RECEIVED DECEMBER 04, 2009

FINAL REPORT FOR 183 K WEST WATER TREATMENT PLANT SAMPLES RECEIVED NOVEMBER, 2009

Document No.: 20090849

Gerald P. Ritenour
Advanced Technologies and Laboratories International, Inc.

Date Published
December 4, 2009

Prepared for:

Mary Ann Green
CH2M Hill Plateau Remediation Co.
P.O. Box 850
Richland, WA 99352
509-373-1463

Prepared by:

ATL, Inc.
P.O. Box 250
Richland, WA 99352-0250
509-372-2742

G. P Ritenour, Project Manager

Table of Contents

NARRATIVE..... 1

1.0 INTRODUCTION..... 1

2.0 SAMPLE RECEIPT, HANDLING, AND APPEARENCE..... 1

3.0 ANALYTICAL RESULTS SUMMARY..... 1

3.1 SAMPLE PREPARATION..... 2

3.1.1 Acid Digestion..... 2

3.2 ANALYSES 2

3.2.1 Inductively Coupled Plasma/Mass Spectroscopy 2

3.2.2 Gamma Energy Analysis 3

3.2.3 Gross Alpha/Beta..... 3

4.0 PROCEDURES 3

5.0 REFERENCES 3

Attachment 1 DATA SUMMARY REPORT PRIMARY ANALYTES..... 4

Attachment 2 CORRESPONDENCE..... 7

Attachment 3 RECEIPT PAPERWORK..... 11

222-S LABORATORY

FINAL REPORT FOR 183 K WEST WATER TREATMENT PLANT SAMPLES RECEIVED NOVEMBER, 2009

1.0 INTRODUCTION

This final report presents the results for the samples taken from alum lines in 183 K West water treatment plant November 17, 2009. The samples were analyzed in accordance with Sampling Authorization Form F10-052; *183 KW Water Treatment Plant – Alum Lines* (SAF) and ATL-MP-1011; *ATL Quality Assurance Project Plan for 222-S Laboratory* (QAPP). The following attachments are included in this report.

Attachment 1	Data Summary Report
Attachment 2	Correspondence
Attachment 3	Receipt Paperwork

2.0 SAMPLE RECEIPT, HANDLING, AND APPEARENCE

A total of two samples were received on November 18, 2009 with paperwork. Sampling dates were obtained via electronic communication with the client contact (See Attachment 2) and added to the chain of custody by the 222S Laboratory's project manager. The samples consisted of an alum sample (183.1KW) and a pipe scale sample (183.1KW-1). The analysis of these samples was delay by Department of Energy – Richland Field Office (DOE-RL) until a financial issue could be resolved. DOE-RL gave 222S Laboratory verbal permission to begin analysis on November 20, 2009.

3.0 ANALYTICAL RESULTS SUMMARY

The Data Summary Report (Attachment 1) present the final analytical results for those analytes requested in the SAF. The "Det Limit" column in Attachment 1 contains the method detection limit (MDL) for non-radionuclide analyses, and the minimum detectable activity for radionuclides.

In Attachment 1, the column labeled "A#" indicates the aliquot class or the method used for sample preparation before analysis. The "E" indicates samples were prepared by a strong acid digest.

The "Qual Flags" column in Attachment 1 contains data qualifier flags that are defined as follows:

a. "J" indicates that the reported result should be considered an estimate because it is below the quantitation limit. The "J" flag is applied to sample concentrations that are greater than the MDL but less than the quantitation limit or sample activity with a counting uncertainty greater than 30%.

b. "U" indicates that the reported result is less than the calculated detection limit.

c. "c" indicates that the relative percent difference between the sample and the duplicate is greater than 20%.

Manual calculations using rounded results from the Data Summary Report or result calculation forms may differ slightly from the actual results derived from the raw data.

3.1 SAMPLE PREPARATION

3.1.1 Acid Digestion

This project used a strong nitric and hydrochloric hot plate acid digestion. The alum sample was completely digested, however the pipe scale sample was only partially digested leaving 25% to 50% residual solids. Because this digest was designed for highly radioactive samples, spikes are added after the digestion. Therefore, all spike results and recoveries in Attachment 1 are from post-digestion spikes.

3.2 ANALYSES

3.2.1 Inductively Coupled Plasma/Mass Spectroscopy

The ICP/MS analysis was performed on a strong acid-digest of the samples. The method blank, initial calibration blank, and the first continuing calibration blank all contained ^{232}Th below the quantitation limit. Since these levels were less than 5% of the lowest sample result, the data quality of the results was not affected and reanalysis was not required. All other analytical requirements in the QAPP were met.

Direct calibration, where a standard containing the isotope of interest is used to calibrate the response of the isotope, is the most accurate type of calibration. However, standard material is not available for all the isotopes of interest. Those isotopes without available standards are calibrated using the instrument's mass-response curve and the intensity/concentration relationship for the available isotope standards. The calibration for ^{233}U, ^{234}U, and ^{236}U are based on the ^{235}U calibration, and the calibration for ^{230}Th is based on the ^{232}Th calibration. Because all of the isotopes of an element behave the same chemically in the plasma, one isotope can be reasonably substituted for another for calibration purposes.

A similar approach is used to evaluate the recoveries of calibration checks, standards, and spikes. Just as all of the elemental isotopes of interest are not available for calibration, they are also not available for the various QC samples. Because the chemical properties of an element are the same for all of its isotopes, one elemental isotope can be used as a measure for other isotopes of interest. For example, by measuring the recovery of ^{238}U in the various QC samples, the accuracy of the other U isotopes also can be evaluated. Table 1 lists the isotopes used for standards and spike samples for ICP-MS analysis.

Table 1. Inductively Coupled Plasma-Mass Spectroscopy Standards and Spikes.

Standard Type	Analytes Analyzed
Initial calibration verification (nondigested)	^{232}Th, ^{235}U, ^{238}U
Acid digest standard (laboratory control standard)	^{232}Th, ^{235}U, ^{238}U
Post-digest spike	^{232}Th, ^{235}U, ^{238}U
No standard or spike of either type	^{233}U, ^{234}U, ^{236}U

3.2.2 Gamma Energy Analysis

Gamma energy analysis (GEA) was performed on a strong acid digest the samples. The LCS recoveries and method blank met all requirements in the QAPP. The RPD between the pipe scale sample and its duplicate exceeded the 20% requirement listed in the QAPP for ^{210}Pb, ^{214}Bi, and ^{214}Pb at 32%, 32%, and 28%, respectively. This was due to the non-homogeneous nature of this sample. Reanalysis was not performed because an improved result was not expected. This sample was visually not homogeneous and an applicable homogenization technique was not available for this sample. The SAF requested ^{228}Ra be report from the GEA analysis. This option is not currently available from the 222S Laboratory list. However, since ^{228}Ac is available, and is in secular equilibrium with ^{228}Ra, it has been reported instead. The result was below the MDA. Additionally, all detected non-requested isotope results have been reported.

3.2.3 Gross Alpha/Beta

The gross alpha/beta analysis was performed on a strong acid digest of all field samples. This analysis met all the requirements in the QAPP.

4.0 PROCEDURES

Table 2 lists the analytical procedures used for analysis of these samples.

Table 2. Analytical Procedures.

Analysis	Preparation Method	Analysis Procedure
ICP/MS: actinides	LA-544-101 Rev. F-0	LA-506-102, Rev. E-0
GEA	LA-544-101 Rev. F-0	LA-548-121, Rev. I-0
Gross Alpha/Beta	LA-544-101 Rev. F-0	LA-508-101, Rev. L-2

Note: Environmental Digest — LA-544-101, Rev. F-0

5.0 REFERENCES

ATL-MP-1011, 2008, *ATL Quality Assurance Project Plan for 222-S Laboratory*, Rev. 8, Applied Technologies and Laboratories International, Inc., Richland, Washington.

Sampling Authorization Form F10-052; *183 KW Water Treatment Plant – Alum Lines*, 2009, CH2M Hill, Plateau Remediation Company, Richland, Washington

Attachment 1

DATA SUMMARY REPORT

04 - Dec - 2009 10:57:00
DSRHardcopyWOLimits 2.7.26a
DSR.Jar v. 2.7.26c

183 KW WTP
Data Summary of All Results

Sample Group: 20090849
Customer Group or SDG Number: 222S20090849
Customer Sample ID: 183.1KW
Sample Portion: Alum

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S09M000195		E	12587-46-1	Gross alpha	uCi/g	108	<4.08E-06	2.66E-05	n/a	n/a	n/a	n/a	2.58E-06	34.09	J
S09M000195		E	12587-47-2	Gross beta	uCi/g	107	<2.13E-05	3.39E-05	n/a	n/a	n/a	n/a	1.05E-05	42.81	J
S09M000195		E	13966-00-2	Potassium-40	uCi/g	n/a	<6.04E-05	<5.95E-05	n/a	n/a	n/a	n/a	5.95E-05	n/a	U
S09M000195		E	10198-40-0	Cobalt-60	uCi/g	102	<2.31E-06	<2.42E-06	n/a	n/a	n/a	n/a	2.42E-06	n/a	U
S09M000195		E	15832-50-5	Tin-126	uCi/g	n/a	<1.94E-06	<2.20E-06	n/a	n/a	n/a	n/a	2.20E-06	n/a	U
S09M000195		E	10045-97-3	Cesium-137	uCi/g	102	<3.13E-06	8.75E-06	n/a	n/a	n/a	n/a	2.73E-06	22.81	
S09M000195		E	14683-23-9	Europium-152	uCi/g	n/a	<1.17E-05	<1.22E-05	n/a	n/a	n/a	n/a	1.22E-05	n/a	U
S09M000195		E	15585-10-1	Europium-154	uCi/g	n/a	<7.13E-06	<6.97E-06	n/a	n/a	n/a	n/a	6.97E-06	n/a	U
S09M000195		E	14391-16-3	Europium-155	uCi/g	n/a	<3.96E-06	<4.31E-06	n/a	n/a	n/a	n/a	4.31E-06	n/a	U
S09M000195		E	15092-94-1	Lead-212	uCi/g	n/a	n/a	7.40E-06	n/a	n/a	n/a	n/a	4.47E-06	20.06	
S09M000195		E	13982-63-3	Radium-226	uCi/g	n/a	<3.82E-05	<4.10E-05	n/a	n/a	n/a	n/a	4.10E-05	n/a	U
S09M000195		E	14331-83-0	Actinium-228	uCi/g	n/a	<9.06E-06	<1.02E-05	n/a	n/a	n/a	n/a	1.02E-05	n/a	U
S09M000195		E	14274-82-9	Thorium-228	uCi/g	n/a	<6.90E-05	<7.74E-05	n/a	n/a	n/a	n/a	7.74E-05	n/a	U
S09M000195		E	14269-63-7	Thorium-230	ug/g	n/a	<4.14E-04	<4.14E-04	n/a	n/a	n/a	n/a	4.14E-04	n/a	U
S09M000195		E	TH-232	Thorium-232	ug/g	99.5	0.0159	56.5	n/a	n/a	n/a	n/a	0.0101	n/a	
S09M000195		E	13968-55-3	Uranium-233	ug/g	n/a	<5.91E-04	1.61E-03	n/a	n/a	n/a	n/a	5.91E-04	n/a	J
S09M000195		E	13966-29-5	Uranium-234	ug/g	n/a	<2.96E-04	<2.96E-04	n/a	n/a	n/a	n/a	2.96E-04	n/a	U
S09M000195		E	15117-96-1	Uranium-235	ug/g	97.1	<6.51E-04	9.81E-03	n/a	n/a	n/a	n/a	6.51E-04	n/a	
S09M000195		E	13982-70-2	Uranium-236	ug/g	n/a	<2.37E-04	<2.37E-04	n/a	n/a	n/a	n/a	2.37E-04	n/a	U
S09M000195		E	U-238	Uranium-238	ug/g	99.7	<0.0325	1.38	n/a	n/a	n/a	n/a	0.0325	n/a	

NA = Not Analyzed, ND = Not Detected

J - Estimated U - Less Than Detection Limit c - RPD Outside Range

183 KW WTP
Data Summary of All Results

Sample Group: 20090849
Customer Group or SDG Number: 222S20090849
Customer Sample ID: 183.1KW-1
Sample Portion: Pipe Scale

Sample#	R	A#	CAS #	Analyte	Unit	STD %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Cnt Err %	Qual Flags
S09M000196		E	12587-46-1	Gross alpha	uCi/g	107	<4.08E-06	1.92E-03	1.85E-03	1.89E-03	3.45	105	3.16E-05	11.59	
S09M000196		E	12587-47-2	Gross beta	uCi/g	107	<2.13E-05	1.27E-03	1.28E-03	1.28E-03	1.07	114	1.13E-04	15.6	
S09M000196		E	13966-00-2	Potassium-40	uCi/g	n/a	<6.04E-05	<7.00E-05	<7.48E-05	n/a	n/a	n/a	7.00E-05	n/a	U
S09M000196		E	10198-40-0	Cobalt-60	uCi/g	102	<2.31E-06	<4.23E-06	<4.45E-06	n/a	n/a	n/a	4.23E-06	n/a	U
S09M000196		E	15832-50-5	Tin-126	uCi/g	n/a	<1.94E-06	<6.65E-06	<6.99E-06	n/a	n/a	n/a	6.65E-06	n/a	U
S09M000196		E	10045-97-3	Cesium-137	uCi/g	102	<3.13E-06	<4.95E-06	<5.19E-06	n/a	n/a	n/a	4.95E-06	n/a	U
S09M000196		E	14683-23-9	Europium-152	uCi/g	n/a	<1.17E-05	<2.63E-05	<2.96E-05	n/a	n/a	n/a	2.63E-05	n/a	U
S09M000196		E	15585-10-1	Europium-154	uCi/g	n/a	<7.13E-06	<1.28E-05	<1.36E-05	n/a	n/a	n/a	1.28E-05	n/a	U
S09M000196		E	14391-16-3	Europium-155	uCi/g	n/a	<3.96E-06	<1.04E-05	<1.08E-05	n/a	n/a	n/a	1.04E-05	n/a	U
S09M000196		E	14913-50-9	Thallium-208	uCi/g	n/a	n/a	4.33E-05	4.12E-05	4.23E-05	4.86	n/a	4.48E-06	9.59	
S09M000196		E	14255-04-0	Lead-210	uCi/g	n/a	n/a	6.00E-04	8.24E-04	7.12E-04	31.5	n/a	8.22E-05	10.94	c
S09M000196		E	14913-49-6	Bismuth-212	uCi/g	n/a	n/a	7.62E-05	7.09E-05	7.35E-05	7.17	n/a	2.64E-05	23.83	
S09M000196		E	15092-94-1	Lead-212	uCi/g	n/a	n/a	1.11E-04	1.10E-04	1.10E-04	1.20	n/a	4.95E-06	6.30	
S09M000196		E	14733-03-0	Bismuth-214	uCi/g	n/a	n/a	2.13E-04	2.95E-04	2.54E-04	32.1	n/a	7.88E-06	4.75	c
S09M000196		E	15067-28-4	Lead-214	uCi/g	n/a	n/a	1.88E-04	2.50E-04	2.19E-04	28.5	n/a	1.23E-05	5.76	c
S09M000196		E	13233-32-4	Radium-224	uCi/g	n/a	n/a	1.07E-04	1.22E-04	1.15E-04	13.4	n/a	5.42E-05	41.72	J
S09M000196		E	13982-63-3	Radium-226	uCi/g	n/a	<3.82E-05	1.20E-03	1.08E-03	1.14E-03	10.9	n/a	7.99E-05	7.62	
S09M000196		E	14331-83-0	Actinium-228	uCi/g	n/a	<9.06E-06	7.50E-05	7.87E-05	7.69E-05	4.85	n/a	1.56E-05	10.34	
S09M000196		E	14274-82-9	Thorium-228	uCi/g	n/a	<6.90E-05	<1.54E-04	<1.61E-04	n/a	n/a	n/a	1.54E-04	n/a	U
S09M000196		E	14269-63-7	Thorium-230	ug/g	n/a	<4.14E-04	<8.69E-03	<8.74E-03	n/a	n/a	n/a	8.69E-03	n/a	U
S09M000196		E	TH-232	Thorium-232	ug/g	99.5	0.0159	426	419	422	1.68	100	0.211	n/a	
S09M000196		E	13968-55-3	Uranium-233	ug/g	n/a	<5.91E-04	0.0263	<0.0125	n/a	n/a	n/a	0.0124	n/a	J
S09M000196		E	13966-29-5	Uranium-234	ug/g	n/a	<2.96E-04	<6.20E-03	<6.24E-03	n/a	n/a	n/a	6.20E-03	n/a	U
S09M000196		E	15117-96-1	Uranium-235	ug/g	97.1	<6.51E-04	0.0223	0.0179	0.0201	22.0	96.6	0.0137	n/a	J
S09M000196		E	13982-70-2	Uranium-236	ug/g	n/a	<2.37E-04	<4.96E-03	<4.99E-03	n/a	n/a	n/a	4.96E-03	n/a	U
S09M000196		E	U-238	Uranium-238	ug/g	99.7	<0.0325	3.97	3.89	3.93	2.10	99.3	0.683	n/a	J

NA = Not Analyzed, ND = Not Detected

J - Estimated U - Less Than Detection Limit c - RPD Outside Range

Attachment 2

CORRESPONDENCE

Ritenour, Gerald P

From: Green, Mary A (Mary Ann)
Sent: Thursday, November 19, 2009 5:59 AM
To: Ritenour, Gerald P
Subject: RE: 100K D4 Project

The sample dates for both is 11/17/2009. Sorry for the confusion, the Supervisor is new to sampling requirements.

Mary Ann

From: Ritenour, Gerald P
Sent: Wednesday, November 18, 2009 5:03 PM
To: Green, Mary A (Mary Ann)
Subject: 100K D4 Project

Mary Ann.
Do you know the sampling date? 183.1KW has a sampling date of 11/12/09, but it is crossed out. 183.1KW-1 has no sampling date.
Thanks, JR

Gerald "JR" Ritenour
Project Manager
ATL International, Inc.
(509) 372-2742 office
(509) 438-8837 cell
gerald_p_ritenour@rl.gov

Ritenour, Gerald P

From: Ritenour, Gerald P
Sent: Thursday, November 19, 2009 8:15 AM
To: Green, Mary A (Mary Ann)
Subject: FW: KE Reactor Demo Sample

Mary Ann
Will funding the KE Reactor Demo Sample cover your work? (see below)

Gerald "JR" Ritenour
Project Manager
ATL International, Inc.
(509) 372-2742 office
(509) 438-8837 cell
gerald_p_ritenour@rl.gov

From: Riley, Christina M
Sent: Thursday, November 19, 2009 8:08 AM
To: Ritenour, Gerald P; Bushaw, Ruth A
Subject: FW: KE Reactor Demo Sample

FYI : Waiting for "approval"…

From: Garcia, David
Sent: Wednesday, November 18, 2009 4:51 PM
To: Hale, Terri Y
Cc: Teynor, Thomas K; Lenseigne, Donald L; Andrews-Smith, Kathy L; Riley, Christina M; Kuhl-Klinger, Kristine J; Poniatowski, Joseph C; Dawson, Ronnie L; Clinton, Richard (Rich); Stevens, Andrew J (DOE); Gallegos, David A; Jennings, Tony L
Subject: KE Reactor Demo Sample

Terri,

I am sending this email to inform you and key personnel about a current situation regarding a KE Reactor Demo Sample that will be sent to ATL.

Simply stated, today ATL got a call from PRC telling them that they will be sending a KE Reactor Demo sample that needs to be tested within 2 weeks (This sampling event is also tied to a PBI for CH PRC as well, thus increasing its importance).

Based on previous conversations with ORP contracting, they were instructed NOT TO perform any work without the proper funding source (eg PBS). Since ATL did not have the proper funding for this work, Christina Riley (ATL) informed me of the situation.

My discussions with Christina indicated that PRC has not yet submitted an SLA (Service Level Agreement) to RL, therefore, a PBS has not been funded for this specific work scope. Since no funding is provided, ATL's contract was not modified to provide such funding or include the new work scope. Hence, ATL has no authority from the Government to perform such work.

In order to try and assist resolving this situation, ATL was willing to work "at risk" in order to test the samples, but I informed them not to proceed until I get written approval from DOE RL finance since this is funding issue.

Please let me know when such funding is available and I will immediately modify the ATL contract with the proper funds. In addition, I need the estimated number of samples that will be tested under this new project.

Regards,

David Garcia
Contract Specialist
509-376-0370
David_Garcia@orp.doe.gov

Attachment 3

RECEIPT PAPERWORK

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. No. 11112009-100K

Page 1 of 1

Collector: Chris Morris	Contact/Requestor: MARY ANN GREEN	Telephone No.: 373-1463 MSIN: T1-41 FAX: 376-9202
SAF No.: NA	Sample Origin: 183.1KW	Purchase Order/Charge Code: 400460
Project Title: 100K D4 Project	Logbook No.: NA	Ice Chest No.: ~~MEAF~~ NA Temp.: NA
Shipped To (Lab): WSCF	Method of Shipment: NA	Bill of Lading/Air Bill No.: NA
Protocol: Per Lab Procedures	Data Turnaround: See Special Instructions	Offsite Property No.: NA

Sample No.	Lab ID	*	Date	Time	No./Type Container	Sample Analysis	Preservative
183.1KW	S09M000193	X	~~11/12/09~~		1/500ml ~~poly~~ poly	• GEA including Potassium 40	NA
			11/17/09* DPP 11-19-09			• Thorium 232 by ICP/MS	
						• Uranium Isotopic by AEA	
						• Gross Alpha	
						• Gross Beta	
123.1KW-1	S09M000194	X	11/17/09* DPP 11-19-09		1/500ml poly	- Same as above	NA
SDG							
2225 20090849							

POSSIBLE SAMPLE HAZARDS/REMARKS (List all known wastes) MSDS ☒ Yes ○ No

see attached.

* per telecom w/ MA Green

SPECIAL INSTRUCTIONS Hold Time – NA

- Provide GEA, Gross Alpha/Beta preliminary results, via e-mail, within 48 hours of sample receipt
- Provide Thorium + Uranium preliminary results, via e-mail, within 7 days of sample receipt.
- Final data package due in 15 days.

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
Chris Morris	11-17-09 1345	Gerald Gaines	11-17-09
Gerald Gaines	11-17-09	Nicholas N. Featherchuk	11/17/09
L. Hawks	11/18/09	Gerald Gaines	11-18-09
Gerald Gaines	11.18.09 1345	R.A. Steele	11.18.09 1345

Matrix*

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

FINAL SAMPLE DISPOSITION: Disposal Method (e.g., Return to customer, per lab procedure, used in process) | Disposed By | Date/Time

All samples containing hazardous materials shall be picked up by requestor and returned to parent container or site of origin.

A-6[illegible]32 (05/02)

20090849

ATL	SAMPLE RECEIPT AND CHAIN OF CUSTODY VERIFICATION CHECKLIST	LO-090-101 Rev DD 1

Date Samples Received: 11.18.09 Group #:

Number of Samples: 2

Sample Custodian: RHRtd

Sample Custodian to Complete:

Action	OK? (Y/N)	N/A	Comments
RSA/COC provided?	Y		
RSR provided?	Y		
Verify GKI is complete	Y		
Check that outer custody seal is intact, if present		✓	
Record cooler temperature in centigrade, as appropriate		✓	☑ Check if no cooler and/or no ice
Samples are intact and in good condition	Y		If No, provide comments on back
Verify that COC or RSA is accurate and complete, containing the following information:			
• Client name and client sample number	Y		
• Date and time of sampling	Y		
• Sampling location or origin	Y		
• Container type, size, and number	Y		
• Analysis request is clear	Y		
• Signature of persons relinquishing and receiving samples	Y		
• Date and/or time of sample custody exchange	Y		
Verify that sample numbers on containers match the COC and/or RSA	Y		
Samples stored properly (e.g., refrigeration)	Y		cell 1

Notify the PM immediately if any problems are noted. (A "No" answer requires Project Manager resolution.)

PM to Complete:

Samples acceptable for release? No PM Initials DPR Date 11/18/2009

If No, comment on communication and resolution: *Sample analysis on hold until further notice per DOE RL
*Samples Released for analysis on 11/20/2009
DPR 12/4/2009

Other Comments: