	U3.16e+00	n/a	RPD	09/15/03	0.000	20.000	
DUP	Europium-152	14683-23-9	U2.44e+00	n/a	RPD	09/15/03	0.000	20.000	
DUP	Europium-154	15585-10-1	U-1.11e0	n/a	RPD	09/15/03	0.000	20.000	
DUP	Europium-155	14391-16-3	U-1.41e-1	n/a	RPD	09/15/03	0.000	20.000	
DUP	Niobium-94	14681-63-1	U1.22e+00	n/a	RPD	09/15/03	0.000	20.000	
DUP	Lead-212	15092-94-1	U-5.28e0	n/a	RPD	09/15/03	0.000	20.000	
DUP	Lead-214	15067-28-4	U-1.02e0	n/a	RPD	09/15/03	0.000	20.000	
DUP	Radium-226	13982-63-3	U5.24e+00	n/a	RPD	09/15/03	0.000	20.000	
DUP	Radium-228	15262-20-1	U-5.53e0	n/a	RPD	09/15/03	0.000	20.000	
DUP	Ruthenium-103	13968-53-1	U1.17e+00	n/a	RPD	09/15/03	0.000	20.000	
DUP	Ruthenium-106	13967-48-1	U1.32e+01	n/a	RPD	09/15/03	0.000	20.000	
DUP	Antimony-125	14234-35-6	U-6.56e0	n/a	RPD	09/15/03	0.000	20.000	
DUP	Tin-113	13966-06-8	U8.09e-01	n/a	RPD	09/15/03	0.000	20.000	
DUP	Tin-126	15832-50-5	U-9.10e0	n/a	RPD	09/15/03	0.000	20.000	
DUP	Thorium-234	15065-10-8	U-1.01e2	n/a	RPD	09/15/03	0.000	20.000	
DUP	Thallium-208	14913-50-9	U-3.89e-1	n/a	RPD	09/15/03	0.000	20.000	
DUP	Uranium-235	15117-96-1	U-1.39e1	n/a	RPD	09/15/03	0.000	20.000	
DUP	Zinc-65	13982-39-3	U1.36e+01	n/a	RPD	09/15/03	0.000	20.000	

WSCF ANALYTICAL LABORATORY QC REPORT

2-11

SDG Number: WSCF20031182
Matrix: WATER
Test: Gamma Energy Analysis-grd H2O

SAF Number: F03-007
Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Analysis Date	Lower Limit	Upper Limit	RQ
BATCH QC									
BLANK	Actinium-228	14331-83-0	U6.60e+00	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Americium-241	14596-10-2	U-4.46e1	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Bismuth-212	14913-49-6	U-2.12e0	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Bismuth-214	14733-03-0	3.20e+01	32.000	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Cerium-144	14762-78-8	U-3.98e0	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Cobalt-60	10198-40-0	U-5.43e0	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Cesium-134	13967-70-9	U4.25e-01	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Cesium-137	10045-97-3	U-7.32e-1	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Europium-152	14683-23-9	U3.61e+00	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Europium-154	15585-10-1	U-6.70e0	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Europium-155	14391-16-3	U1.18e+01	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Niobium-94	14681-63-1	U3.71e+00	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Lead-212	15092-94-1	U-1.46e0	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Lead-214	15067-28-4	6.21e+01	62.100	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Radium-226	13982-63-3	3.20e+01	32.000	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Radium-228	15262-20-1	U6.60e+00	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Ruthenium-103	13968-53-1	U-4.37e0	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Ruthenium-106	13967-48-1	U4.37e+01	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Antimony-125	14234-35-6	U1.35e+01	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Tin-113	13966-06-8	U-6.40e-1	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Tin-126	15832-50-5	U-1.25e2	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Thorium-234	15065-10-8	U-3.39e2	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Thallium-208	14913-50-9	U1.01e+00	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Uranium-235	15117-96-1	U-1.22e1	n/a	pCi/L	09/16/03	-10000.000	1000.000	
BLANK	Zinc-65	13982-39-3	U-8.42e0	n/a	pCi/L	09/16/03	-10000.000	1000.000	
LCS	Americium-241	14596-10-2	4.05e+03	103.316	% Recov	09/16/03	80.000	120.000	
LCS	Cobalt-60	10198-40-0	4.14e+03	98.807	% Recov	09/16/03	80.000	120.000	
LCS	Cesium-137	10045-97-3	3.73e+03	104.190	% Recov	09/16/03	80.000	120.000	

T4180-03-SLF-038

ATTACHMENT 3

SAMPLE RECEIPT INFORMATION

Consisting of 2 pages
Cover page not included

Neely, Michael

From: Trent, Stephen J
Sent: Thursday, July 17, 2003 3:23 PM
To: Neely, Michael
Cc: Thomas, Greg S; Hulstrom, Larry C; Thackaberry, W R (Bill); Ayres, Doris E
Subject: Need GEA rerun
Importance: High

Mike,

In order to resolve the QC analysis concerns that we spoke about at the last lab status meeting, WSCF will need to rerun the GEA analysis on the following samples -

SAMP_NUM	SDG_NUM	METHOD_NAME
B16LD9-A	WSCF20030361	GAMMA_GS
B16RX6	WSCF20030459	GAMMA_GS
B16RX7	WSCF20030460	GAMMA_GS
B16RX8	WSCF20030461	GAMMA_GS
B16RX9	WSCF20030461	GAMMA_GS
B16RY0	WSCF20030470	GAMMA_GS
B16RY1	WSCF20030470	GAMMA_GS
B16RY2	WSCF20030470	GAMMA_GS
B16RY3	WSCF20030492	GAMMA_GS
B16RY4	WSCF20030515	GAMMA_GS
B16RY5	WSCF20030524	GAMMA_GS
B16VV9	WSCF20030524	GAMMA_GS
B16W93	WSCF20030588	GAMMA_GS
B16W94	WSCF20030588	GAMMA_GS
B16W95	WSCF20030588	GAMMA_GS
B16W96	WSCF20030598	GAMMA_GS
B16W97	WSCF20030598	GAMMA_GS
B16W98	WSCF20030598	GAMMA_GS
B16W99	WSCF20030613	GAMMA_GS
B16WB0	WSCF20030613	GAMMA_GS
B16WB1	WSCF20030630	GAMMA_GS
B16WB2	WSCF20030642	GAMMA_GS
B16WC0	WSCF20030567	GAMMA_GS
B171B9	WSCF20030757	GAMMA_GS
B171C0	WSCF20030757	GAMMA_GS
B171C1	WSCF20030757	GAMMA_GS
B17216	WSCF20030757	GAMMA_GS
B17217	WSCF20030757	GAMMA_GS
B17218	WSCF20030757	GAMMA_GS

Batch QC is to include a laboratory blank, a laboratory control standard, and a lab duplicate (or replicate). If it is more efficient, the lab may run these samples in large batches (not to exceed 20 samples, however). The laboratory may re-report the results and associated QC as either an addendum to the existing data package reports (including only those GEA results and QC that are specific to that particular data package) or regenerate the entire data package report with the new GEA results (and QC) replacing the old results. In either case, a case narrative will need to be provided explaining the new GEA results. In addition the transmittal letter for each addendum or revised data package will need to indicate that the new data deliverable is an addendum to, or a replacement of an existing data package.

Please let me know the schedule for completing these reruns.

Thanks,

Steve Trent
Sample Management Project Coordinator
Fluor Hanford - Central Plateau Project
Ph: (509) 373-5869
Cell: (509) 528-1172
EFax: (866) 252-5816
Site Pager: 85-7344